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The TEN Steps to Achieving Your Dream

1 APPLY FOR ADMISSION

PCC is an open admission institution you may apply online or in-person at one of our admissions offices. Students who are still in high school must contact the admissions office for additional requirements.

If you're NOT planning to earn a certificate, associate degree, or to earn credits to transfer to another institution, you may register for classes as soon as your admission application has been processed. If you are applying online, allow two business days for processing.

If you're participating in one of our innovative dual enrollment programs with PSU, OSU, OIT, Marylhurst University, Concordia University or Western Governors University, you'll use a different application. For more information, visit a PCC Admissions Office or go to **www.pcc.edu/dual/**.

INTERNATIONAL STUDENTS

Visit **www.pcc.edu/about/international/** for information on admission and registration procedures, deadlines, academic advising and immigration information, or call 503-614-7150. All F-1 visa students must enroll in at least 12 credit hours to be certified on the I-20 form. Other visa categories are processed on a space available basis.

2 ARRANGE YOUR FINANCES

www.pcc.edu/tuition

College is expensive, but tuition help is available. It is never too early to prepare a budget and seek financial assistance.

FINANCIAL AID

www.pcc.edu/fa

There's a good chance you qualify for financial assistance. Apply online. Remember, you must submit a new financial aid application for each academic year (fall through summer).

VETERANS' BENEFITS

www.pcc.edu/vets

PCC is a state-approved veterans training institution. Veterans must verify program status with the Veteran Services Office located at the Sylvania campus before registering for the first time.

SCHOLARSHIPS

www.pcc.edu/scholarships

Whether you are looking for a scholarship or already have one lined up, we can help. Go to **www.pcc.edu/scholarships** for a list of available resources.

AGENCY OR COMPANY SPONSORSHIP

Many employers and social service agencies sponsor students to attend PCC. Third party billing arrangements may already be in place with your financial sponsor. Resident Tuition: To qualify for resident tuition, students must be a United States citizen or a legal immigrant with a permanent resident status in Oregon, or the bordering states of California, Nevada, Idaho or Washington.

3 TAKE THE PLACEMENT TEST

www.pcc.edu/testing

All students attending college for the first time who plan to earn a certificate, associate degree, or transfer to another college must complete placement testing before registering for class. Testing is free. If you have prior college credits, see an advisor first for course placement.

4 ATTEND A NEW STUDENT ORIENTATION

https://www.pcc.edu/orientation

The orientation will give you tips about making the most of your college experience. Orientation is required for all first-time college students, and is optional for those with prior college credits. You can attend an in-person orientation or do it online.

5 MEET WITH AN ADVISOR OR COUNSELOR

www.pcc.edu/advising

An advisor or counselor can help you plan a course of study to achieve your goals at PCC. You can meet with an advisor at orientation. If you have credits from other colleges, bring copies of your grades or unofficial transcripts to your advising session.

6 REGISTER FOR CLASSES

www.pcc.edu/registration/

Once you have met with an advisor to develop your schedule, you are ready to register for classes.

7 ARRANGE TRANSPORTATION

www.pcc.edu/parking

On-Campus Parking: Vehicles parked on any PCC campus and roadway between 7 am -10 pm Monday through Friday must display a current PCC parking permit. PCC also requires visitors to display a parking permit.

Shuttle Services: Go to **www.pcc.edu/resources/parking/shuttle** to view the shuttle schedule for transportation between campuses.

Tri-Met Student Select Passes: A limited number of full-term passes are available to students enrolled in a minimum of 6 credit hours. Passes are available through the campus Business Office at a cost of $150. Students must have a valid PCC picture ID and provide proof of enrollment. Student Select bus passes are sold on a first-come first-served basis only. Passes are non-refundable and non-transferable.

8 PAY FOR CLASSES

www.pcc.edu/tuition

Billing Information: Bills are issued the Wednesday before the term begins. If you register using MyPCC you will be expected to access your schedule and bill online. If you register using other methods, a bill will be mailed to you. You are expected to pay on time even if you do not receive a bill. To receive a paper schedule or bill, contact any Student Services Office and a copy will be provided.

Payment Due Date: Full payment is due by the second Friday of the term. If you register after that date payment is due immediately and no bill will be sent.

STUDENT PAYMENT OPTIONS

Tuition, fees and other account charges may be paid:

1. In person: Cash, check and credit card payments (Visa/MC) are accepted at any PCC Business Office.
2. Online: Pay by credit card (Visa/MC) or eCheck using PCC-Pay.
3. By mail: Make checks payable to PCC and mail to PCC – Business Office; PO Box 19000; Portland, OR 97280-0990.

9 BUY YOUR BOOKS

Check first for textbooks at the campus you are attending. Cash, personal checks (payable to PCC Bookstore with two pieces of ID), VISA and MC are accepted. See: bookstore.pcc.edu for more information including hours of operation, text requirements, buy back hours and additional services.

10 GO TO CLASS

LATE REGISTRATION

If you register after classes begin, the instructor teaching the course will need to give you permission to register. The instructor may authorize you to register electronically, or by signing a Registration Authorization form. Forms are available at all Registration and department offices. To avoid a $25 per class fee, be sure and turn in your permission form before the second week of the class. Students who wish to be re-enrolled after being institutionally dropped are subject to a $50 per class fee. These fees are non-refundable. Veterans and Financial Aid students: You must notify the appropriate office of your intent before dropping or withdrawing from classes.

STUDENT-INITIATED DROPS

To drop a class, use MyPCC or submit a Registration and Change of Address form to the Registration Office. 100% of charges associated with a class will be removed if you formally drop by the deadline. No charges will be removed if you drop after the deadline. Drop deadlines vary for non-credit and CEU classes.

CANCELED AND RESCHEDULED CLASSES

The classes offered in this schedule reflect our intentions at the time of publication. The offerings may be changed due to factors such as insufficient enrollment, personnel availability and budget requirements. We regret any inconvenience this might cause, and will do our best to help with adjustments to your schedule.

TUITION REMOVAL REQUESTS

If you were unable to complete the course due to extreme hardship, you may file a Student Account Petition form. If approved, you will receive a tuition credit to help defray the cost of re-taking the class. You must pay all past due amounts, including the amount under petition, before filing. If your petition is incomplete or does not meet the requirements, it will be returned without review. For complete information go to: **www.pcc.edu/tuition**.

LEARN ABOUT STUDENT SERVICES

For additional information on tutoring, computer labs, student involvement and more, refer to the Student Services and Activities section in this catalog or visit **www.pcc.edu/resources**.

GRADUATION

As you near the end of your academic plan, submit a graduation application to Student Records. Your degree or certificate will be mailed to your address on record upon successful completion of your program requirements.

A graduation ceremony is held at the end of spring term at the Memorial Coliseum. Additional information is located in the graduation section or at: **www.pcc.edu/resources/graduation**.

CALENDAR OF INSTRUCTION

SUMMER 2008

Term Begins: June 23
Final Exams: Varies*

END OF TERM: SEPT. 6**

FALL 2008

Term Begins: Sept. 22
Final Exams: Dec. 8-13
End of Term: Dec. 14

WINTER 2009

Term Begins: Jan. 5
Final Exams: March 16-21
End of Term: March 22

SPRING 2009

Term Begins: March 30
Final Exams: June 8-13
End of Term: June 14

SUMMER 2009

Term Begins: June 22
Final Exams: Varies*
End of Term: TBA**

To view a calendar of instruction please visit: **www.pcc.edu/registration/academic-calendar.html**.

*Summer final exam schedules vary. Consult instructor.

**11-week classes PCC operates on the quarter system.

For registration calendar details (online and in-person registration dates, adds/drops, late registration, etc.) see the appropriate term's schedule of classes at: **www.pcc.edu/schedule/**.

ADMISSION CRITERIA

RESIDENCY

A residence is a place in which a person resides—a dwelling place or abode—essentially a house or apartment. Residence is not established by attendance at a college.

- In-state student: a United States citizen, immigrant or permanent resident who has established and maintains residency in Oregon, Washington, Idaho, Nevada or California.
- Out-of-state student: a United States citizen, immigrant or permanent resident who has not established or does not maintain residency in Oregon, Washington, Idaho, Nevada or California.
- International student: citizen of another country.

NEW STUDENTS

www.pcc.edu/admissions

You are required to fill out an application for admissions and pay the one-time $25 non-refundable application fee before registering for credit classes. You may obtain the form in person by visiting one of the four campus Admissions offices or complete it online at: **www.pcc.edu/admissions**. New students are encouraged to start the admission process well in advance of registration.

- Portland community college has an open admissions policy, meaning that anyone may enroll at the college. Previous college experience or a high school diploma is not necessary for entry. However, certain programs or courses may require prerequisite course work, department approval or an instructor's signature for enrollment.
- Students performing below requisite skill level will be required to enroll in courses to upgrade their skills.
- Several programs at PCC require students to complete practical experience or field training at a medical or other facility. Students will NOT be allowed into these facilities unless they have passed a Criminal History Check (CHC). Students who do not pass the CHC may not be eligible to complete training at affiliated practicum sites, to sit for licensure or certification exams, or be hired for some professional positions. If you believe that your past history may interfere with your ability to complete the program of study or to obtain licensure or certification in your chosen field, you should contact the appropriate state board or the program director.

LIMITED ENTRY PROGRAMS

INTERNATIONAL STUDENTS

www.pcc.edu/about/international/admissions

International student applicants must complete all correspondence and forms in English. To be considered for admission to PCC, please submit the following to the Office of International Education. Forms are available online at **www.pcc.edu/about/international/admissions**.

1. International Student Application for Admission form

2. $50 application fee, which is non-refundable and nontransferable (cashier's check, money order or debit or credit card. Personal checks will be accepted in US dollars. Cash is not accepted.

3. Complete statement of Financial Responsibility

4. Proof of finances (bank letter, financial guarantee)

5. Official transcripts from high schools, other colleges or universities or language program

6. Proof of finances (bank letter, financial guarantee)

7. For transfer students and students requesting change of status:

a. Copy of I-94, SEVIS I-20, ID page of passport and U.S. Visa page

b. SEVIS Transfer Form

When all of the above has been received, the applicant will be considered for admission. (A SEVIS I-20 form will not be issued to any individual until all the required information has been received and approved.)

All students must enroll by the last scheduled day of registration each term. International students must pursue a full course of study (12 credit hours or more per term) to maintain F-1 visa status.

International students must pay all tuition and fees by the correspondent deadlines outlined in the schedule of classes. Payment of out-of-country drafts must clear the Business Office approval procedure before registration is final. Students requesting this billing service must file authorization forms with the Business Office prior to registration. Deferred tuition is not available for international students.

It is the responsibility of each student with transcripts (credits) from schools outside of the United States to have them translated and evaluated course by course for acceptance toward a Portland Community College certificate or degree, by a service that is a member of the National Association of Credential Evaluation Services.

STUDENTS UNDER 16 YEARS OF AGE

www.pcc.edu/admissions/under-16.html

Portland Community College has special admission requirements for prospective students who are under 16 years of age and who have not been awarded a high school diploma or GED.

Students must complete all the admission requirements and are not guaranteed admission. Students are strongly encouraged to complete all the possible course work within their school district before pursuing classes at PCC. College level course work may not be appropriate for non-college aged students. Before you can be given approval to register for classes as an underage student, you must complete the following steps. **www.pcc.edu/admissions/under-16.html**.

1. **Obtain a letter of recommendation** from your high school counselor or administrator, which addresses both academic and behavioral preparedness for an adult learning environment. If you wish to be admitted to PCC in lieu of attending high school you must also present a copy of Exemption from Compulsory Attendance from your high school or ESD district.

If you are home schooled, you are required to obtain the letter of recommendation, as described above, from your educator or tutor and provide a copy of Exemption of Compulsory Attendance from your local ESD. Before continuing, submit required documents in person, by email, or fax to your campus contact.

2. **Apply for admission**. Complete the Admissions application online or in person at your campus Admissions Office. Pay the $25 non-refundable Admission application fee.
3. **Take a college placement exam**. Regardless of what type of classes you intend to take at PCC, you must place at the minimum levels of Writing 115, Reading 115 and Math 60. Testing schedules for each campus maybe accessed online at: **www.pcc.edu/resources/testing**.
4. **Schedule an appointment with your campus contact**, located at the campus where you wish to attend. Refer to the campus contact information provided on the website. Both you and your parent/guardian are required to attend, prior to registering for classes.
5. **Complete the "Underage Enrollment Form" and the "Underage Registration Form"** issued through your PCC campus contact at the time of your scheduled appointment. Instructor approval may be required as part of the application process.
6. **Complete a new student orientation** online or in person at the campus you choose to attend. Access the online orientation and the schedule for on-campus orientations at **https://www.pcc.edu/orientation**.
7. **Enroll in your classes.** Submit in person the completed Underage Registration Form at one of the Campus Registration Offices each term. Please note that students under 16 years of age will not be permitted to register for classes until one week prior to the start of each term.

OPEN ENROLLMENT/HOME SCHOOL FOR STUDENTS 16 AND 17 YEARS OF AGE.

Get a head start on college, pursue special interests, make-up or supplemental high school experience, or earn PCC credits you can apply to a PCC degree or transfer to a university. To get started, see your high school counselor or the PCC contact person listed on the website.

ENROLLMENT PROCEDURES

1. Complete the Admissions application online or in person at your campus Admissions Office. Pay the $25 non-refundable Admission application fee.
2. Submit to the Admissions Office a permission letter from your high school counselor. Letters not required for summer term enrollment.

If home schooled, you must provide a letter of verification from your local Educational Service District (ESD). Letters not required for summer term enrollment.

3. Take college placement exams only if a prerequisite is required for desired class(es).

Note: Only high school counselors or home schooled educators may approve classes for high school credit.

HIGH SCHOOL PARTNERSHIPS

PAVTEC

www.pcc.edu/pavtec

PAVTEC is a consortium composed of the College and all of the K-12 school districts that feed into PCC. It also includes representation from private industry and other educational institutions that are involved in Career and Technical Education (CTE). PAVTEC works with the 40 area high schools and PCC to increase access of students to high quality CTE programs at both the high school and PCC levels. Among its responsibilities, PAVTEC coordinates the articulation (dual credit) program – called "PCC Dual Credit" - which provides PCC credit for qualified high school students for approved classes taken at the students' home high schools.

PAVTEC/PCC DUAL CREDIT

www.pcc.edu/pavtec/dual

The PCC Dual Credit is a program whereby high school students may earn PCC credits for advanced level courses that are taught at their local high schools by PCC qualified high school teachers. These courses are equivalent to courses offered on a PCC campus. For a $35 annual processing fee, high school students who earn an "A," "B," or "C" grade in these "articulated" (dual credit) courses may obtain PCC credit saving both time and money in their postsecondary educational pursuits.

About 45 high school sites (some are outside of the PCC district) participate in this dual credit program. Some high schools offer Career and Technical Education (CTE) articulated (dual credit) courses connected to more than 25 participating PCC CTE programs. Examples include drafting, office systems, health services, early childhood education, auto service, building construction, engineering, machine manufacturing, fire protection and welding.

Some of the high schools also offer courses connected to one or more 16 PCC Lower Division Transfer subject areas. Examples include American Sign Language, Biology, Computer Science, Dance, English, Mathematics, Writing and History.

OTHER PROGRAMS

For a complete list of high school programs please visit **http://www.pcc.edu/pavtec/options/default.htm** to learn about high school completion options and getting a head start on college.

EXPANDED OPTIONS PROGRAM *(EOP)*

PCC partners with local high schools to provide opportunities for high school students to take regular PCC courses through the Expanded Options Program (EOP). The EOP was established by the Oregon Legislature in 2005 with the enactment of Senate Bill 300 and modified by the Legislature in 2007 with Senate Bill 23.

The EOP provides the opportunity for high school juniors and seniors who are at least 16 years of age and currently enrolled in high school to take regular PCC classes that relate to the career and educational plan of the student at the expense of his/her local school district.

To take advantage of the EOP a student must first consult with his/her high school counselor and meet the high school's criteria for EOP participation. After approval and referral by the authorized high school contact, the student applies to PCC through the PCC Admissions Office and eventually enrolls in regular PCC courses.

EOP is one of several opportunities for high school students to earn PCC credit. Others include the PCC Dual Credit program through the PAVTEC Education Consortium and the PCC High School Completion program.

DEGREE PARTNERSHIP PROGRAMS

PCC offers dual admission or co-enrollment programs with:

Portland State University

Oregon State University

Oregon Institute of Technology

Western Governors University

Concordia University

Marylhurst University

Pacific University

Linfield College - Degree Completion, Portland Campus

THE BENEFITS OF THESE PROGRAMS INCLUDE:

- One application process for both Portland Community College and partner schools
- Advising available at either institution
- Flexible scheduling with access to classes at both institutions
- Opportunity to access services and participate in college life on both campuses
- Coordinated financial aid and scholarships for qualified students
- Access to library and computer lab resources on both campuses
- Skill-building through preparatory courses at Portland Community College and lower division courses at either Portland Community College or the four-year institution
- Easier transition from community college to university
- More affordable route to a degree

PLAN HOW TO PAY FOR COLLEGE

Determine how to pay for your education. Financial assistance is available so review the options listed below. For further information on how to access these options, refer to the websites listed below.

FINANCIAL AID

www.pcc.edu/financial-aid/

HOW TO APPLY

- **www.FAFSA.ed.gov**. The Free Application for Federal Student Aid is used for all federal and state financial aid programs.
- Apply as early as possible after January 1 each year for the following academic year. An early application allows you to have the best consideration.
- Applications for financial aid will be processed after the admissions process is complete and all financial aid requirements have been met.

ELIGIBILITY

STUDENTS SEEKING FINANCIAL AID:

- Must be U.S. Citizens or eligible non-citizens.
- Must have a high school diploma or GED or meet defined ability to benefit standards.
- Must be enrolled in an eligible program of study leading to a degree or certificate.
- Cannot owe a repayment or be in default on a federal fund.

HOW TO GET FINANCIAL AID

Funds are credited to your student account to pay tuition and other charges. Remaining funds will be paid to you by the Business Office after the second week of each term. You may have excess funds direct deposited into a bank account by completing the Direct Deposit Form at **www.pcc.edu/financial-aid**.

SCHOLARSHIPS

Scholarship information is available online at **www.pcc.edu/scholarships**.

VETERAN'S EDUCATIONAL BENEFITS

Apply for benefits through the Veteran Services Office (Sylvania Campus, CC 246). To know more about the program, go to **www.pcc.edu/vets** or call 503-977-4502.

PCC is state approved to process claims for

- Chapter 30 veterans
- Chapter 35 certain dependents of veterans
- Chapters 1606 or 1607 members of the National Guard/Reserve
- Chapter 31 disabled veterans, and the
- Oregon Educational Aid Program (ODVA)

DEFERRED PAYMENT – THE 50/50 PLAN

The 50/50 plan allows students to pay one-half of term by the 2nd Friday of the term and the balance by the 6th Friday. Students wishing to participate must submit a completed authorization to the Business Office the Friday before term begins. A new application is required only once for each academic year (fall through summer).

Students enrolled in travel classes are not eligible. A separate plan is available for international students in their second year please refer to the next page. The college provides a deferred payment option to make it easier for students to pay tuition bills. All term charges must be paid in full before a student will be allowed to register for the next term.

OTHER PAYMENT OPTIONS

Information about tuition, fees and various payment options is at **www.pcc.edu/tuition**.

TESTING

www.pcc.edu/resources/testing

COLLEGE PLACEMENT

COMPASS, a basic skills placement test, is used to determine the appropriate classes for students in English and math. If you are enrolling for a certificate, degree or diploma, placement testing is required. For specific testing hours and locations please visit our website. Preparing for and taking the placement test seriously could save you time and money. Your scores determine which classes you'll be able to take.

Standard prerequisites for PCC are: Successful completion of WR 115, or placement into WR 121, successful completion of RD 115, or equivalent test scores, and successful completion of MTH 20 or placement into MTH 60. Your scores determine which classes you'll be able to register for. For more information on prerequisites, please visit **www.pcc.edu/registration/prereq**.

COURSE CHALLENGE

Some courses offered at Portland Community College may be challenged. This allows a student to receive credit by taking a special examination. Students who wish to challenge a course must accept the following conditions:

1. Designated credit courses may be challenged by special examination at a time set by the appropriate department chair or instructional administrator. Check with the department to see which courses can be challenged.
2. Students currently enrolled in such a course must request a challenge prior to the third week of classes or in a proportionate period of time for courses less than one term. Students must have formally withdrawn from class prior to submitting the challenge form and taking the exam.
3. Students must be currently registered in credit classes or have previously completed credit classes at PCC. Students must have an established PCC transcript before challenge credits will be recorded.
4. Challenge credit may not be used to meet the 30 quarter hour residency requirement.
5. Students must complete and submit to the Business Office a challenge form with the current non-refundable fee. If the student successfully challenges the course, the student will pay the course tuition rate in effect at the time of testing, less the nonrefundable fee, in order to receive credit. Students must complete the challenge exam within two consecutive terms.
6. The department may issue a letter grade or "Pass" for successful completion of a challenge. The grade will be added to the student's academic record using a Grade Review Request Form submitted by the department chair. All challenge courses will appear on the transcript as "Credit by Examination". Students must assume the responsibility for determining if the challenge credit earned at PCC is transferable to other institutions.
7. Students may take the challenge exam for a specific course only once.
8. Students may not challenge a course in which they have previously enrolled or audited and received either a letter grade (A, B, C, D, F) or a mark (W, CIP, CIPR, I, NP, P, AUD, or X.).
9. Test scores may be required before a student may take a challenge exam for a specific course.

REGISTRATION

www.pcc.edu/registration/

The college offers several registration service options. Students are encouraged to use the web site https://my.pcc.edu. Other options include fax, in-person, and mail-in processes. Specific registration information and procedures are in the quarterly schedule of classes available at any PCC facility, plus many other public sites around the community. Those living outside the PCC district may call the PCC Admissions Office to request a schedule to be sent to them. Students are not allowed to attend classes unless they are registered.

YOUR MYPCC ACCOUNT

A MyPCC account is automatically set up for all PCC students. This account provides online access to records and information a student will need to attend PCC. MyPCC allows you to register online, check your class schedule or the status of your financial aid, view and pay your account balance and more. MyPCC email is an official form of communication and the college will use it to send important announcements and information. It is your responsibility as a student to regularly access and read your MyPCC email and review your account records for accuracy.

STEPS TO REGISTERING ONLINE WITH MYPCC

Please note: Each term the first day of online registration will begin at 8 am. This is only for that first day each term.

1. Go to **my.pcc.edu**.
2. Enter your user name and password. Click login. If you need help or can't remember your user name or password, click on 'Login Help' under the login button.
3. Click on the Registration Services under Quick Links.
4. On the Registration menu, click on Add or Drop Classes.
5. After selecting the Registration Term, click the Submit button.
6. Scroll to the bottom of the page (the Add Classes Worksheet) and enter the CRNs (Course Reference Numbers) for the courses you want to take, and then click the Submit Changes button.

7. You have completed your registration.
8. Be sure and check your schedule for accuracy.
9. If you put yourself on a wait list, and a space becomes available, you will be automatically taken off the wait list and registered for the class. You will be notified of this action via an email to your MyPCC account. Should you decide you do NOT want to remain registered for the class, you must drop by the drop dates.
10. If you register after classes begin, you will need a permission from the instructor teaching the course to be allowed to register. To avoid late fees being assessed, be sure to turn in your Registration and Address Change from to register before the end of the second week of the term. The forms for this are available at all Registration and department offices.

REGISTRATION TIPS

The choices of classes available to you may include all campuses and centers of PCC. Check the name to the right of the CRN to be sure you have selected the correct class at the right location. You are personally responsible for dropping or withdrawing any class for which you are registered. Even if you do not attend class, you are responsible for dropping or withdrawing. If you fail to drop within the refund period, you will be responsible for the charges. Check class information carefully, and take care of any mistakes as soon as possible.

USE THE REGISTRATION AND ADDRESS CHANGE FORM TO COMPLETE THE FOLLOWING:

LATE REGISTRATION

Written approval of the instructor is required to add a class once it has started. The form must be submitted in person to the Registration Office within one week of approval. After that date, your enrollment cannot be guaranteed. A late registration fee may be charged if you enroll after the class begins.

CANCELED CLASSES

The college reserves the right to cancel a class that does not meet the minimum enrollment established by the college. Charges for canceled classes will be automatically reversed.

ADDING OR DROPPING A CLASS

Written instructor approval is required to add a class after the first class session. Approval forms are available at any Registration or department office.

The deadline to drop and have charges removed varies by class length and type. The drop deadline for credit classes is published in the quarterly schedule of classes. Instructor drops do not remove charges.

WITHDRAWING FROM COLLEGE

You may formally withdraw from class by filing a form with the campus Registration Office or via my.pcc.edu. If you have applied for financial aid or Veterans' benefits, you must also notify the appropriate office of your intention to withdraw.

Students who stop attending without formally withdrawing will receive the grades assigned by instructors and will be responsible for payment of tuition and fees.

CONTINUING EDUCATION CLASSES

Course numbers beginning with "CEU" are classes that award Continuing Education Units (CEUs) rather than college credits. CEUs are not equivalent to credit hours and therefore may not be used toward PCC certificates or degrees. Some programs offering CEU classes offer recertification or CEU certificates. One CEU is awarded for each 10 hours or their equivalent. PCC transcript records are available for CEU hours.

Tuition for CEU courses is charged regardless of the number of credit hours for which the student enrolls. CEU classes do not meet the federal requirements for financial aid or most Veterans' benefits.

PAY YOUR BILL

www.pcc.edu/resources/tuition-fees/

STUDENT FINANCIAL RESPONSIBILITIES

When you register for a class, you are giving your consent to pay all of the charges associated with the class, whether or not you attend. You are responsible to pay all charges on your account by the payment due date, even if you do not receive a bill or your account is being paid by another party. You are responsible for keeping PCC informed of any address or telephone changes. If you are under 18 years of age, you are liable for any charges incurred in accordance with ORS 348.105. If your account is referred for collection you agree to pay all reasonable collection fees and related costs. If you are unable to attend, remember to drop the class, even if you are only on the wait list. Once you are enrolled in a class, tuition charges will be removed only if your drop is received by the student-initiated drop deadline published in this schedule.

All term charges must be paid in full before a student will be allowed to register for the next term.

BILLING INFORMATION

Bills are issued the Wednesday before term begins. If you register using MyPCC you will be expected to access your schedule and bill online. If you register using other methods, a bill will be mailed to you. You are expected to pay on time even if you do not receive a bill.

To receive a paper schedule or bill, contact any Student Services Office and a copy will be provided.

LATE PAYMENT

Past due accounts are subject to late payment penalties and financial holds which restrict future registration, transcripts and other college services.

Accounts referred for collection are subject to collection costs and attorney fees. Students with past due accounts may also be institutionally withdrawn from courses or required to pay upon registration.

REMOVING TUITION CHARGES

Classes must be officially dropped online using MyPCC or by submitting an Add/Drop form with the Registration Office. It is the responsibility of the student to confirm the dropped status. If the student does not receive written confirmation of the drop, the student may be charged all applicable tuition and fees and may receive a grade for the course 100 percent of the charges associated with a class will be removed if the official drop was received by the deadline published online and in the schedule of classes. No charges will be removed if the drop was received after the deadline for the class.

TUITION FORGIVENESS

Students who were unable to complete course(s) due to circumstances beyond their ability to control, may formally petition to receive a tuition credit. Petitions are reviewed by the college appeal committee after all petition requirements have been met. If approved, a tuition credit will be issued to help offset the cost of future enrollment.

The Student Account Petition form and additional information is available online via MyPCC or at any campus Business Office.

REFUNDS

Refunds resulting from an overpayment or reversal of paid charges are first applied to other outstanding charges on your account, even if payment is not yet due. Remaining credit balances in excess of $15 will be refunded within 30 days. A check will be issued directly to the student for any refunds resulting from payment by cash or check. Credit card refunds will be credited back to the card originally used in payment. Refunds resulting from payments made by third party sponsors, financial aid or scholarships will be returned to the originator.

TAX CREDITS FOR EDUCATION (*1098-T)*

The Taxpayer Relief Act of 1997 (TRA) created the Hope Scholarship tax credit and the Lifetime Learning tax credit to help families meet the cost of a college education. To determine your eligibility please consult your tax advisor. PCC staff cannot help with tax related questions.

If you plan to claim an educational tax credit, your social security number (SSN) is required for tax reporting. To update your SSN go to the My Records link on MyPCC. A form 1098-T is mailed January 31 each year to students who were enrolled in credit and CEU courses.

OLDER ADULTS

(*62 and Older)*

If you are 62 or older when classes begin, you are eligible to receive a 50 percent tuition discount on credit and non-credit classes. The discount does not apply to lab and other class fees, non-resident tuition or CEU tuition. The discount may be requested at the time of payment or by contacting the Business Office. Older adults will also receive a 50 percent discount when they purchase a term parking permit.

Limited grants are also available to Oregon residents unable to afford the reduced tuition rates. Grants do not cover lab or other fees, and are not available if you are enrolled in a degree or certification program. To apply, call 503-977-4122. Submit your approved grant authorization to any campus Business Office prior to the payment due date for the term.

GRADUATION

All students graduating from Portland Community College must complete a graduation application, preferably one term in advance of the student's final term. Graduation applications may be obtained from the Business Office, Advising, Counseling, the Graduation Office, or downloaded and printed from **www.pcc.edu/resources/graduation**. A separate application is required for each degree or certificate. The $10 fee may be paid at the Business Office. Students must file their application no later than one year after completing all degree requirements.

A formal commencement ceremony is held at the end of spring term. All students graduating in the current academic year (fall, winter, spring and summer) are eligible to participate if they have applied by the deadline and the application has not been denied. Information regarding cap and gown purchases is emailed to students who have applied and is also available at **www.pcc.edu/resources/graduation**.

Graduating students will receive diplomas by mail eight to ten weeks after the completion of their degree or certificate. The diploma will be mailed to the address of record for the student. Please contact the Student Records Office if there is an address change. Students must clear all debts to the college before their degree or certificate will be awarded.

TRANSCRIPTS

Official transcripts include the college seal and the signature of the Registrar. To be considered official, most colleges, universities, and employers require transcripts to be submitted in the original sealed envelope.

There are several ways to obtain an official transcript of classes completed at PCC. Electronic requests for transcripts can be completed in MyPCC on the College Business tab by clicking on "Order My Official Transcript." This is the fastest way to request a transcript. Official transcript requests can also be faxed to the Student Records Office by downloading the request form and faxing it to 503-645-0894. Completed request forms can also be submitted to any Business Office or the Student Records Office. Mailed requests should be sent to:

Business Office
Portland Community College
PO Box 6119
Aloha, OR 97007-0119

TRANSFER STUDENTS

Credits from other institutions may be accepted toward degree requirements if they were completed at a fully accredited college or university. Send official transcripts of previous course work to:

Student Records
Portland Community College
P.O. Box 19000
Portland, Oregon 97280-0990

All transcripts received by the Student Records Office become the property of PCC. The Student Records Office will not provide copies of transcripts from other institutions. The Student Records Office is responsible for determining acceptance of transfer work to meet college requirements. Students should plan to meet with a department chair or advisor to review program requirements.

It is the responsibility of each student with transcripts (credits) from international schools to have them translated (if necessary) and evaluated course by course for acceptance toward a Portland Community College certificate or degree, by a service that is a member of the National Association of Credential Evaluation Services. Further information can be found at: **www.naces.org** by clicking on "Current Members" for a listing of service providers.

NON-TRADITIONAL CREDIT

In all cases of non-traditional credit, a student must have an established PCC transcript before the credit can be recorded. Non-traditional credit may not be used to establish the residency requirement. Students must submit a Non-Traditional Credit form to the Student Records Office and pay a non-refundable $10 fee. The Non-Traditional Credit form can be found on the Student Records website or picked up at the Student Records Office. After evaluation the non-traditional credit will be recorded on the student's transcript.

PCC will evaluate any of the following learning experiences for credit: Advanced Placement, College Level Entrance Examination Program (CLEP), Military Service Credit and coursework at non-accredited institutions.

ADVANCED PLACEMENT

Students who have taken college level courses in high school under the Advanced Placement Program may receive college credit pending official copies of test results. Credit awarded will vary based on scores received. To request a copy of Advanced Placement courses to be sent to PCC, contact the Advanced Placement Program. This information can be found at the address listed below or the following website: **www.collegeboard.com/testing/**.

Advanced Placement Program
PO Box 6671
Princeton, NJ 08541-6671
1-888-225-5427

COLLEGE LEVEL ENTRANCE EXAMINATION PROGRAM (CLEP)

Students enrolled at PCC may receive credit for certain college courses by submitting official scores from the College Level Entrance Examination Program (CLEP). For mathematics, credit is given for a minimum score of 50 on the subject area exams: College algebra (MTH 111C), trigonometry (MTH 112). Minimum scores of 50 are accepted on certain subject area exams. CLEP credit is not given for English language or foreign languages. Further information can be found at the address listed below or the following website: **www.collegeboard.com/testing/**.

CLEP – Transcript Services
PO Box 6600
Princeton, NJ 08541-6600
1-800-257-9558

MILITARY SERVICE CREDIT

PCC equivalencies may be granted for formal military courses after careful evaluation of transcripts, records and information provided in the "Guide to the Educational Experiences in the Armed Services." Block credit is not granted and only the subject areas taught by PCC will be considered. Contact the Student Records Office for details.

MILITARY SERVICE PHYSICAL EDUCATION CREDIT

Two hours of credit may be granted for military training.

A copy of the DD 214 is required.

COURSE WORK AT NON-ACCREDITED INSTITUTIONS

Credit may be granted for course work completed at training sites other than those listed in the "Transfer Credit Practices Directory" published by the American Association of Collegiate Registrars and Admissions Officers. Examples include hospitals, banks, corporations, business schools, etc.

Students must furnish detailed training records, course outlines and, whenever possible, transcripts. Individual departments will evaluate and assign PCC equivalencies. A maximum of 45 credit hours may be recorded through this process. Only those subject areas taught by PCC will be considered. Contact the Student Records Office for details. Course work evaluated from non-accredited institutions is not generally acceptable in meeting the requirements for an AAOT degree.

Students may submit a Non-Traditional Credit form based on previous course work in order to:

1. Waive comprehensive degree and/or certificate requirements,
2. Substitute course work to meet General Education requirements, and
3. Substitute course work to meet degree and/or certificate requirements. Petitions are submitted to the Student Records Office.

Keep in mind, no student may graduate with less than the required number of credits. Credit may be given for equal course work, but it may not be waived.

Student Services Phone/Location

	CASCADE	ROCK CREEK	SE CENTER	SYLVANIA
ADMISSIONS/ REGISTRATION	503 977-8888 SSB Rm 102A	503-977-8888 Bldg 9, Rm 120	503-977-8888 Mt. Tabor, Great Hall	503-977-8888 CC Bldg, Rm 225
ADVISING	503-978-5271 SSB Rm 150	503-614-7297 Bldg 9, Rm 102	503-788-6272 Mt. Tabor, Rm 152	503-977-4531 CC Bldg, Rm 216
ARTS AND THEATRE				
GALLERIES	503 978-5326 TH Rm 102	244-611-3434 Bldg 3, Rm 135	N/A	503-977-4264 CT Bldg, Rm 216
THEATERS	N/A	N/A	N/A	503-977-4284 SY PAC 107
ATHLETICS - BASKETBALL	503 978-5513 PE Building 101	503-614-7379 Bldg 3, Rm 128	N/A	N/A
INTRAMURALS AND CLUB SPORTS	503 978-5781 SC 01	503-614-7379 Bldg 3, Rm 128	N/A	503-977-4213 HT Bldg, Rm 215
BOOKSTORES	503 978-5267 MAHB 100	503-614-7209 Bldg 9, Rm 120	503-788-6261 Mt. Tabor, Rm. 100	503-977-4704 Bookstore
BUSINESS OFFICES	503 978-5300 SSB Rm109	503-977-4234 Bldg 9, Rm 103	503-977-4234 Mt. Tabor, Rm 150	503-977-4234 CC Bldg, Rm 210
CAREER RESOURCE CENTERS	503 978-5600 SSB Rm 104	503-614-7335 Bldg 9, Rm118	503-977-4470 N/A	CC Bldg, Rm 126
COUNSELING OFFICE	503-978-5271 SSB Rm 150	503-614-7300 Bldg 9, Rm 108	503-788-6256 Mt. Tabor, Rm 152	503-977-4531 CC Bldg, Rm 216
CHILD CARE				
SUBSIDY AND REFERRAL	503 978-5739 SC 03	503-977-4366 CC Bldg, Rm 246	N/A	503-977-4366 CC Bldg, Rm 246
CAMPUS CHILD CARE	N/A	503-614-7511 Bldg 3, Rm 101	N/A	503-977-4424 HT Bldg, Rm 220
COMPUTER RESOURCE CENTERS	503 978-5440 TEB 125	503-614-7510 Bldg 2, Rm 253	503-788-6251 Mt. Tabor, Rm 147	503-977-4325 CC Bldg, Rm 206
COOPERATIVE ED. AND INTERNSHIPS	503 978-5600 SSB Rm 104	503-614-7243 Bldg 9, Rm 108	N/A	503-977-4710 CC Bldg, Rm 221
COUNSELING SERVICES	503 978-5271 SSB Rm 150	503-614-7300 Bldg 9, Rm 118	503-788-6157 Mt. Tabor, Rm 152	503-977-4531 CC Bldg, Rm 216
DISABILITY SERVICES				
GENERAL ASSISTANCE	503 978-5271 SSB Rm 112	503-614-7300 Bldg 9, Rm 109	503-977-4341 Mt. Tabor, Rm 152-B	503-977-4341 ST Bldg, Rm 229
OSD COUNSELORS	503 978-5271 SSB Rm 112	503-614-7300 Bldg 9, Rm 109	503-788-6250 Mt. Tabor, Rm 152-B	503-977-4341 ST Bldg, Rm 229
FINANCIAL SERVICES				
FINANCIAL AID	503 978-5278 SSB 105	503-614-7216 Bldg 9, Rm 104	503-977-6254 MSH, Rm 152-A	503-977-4934 CC Bldg, Rm 212
SCHOLARSHIPS	503 978-5278 SSB Lobby	503-977-4488 See Sylvania	503-977-4488 See Sylvania	503-977-4488 CC Bldg, Rm 234
VETERANS SERVICES	503-977-4502 See Sylvania	503-977-4502 See Sylvania	503-977-4502 See Sylvania	503-977-4502 CC Bldg, Rm 246
WORK STUDY	503 978-5278 SSB 105	503-977-7216 Bldg9, Rm 104	503-977-6254 MSH Rm 152-A	503-977-4934 CC Bldg, Rm 212
FITNESS & RECREATION	503 978-5524/5525 PE Building	503-614-7286 Bldg 7, Gym	Mt. Scott 103 503-788-6146	503-977-4210 HT Bldg, Rm 215
FOOD SERVICES	503 978-5321 SC Cafeteria	503-614-7284 Bldg 3, Rm 104	503-788-6153 Mt. Tabor Cafe	503-977-4316 CC Bldg, Rm 250

	CASCADE	ROCK CREEK	SE CENTER	SYLVANIA
GRANT PROGRAMS				
CAMP	N/A	503-614-7485 Bldg 5, Rm 201	N/A	N/A
ILLUMINATION PROJECT	N/A	N/A	N/A	503-977-8149 ST Bldg, Rm 208
SYLVANIA ROOTS	N/A	N/A	N/A	503-977-8195 CC Bldg, Rm 225
TALENT SEARCH	N/A	503-614-7572 Bldg 5, Rm 201	N/A	N/A
UPWARD BOUND	N/A	N/A	N/A	503-977-8195 CC Bldg, Rm 225
HIGH SCHOOL COMPLETION	503 978-5416 SSB Rm 109	503-614-7290 Bldg 9, Rm 102	503-788-6252 Mt. Tabor, Rm 152	503-977-4473 CC Bldg, Rm 217
INFORMATION	503 978-5700 SC Lobby	503-614-7213 Bldg 9, Rm 101	503-788-6240 Mt. Tabor, Great Hall	503-977-4329 CC Bldg, Rm 215
INTERNATIONAL STUDENT SERVICES	503 978-5615 SSB Rm 150	503-614-7151 Bldg 3, Rm 223	N/A	503-977-8310 CT Bldg, Rm 103
LIBRARY & MEDIA SERVICES	503 978-5270 SC Library	503-614-7544 Bldg 9, 2nd floor	503-788-6130 Mt. Tabor, Rm 123	503-977-4403 Sylvania Library
MULTICULTURAL CENTERS & PROGRAMS	503 978-5781 SC Rm 01	503-614-7435 Bldg 3, Rm 128	503-802-6328 Mt. Tabor, Rm 110	503-977-4112 CC Bldg, Rm 202
PARKING & TRANSPORTATION	503 977-4703 PSEB 120	503-977-4703 See Sylvania	503-977-4703 See Sylvania	503-977-4703 CSB Bldg, Rm 329
PUBLIC SAFETY	503-977-4902 Public Safety Bldg	503-977-4902 Bldg 5, Rm 110	503-977-4902 Mt. Tabor, Rm 153	503-977-4902 CSB Bldg, Rm 325
STUDENT EMPLOYMENT	503 978-5600 SSB Rm 104	503-614-7325 Bldg 9, Rm 108	N/A CC Bldg, Rm 221	503-977-4710 CC Bldg, 221
STUDENT GOVERNMENT	503 978-5379 SC Rm 03	503-614-7379 Bldg 3, Rm 128	503-788-6262 Mt. Tabor, Great Hall	503-977-4361 CC Bldg, Rm 101
TESTING & ASSESSMENT	503 978-5234 SSB Rm 204	503-614-7300 Bldg 9, Rm 118	503-788-6277 Mt. Tabor, Rm 109/107	503-977-4533 CC Bldg, Rm 216
TUTORING	503 978-5263 TH Rm 123	503-614-7414 Bldg 2, Rm 212	503-788-6159 Mt. Tabor, Rm 123	503-977-4540 CC Bldg, Rm 204
WOMEN'S RESOURCE CENTERS	503 978-5249 SSB Rm 103	503-614-7448 Bldg 3, Rm 102-A	N/A	503-977-8101 CC Bldg, Rm 273
NEW DIRECTIONS OR PROJECT INDEPENDENCE	503 978-5249 SSB Rm 103	503-614-7448 Bldg 2, Rm 103	503-788-6252 Mt. Tabor, Rm 152	503-977-8101 CC Bldg, Rm 273

ADDITIONAL STUDENT RESOURCES

ADMISSIONS

www.pcc.edu/admissions

If you're enrolling at PCC for the first time, the Admissions Office can help you get started.

ADVISING SERVICES

www.pcc.edu/resources/advising

Academic advisors are available on each campus to work with students to help them succeed in achieving their goals at PCC. They help students select courses that match their interests and skills, choose a degree program at PCC or another college or university, review transcripts from other colleges, answer questions about degree requirements and college policies and procedures, and make a long-term academic plan. Advisors also help students find needed services and resources.

GALLERIES

www.pcc.edu/about/galleries

There are art galleries located at Cascade, Rock Creek and Sylvania campuses. Shows are continually changing, featuring guest artists, students and faculty.

THEATRE

www.pcc.edu/about/theatre

The drama program offers students a chance to perform and to assist in the production of plays featured each term. Plays are produced and performed at the Rock Creek and Sylvania campuses.

ATHLETICS

www.pcc.edu/about/athletics

The college athletic program includes both men's and women's basketball. The programs are part of the Northwest Athletic Association of Community Colleges representing the community colleges of Oregon and Washington. The teams are based at the Cascade campus. All home games will be played at Cascade. Official practice begins in October.

Students may be enrolled at any PCC campus and participate in a sport based at another campus. Students must carry a minimum of 12 credit hours and meet all other eligibility requirements set by the NWAACC.

If you are interested in Intramurals please contact the individual campus ASPCC Office.

BOOKSTORES

www.pcc.edu/resources/bookstore

Full-time bookstores are located at the Sylvania, Rock Creek and Cascade campuses, while a part-time bookstore serves Southeast Center.

Hours vary, so check the website, schedule of classes or call for hours at 503-977-4910.

Tri-Met bus tickets and bus passes may be purchased at any bookstore. Select student passes available at the Business Office.

The bookstore accepts VISA and MasterCard. Checks are accepted for the amount of purchase only, and checks must be drawn on a local bank and imprinted with current information. When paying by check, you must show one of the following: two pieces of identification: your current PCC ID card, check guarantee card, Oregon Drivers License or Oregon I.D. There is a service charge for all returned checks.

Textbooks will be available and may be purchased one week before each term. You should be familiar with the bookstore refund policy at time of purchase. It is posted at all bookstores and on the website. A refund may be mailed when circumstances warrant, but allow at least four weeks for processing. Book buy-back times will be posted at each store.

BUSINESS OFFICE

www.pcc.edu/resources/business

The college Business Offices accept payments for tuition, PE and library fines, and miscellaneous charges. Checks, MasterCard and VISA are accepted. Current PCC students may cash checks up to a $10 maximum per day.

CAREER RESOURCE CENTERS

www.pcc.edu/resource/careers

The Career Resource Centers provide services to students and the community. Resource materials provide current career and job market information to those making initial career decisions or looking for a career change. Computer-assisted programs in career assessment and exploration, personality assessment and resume preparation are available. The centers also offer Internet access with web pages and bookmarks on career exploration and college choices. College catalogs, local career trend newspapers and videos are available to help with the college, career and job research process.

CHILD CARE

www.pcc.edu/resources/child-care

Child care is often a major concern to students, and PCC can help in a variety of ways. Limited on-campus child care is available. Child care services offers resources and referrals which help you find and evaluate the quality of care, arranges financial assistance if you meet specific qualifications, and provides information about selecting care.

CHILD CARE SERVICES

Child care resource and referral provides referrals for both on-campus and off campus child care. Referrals include child care centers, family child care providers, school-age programs, Head Starts, and pre-schools located within the Tri-County area.

Consumer education provides parents with a wide range of materials developed to help in the planning and selection of developmentally appropriate child care.

CHILD CARE SUBSIDY PROGRAM

Each campus has a program that provides financial assistance for school related child care expenses. Students should contact the campus office where they are taking the majority of their classes.

CASCADE CHILD CARE

There is currently no child care facility located on the Cascade Campus. However, a collaboration agreement between PCC and a nearby child development center has been arranged, and a subsidy is available for qualified, low-income students. Contact the Cascade number for information.

ROCK CREEK CHILD CARE

Daytime preschool is for children ages 3-5 only and evening care is for ages 3-12. Available space in the fully licensed center is offered to student parents and college staff who pre-register. A subsidy is available for qualified, low-income students.

SYLVANIA CHILD DEVELOPMENT

The Child Development Center on the Sylvania Campus is operated by the Early Education and Family Studies Department. The Center has a dual focus: to provide a laboratory educational experience for students in the Early Education and Family Studies Program, and child care in a licensed and accredited program for the children of PCC students and staff. Available programs include a morning program for infants 3-14 months and half-day sessions for 14-36 month old children. Half day and full day programs are available for ages 3-6 years old. The evening program is available to children 14 months to 8 years old.

COMPUTER RESOURCE CENTERS

www.pcc.edu/resources/computer-labs

The most comprehensive facilities open to all currently registered PCC students are the Computer Resource Centers located on the Southeast Center, Cascade, Rock Creek and Sylvania campuses. While all currently enrolled PCC students are welcome, an orientation is required before using the centers.

If you need help while using a CRC, lab assistants are available to assist you.

COOPERATIVE EDUCATION

www.pcc.edu/resources/careers/co-op

Cooperative education is an exciting supervised work experience program that enhances your educational program or provides an opportunity to explore career options. Students enrolled in cooperative education combine their classroom studies with related work experience that earns them college credit and in some cases earns them pay for their work.

Cooperative education is an elective or a requirement in most career and technical programs. You may enroll for a variable number of credits depending on the number of hours you work per week. In some cases, students who are already working may convert eligible employment into a cooperative education experience. The college must approve your training sites and the learning objectives developed by you and your supervisor.

If you are interested in exploratory cooperative education you must meet certain requirements and receive approval from a cooperative education specialist. Eligibility for other training experiences depends on the requirements of your major. In addition to job sites within the continental United States, you may be eligible for an experience in approved international cooperative education sites.

To earn cooperative education credit through an international experience, the work site must be verified by a qualified representative of the College, the work experience must be supervised and a specific set of learning objectives must be agreed upon in writing.

Portland Community College provides equal opportunity in education and employment. The college is committed to a policy of non-discrimination based on sex, age, handicap, color, religion or national origin. Equal Employment Opportunity guidelines are followed and students are referred on a non-discriminatory basis for all possible cooperative education, practicum or clinical experience placements.

For more information, contact the Cooperative Education Office at the individual campuses.

COUNSELING SERVICES

www.pcc.edu/resources/counseling/

Portland Community College provides a comprehensive program of counseling services designed to assist students in solving problems and in developing academic and personal potential. Professional counselors are available at the Cascade, Rock Creek and Sylvania campuses and the Southeast Center. They help in matters such as career development and exploration, learning problems and study skills, and assessment of abilities, interests and values. Counselors can also help with family, personal and social concerns.

DISABILITY SERVICES (*The Office for Students with Disabilities)*

www.pcc.edu/resources/disability

The Office for Students with Disabilities (OSD) provides a wide range of in-class and campus access services to students who experience documented disabilities. These services are designed to promote student independence and equal access to classroom and college-related activities for those students demonstrating an ability to benefit from the college experience. Services include sign language interpreters, transcription services, note taking options, in-class aides, test accommodation services, alternate media formats for printed materials, and campus-based adaptive equipment and training.

Students wishing to request services from OSD must meet with an OSD counselor (available at Cascade, Rock Creek, Southeast Center, and Sylvania) for an intake appointment.

Provide documentation from a certifying professional that establishes the existence of a current disability and supports the need for accommodations requested. Documentation is required to be on file with OSD prior to receiving services.

Request accommodations through an OSD counselor each term.

Follow the timelines and procedures for receiving each service as outlined in OSD's Student Handbook available at campus offices and online at www.pcc.edu/resources/disability/.

Vocational Training: Although the college does not provide special education or specialized (individualized) instruction, individualized vocational training is available for qualified students with disabilities through the Culinary Assistant Training Program (see Programs and Disciplines in this catalog).

Corrective Physical Education: Specialized courses instructed and supervised by a physical therapist are available through the college's Physical Education Department.

Accessible Parking: Disabled parking is available at each campus for drivers with valid permits obtained through the Oregon State Department of Motor Vehicles. Drivers must still have valid PCC parking permits to use these areas. Students needing temporary disabled parking (two weeks or less) may make arrangements through OSD. A letter from a physician supporting the need for this temporary service is required.

Accessible Pay Phones: Pay phones equipped with TTY (for hearing/speech impairments) are available at most campus locations. A list of TTY locations is available in the OSD Student Handbook available at campus offices and at **www.pcc.edu/resources/disability/**.

FITNESS AND RECREATION

www.pcc.edu/programs/pe

All campuses provide recreational opportunities in their gymnasiums, weight rooms and walking/jogging routes. For specific procedures, contact the Physical Education Department on these campuses.

FOOD SERVICES

www.pcc.edu/resources/dining

The college offers weekday food services at Sylvania, Southeast, Cascade and Rock Creek. Saturday service is available at Rock Creek, Southeast and Sylvania.

GRANT PROGRAMS CAMP

www.pcc.edu/camp

The College Assistance Migrant Program, referred to as CAMP, is a federally-funded program designed to support documented students from migrant and seasonal farm worker backgrounds during their first year in college. The program provides students with both financial assistance and support services, with the goal of preparing them to continue their education at a four-year college or university. Students who get accepted into the program receive services such as: Tuition assistance, CAMP courses, transportation assistance, tutoring and mentoring, academic advising, personal and career advising, book assistance, health resources and monthly stipends. For more information please visit our website: **www.pcc.edu/camp**, or if you want to contact our (CAMP/Recruiter) at 503-614-7445.

ILLUMINATION PROJECT

www.pcc.edu/resources/illumination

The Illumination Project (IP) is Portland Community College's innovative student leadership and education program designed to foster a climate of equality, compassion, justice, and respect for all people in the PCC academic community and the community-at-large.

The Illumination Project uses interactive social justice theater as a venue for Student Educators and audience members to join together to rehearse ways of solving problems. Interactive theater, with its capacity to engage diverse learning styles and members of a community, is an ideal way to challenge racism, sexism, heterosexism and other forms of oppression.

SYLVANIA ROOTS

www.pcc.edu/pcc/resources/roots/

The Sylvania ROOTS Program is a federally-funded TRIO program dedicated to helping students achieve their educational goals. The programs helps low income, first generation students and students with disabilities stay in school, transfer to other colleges or universities and/or graduate from PCC.

The program provides individualized academic advising; personal financial aid assistance; career planning; free admission and transportation to cultural events; and referrals to various tutoring centers.

UPWARD BOUND

www.pcc.edu/prepare/head-start/upward-bound.html

The Upward Bound program prepares students for college during their high school years by providing tutoring, advising and mentoring services, as well as opportunities to explore various careers.

Exposure to the college environment is important, and Upward Bound representatives visit local colleges and universities throughout the year. During the summer Upward Bound participants attend classes at PCC's Sylvania campus for five weeks and experience college life during a residential stay at Oregon State University.

Upward Bound offers a comprehensive set of services to help students succeed in high school and enter and complete college in order to obtain rewarding and satisfying careers.

EDUCATIONAL TALENT SEARCH

ETS is an outreach program designed to help students who have the potential to be successful in college, to aspire, prepare for, and enroll in the college of their choice. ETS students generally come from families in which neither parent had the opportunity to attend college

or receive a four-year college degree. The goal of ETS is to increase the number of youth from disadvantaged backgrounds who complete high school and enroll in college.

The PCC Rock Creek - ETS Program was established to serve 600 students in the Beaverton and Forest Grove School Districts of Washington County. Two thirds of our participants must be first generation students and meet the U.S. Department of Education's income guidelines for Federal TRIO Programs. One third of our students need only demonstrate a need for services. This can be achieved through a needs assessment after receiving a referral from a teacher, counselors, parent or an agency. Students may also make a self-referral.

Talent Search also serves students who dropped out of high school by encouraging them to re-enter the educational system and complete their education.

HEALTH SERVICES AND INSURANCE

Portland Community College provides no health services on its campuses. Emergency medical treatment while on campus is available by calling 503-977-4444.

PCC students of any age are not insured by the college for health and accident. However, students who are registered for nine or more credit hours may purchase student health insurance on a voluntary basis. The application form and brochure detailing the coverage and its cost are available on campus in the information center.

HOUSING

Portland Community College does not provide housing for students attending the college.

LIBRARY AND MEDIA CENTERS

www.pcc.edu/library

Portland Community College libraries provide many services for students, faculty and the community. The college has libraries at the Cascade, Rock Creek and Sylvania campuses as well as a limited-service library at Southeast Center. The library's website provides detailed information about library hours and services.

Faculty librarians are available to help students and instructors with research, homework and information needs. The library provides reference services in person, over the phone and via the library website. Faculty bring classes into the library for customized instruction by faculty librarians. Librarians also visit classrooms and teach a class that helps students with writing assignments.

The library's diverse collection supports all PCC programs and includes electronic and print books, magazines, CDs, DVDs, streaming video and more. The library can also provide material from other libraries through its membership in Summit, a consortium of regional academic libraries and interlibrary loan. Students can also check out digital cameras and computers from the library.

The libraries have many quiet study spaces and rooms for group work. Bring a laptop or use a library computer. All libraries have wireless access. PCC libraries are great places to relax between classes. Pick up a book or magazine and take a break. PCC libraries are here to serve you. Visit a library in person or on the web to find out more.

MULTICULTURAL CENTER AND PROGRAMS

www.pcc.edu/resources/culture

The Multicultural Centers located at Sylvania and Rock Creek supports the efforts of multi-racial students in achieving academic and personal success. The centers are a central place that nurtures learning and the achievement of personal and educational goals through cultural enrichment, peer tutoring, advising and mentorship. It offers one-on-one tutoring, information and referral services, sponsors educational and cultural workshops, events and activities and assists new and returning students in their adjustment to college. The centers are dedicated to developing multicultural student leaders and raising awareness of issues related to race and culture on campus. It is open Monday through Friday with varying hours each term based on student availability. Faculty, staff and students are encouraged to use the center for peer tutoring, study groups, and cultural resources.

OREGON LEADERSHIP INSTITUTE

www.pcc.edu/services/index.cfm/145.html

Portland Community College offers the Oregon Leadership Institute (OLI) at the Rock Creek Campus as a cooperative program between PCC and the Oregon Council for Hispanic Advancement (OCHA). OLI was created in 1986 to help Latino High School students develop leadership skills, learn about opportunities for post-secondary education, and explore career options. The program consists of nine full-day seminars, held one Saturday a month from October to June. The PCC-OLI program recruits high school Latino students who are sophomores, juniors, and seniors attending schools in Washington County. The students are willing to make a commitment to attend all nine Saturday sessions.

OFFICE OF INTERNATIONAL EDUCATION (*OIE)*

www.pcc.edu/about/international

The Office of International Education (OIE) offers academic and immigration advising and a comprehensive student activities program to introduce students to Oregon and cultures of the United States.

STUDENT EXCHANGE

www.pcc.edu/studyabroad

Portland Community College in cooperation with the American Institute for Foreign Studies and Oregon International Consortium offers study abroad opportunities. Courses offered in these programs are in the areas of Arts and Letters as well as social sciences. In addition, PCC has an academic term exchange program. To be considered for the program, students must be currently attending PCC.

PARKING AND TRANSPORTATION

www.pcc.edu/resources/parking

On-Campus Parking: Vehicles parked on any PCC campus and roadway between 7 am – 10 pm Monday through Friday must display a current PCC parking permit. PCC also requires visitors to display a parking permit.

FEES AND TYPES OF PERMITS:

Per Term:

All Day	valid 7am-10pm	$33/per term
Evening	valid 4pm-10pm	$24/per term

Carpool

two people	valid 7am-10pm	$16/per term
three +	valid 7am-10pm	Free/per term

Monthly:
All Day: valid 7am-10pm $15/per month

Daily:
One-day: valid 7am-10pm $3

Older adults qualify for a 50% discount. Details are available at any campus Business Office.

To Order Online

Log on to MyPCC

Click on College Business

Go to the Don't Wait in Line Channel

Click on Order Student Parking Permit and follow instructions.

Online parking permit sale for spring will begin February 9th through April 2nd. Important: You will not see a change on your student account for a parking permit ordered online until the permit has been placed in the mail. Permits ordered online are mailed out to students beginning March 10th. If you cannot order a permit online then you may purchase a permit from any campus Business Office starting April 2nd.

Return of Permits: Your account will be credited if you return your permit to the Business Office by the end of the second week of the term. For questions on parking, please call 503-977-8181.

Shuttle Services: Go to **www.pcc.edu/resources/parking/shuttle** to view the shuttle schedule for transportation between campuses.

Tri-Met Student Select Passes: A limited number of full-term passes are available to students enrolled in a minimum of 6 credit hours. Passes go on sale March 19 and are available through the campus Business Office at a cost of $150. Students must have a valid PCC picture ID and provide proof of enrollment.

Student Select bus passes are sold on a first-come first-served basis only. Passes are non-refundable and non-transferable.

PUBLIC SAFETY

www.pcc.edu/about/public-safety

The Department of Public Safety promotes a safe and secure campus community through the delivery of quality public safety, fire, medical and public assistance services. The department provides personal and facility security, crime prevention services, public safety communication, a disaster preparedness program, emergency medical assistance, response to calls for service, assistance with parking and traffic management, and preliminary investigative services. Services the officers provide include: battery jumps, vehicle lock outs, room unlocks and escorts to parking lots or buildings upon request.

STUDENT EMPLOYMENT

www.pcc.edu/resources/careers/students-grads

The Office of Student Employment is a job referral service for Portland Community College students and graduates at all campuses. It is designed to provide equal opportunity to job leads at any time during college and upon graduation. Services include employer contact to develop job openings, campus recruiting for employers, direct assistance to students through workshops and seminars and personal help for resume writing, interviewing techniques and job search development.

If you are currently enrolled and need a job to help pay for school, check the part-time job listings posted at each college campus and online. All campuses receive identical job listings daily.

Employment specialist representatives are available during scheduled hours at each campus. They will help you develop a competitive resume and assist you in finding a full-time position.

Portland Community College provides equal opportunity in education and employment. The College is committed to a policy of non-discrimination based on sex, age, handicap, color, religion or national origin. Equal employment opportunity guidelines are followed and students are referred on a non-discriminatory basis.

STUDENT GOVERNMENT (*ASPCC)*

www.pcc.edu/resources/aspcc

The college encourages activities that complement the instructional program by providing opportunities for leadership and representation in college decision making and by offering social, cultural and recreational activities. Student activities, organizations and programs are open to all students. Information is available at Associated Students of Portland Community College (ASPCC) Offices.

The Associated Students of Portland Community College (ASPCC) at Cascade, Rock Creek, Southeast and Sylvania invite students to become involved with activities, research, committees, clubs and organizations. Student council members are hired rather than elected and are paid for their services. Other paid positions include secretary, activities assistant and sign maker. Volunteers are also encouraged to be active in clubs and committees. ASPCC provides housing referrals, car pool opportunities and book buy-back exchanges.

INTRAMURALS

The Intramural Office organizes a variety of events, activities and tournaments open to all PCC students enrolled in at least one credit, and to all PCC faculty and staff during the academic year. To participate present a valid PCC ID card. Activities are offered at little or no cost to students and may include racquetball, golf, soccer, volleyball, basketball, pool, table tennis, bowling and video game tournaments. Contact your campus ASPCC for more information.

TUTORING

www.pcc.edu/resources/tutoring

Free learning assistance for PCC students is available day and night hours at Learning Centers at each campus. Tutoring, self-help materials, videos, computer-aided instruction, word processing

and individualized credit options provide alternative learning opportunities in math, English and other courses.

WOMEN'S RESOURCE CENTERS

www.pcc.edu/resources/women

CASCADE CAMPUS

The Women's Resource Center on the Cascade Campus is dedicated to providing a supportive, comfortable and safe environment to all PCC students. The Center offers programs to support the personal and academic growth of students. It is a place to gain information and encouragement and provides a connection to both campus and community resources.

Project Independence is a re-entry program for single parents and displaced homemakers. This tuition free program is offered fall, winter and spring terms. Students in the program receive personalized assistance in building self confidence, clarifying values, exploring careers and setting goals. The program is offered at both Cascade Campus and Southeast Center.

The Women's Resource Center offers workshops, seminars, lecture, and scholarship workshops to students and community members. The Women's Resource Center Student Advisory Board plans the program and serves as peer support for students. Staff members are available to assist students in accessing campus and community resources.

ROCK CREEK CAMPUS

The Women's Resource Center on the Rock Creek campus offers information and support services to students for campus and community services. Although the emphasis is on meeting the special needs of women and single parents, the center is open to all students. Services include child-care and scholarship information as well as a lending library. The center sponsors workshops on financial aid planning, scholarship search, women's health and safety issues, and other family and school related issues. Please call for more information.

New Directions, a tuition free program for women in transition, is offered every term at Rock Creek. This is a career planning, personal development and job search skills course designed to assist women in becoming self-sufficient. The goal is to assist students in making a career choice and developing life-skills that will lead to financial independence.

Trancisiones Oeste es un programa del desarrollo y planificación vocacional para madres solteras y amas de casa que han sido desplazadas de su empleo. el programa es gratis. transiciones oeste está localizado en el campus rock creek de portland community college (pcc). La autoestima, la toma de decisiones, la planificación vocacional y en cómo las habilidades de la vida son temas del programa. transiciones oeste ayuda a las mujeres con la transición a una educación superior y/o a la fuerza de laboral. para más información llame al 503-614-7437

SYLVANIA CAMPUS

The Women's Resource Center on the Sylvania Campus supports the efforts of women as they strive to achieve academic, personal and economic success. It offers personalized assistance entering college, advocacy, support, and friendship in a caring environment and is a bridge for women returning to school after an absence, as well as for those first entering college. The Sylvania Women's Resource Center assists students with information and referral services, scholarship information, sponsors educational workshops and symposiums. All students are encouraged to drop in for information, check the activities and events board and use the free resource library.

The Sylvania Women's Resource Center sponsors three important programs; the Transitions Program, the Illumination Project and Women's Leadership Program.

THE TRANSITIONS PROGRAM

The Transitions Program is a free first term college success program for single parents, displaced homemakers, and other students in transition. The Transitions Program is a strength-based supportive learning community dedicated to easing the transitions to college, career, and life changing possibilities. Our purpose at the Transitions Program is to help remove any obstacles that could get in the way of your progress to college success. The program is geared to the needs of students with families, jobs, and other responsibilities who wish to prepare for the future. This program empowers students to think assertively and to become independent in their thoughts and actions.

THE ILLUMINATION PROJECT

The Illumination Project (IP) is Portland Community College's innovative student leadership and education program designed to foster a climate of equality, compassion, justice, and respect for all people in the PCC academic community and the community-at-large. The Illumination Project uses interactive social justice theater as a venue for Student Educators and audience members to join together to rehearse ways of solving problems. Interactive theater, with its capacity to engage diverse learning styles and members of a community, is an ideal way to challenge racism, sexism, heterosexism, and other forms of oppression.

WOMEN'S LEADERSHIP PROGRAM

The Sylvania Women's Resource Center is built on a feminist philosophy of shared leadership and decision-making which promotes the empowerment and skill development of all women. The WRC sponsors a Women's Leadership Training program for the Student Advocates who work in the Center. Student Advocates develop skills in advocacy, problem solving, crisis intervention, resource research, public speaking, community organizing, coalition building, program design and implementation. If you are interested in a position in the WRC come by and find out more about applying to the Women's Leadership Program.

SOUTHEAST CENTER

The Southeast Center is currently developing a Women's Resource Center. A listing of available resources and a well as posting of pertinent events is located next to the ASPCC office in Tabor Hall. All students are encouraged to stop by and access available information. Additional referral information for campus and community resources is available through the Counseling Office in Tabor 152.

Life Tracks is a tuition free program for women and single parents in transition. This cohort class emphasizes career development and values clarification. The goal is to assist students as they transition into or return to college and to encourage students to continue in their training and education to reach their personal goals.

DEGREE, CERTIFICATE, AND COURSE OVERVIEW

Portland Community College operates on the quarter system. The PCC Catalog is published and dated with each academic year, which begins fall term and ends with the next summer term. To earn an associate degree or a certificate, students must meet the requirements in the Catalog that is current when they earn their first credit(s) at PCC, unless they choose to meet the requirements of a later Catalog. However, students who do not earn at least one PCC credit applicable to their degree requirements each academic year lose the right to meet the requirements of their original Catalog. They must then meet requirements of the Catalog current at the time they resume work on their degree at PCC, or a later Catalog.

An edition of the Catalog is valid for six academic years. For example, a Catalog that takes effect fall term 2003 is only valid through summer term 2009. However, some programs may impose shorter time limits on accepting credits for degree or certificate requirements. Occasionally the college may change courses and course numbers within a program. Students should regularly consult an advisor in their major department about their course of study.

While every effort is made to ensure the accuracy of the information in this catalog, Portland Community College, has the right to make changes at any time without prior notice. This catalog is not a contract between Portland Community College and current or prospective students.

Portland Community College confers five associate degrees:

- Associate of Arts Oregon Transfer (AAOT),
- Associate of Science (AS),
- Associate of Applied Science (AAS),
- Associate of General Studies (AGS),
- Associate of Science Oregon Transfer in Business (ASOT in Business);

In addition, PCC offers numerous certificates in Career Technical Education programs.

COMPUTER PROFICIENCY: A STATEMENT TO STUDENTS

Students at Portland Community College, in order to succeed here and in the communities outside the college need to be familiar with and capable of using computers and computer software. Both upper division college work and the requirements of the workplace demand such skills. Many PCC faculty will require students to access class materials on the Internet and use a word processor, email and databases as part of regular course activities.

Students need to determine which computer skills are appropriate to their areas of study and take positive steps to acquire and use them early. In order to facilitate appropriate student access to computers and computer software, each comprehensive campus at the college provides classrooms, labs, course work and library access where students can learn about and use these tools.

Students should contact their instructors, the campus library, the campus office of Student Development, the Associated Students of Portland Community College, or the campus Advising and Counseling offices to find out what computer resources are available and when they can be accessed. Advisors, counselors and faculty can assist students in choosing appropriate courses to help them achieve computer proficiency.

COURSES

PCC offers courses to support the students' learning goals at several campuses and center locations in the college's district. These are done through a variety of programs, such as Cooperative Education and Service Learning. In addition, PCC supports additional access points through courses taught by distance learning. Distance Learning includes, but is not limited to Web courses, Telecourses, ITV (Interactive Television Classes), and Hybrid courses (traditional classroom with significant web component). Web, TV and ITV courses are identified as such and also listed in the Class Schedule (printed or online at **www.pcc.edu**).

Credit courses that support PCC's degrees and certificates are listed in the Course Description section of the catalog. We strongly urge students to meet with PCC advisors to make an academic plan. In selecting course offerings to support their educational goals, students should keep in mind the following.

Course Prerequisites: Beginning Fall Term 2008, most of the courses on the General Education distribution list will have standard prerequisites:

- Reading: Completion of RD 115 or placement into WR 121 based on reading & writing placement test score and
- Writing: Completion of WR 115 or placement into WR 121 based on reading & writing placement test scores and
- Math: Completion of MTH 20 or placement into Math 60 based on math placement test scores

A grade of "D", "F" or "NP" in a standard prerequisite course will not satisfy the requirement. See Academic Regulations in the Appendix.

Some courses may have higher requirements in these areas and/or additional prerequisites as appropriate. See individual course prerequisites. Instructors may waive prerequisites on a case-by-case basis.

Three- to Four Credit Conversion: Some lower division collegiate courses (LDC) have changed from three to four credits at PCC. For degrees and certificates requiring specific LDC courses, the three credit version of the same course is generally accepted. Total required credit may vary due to three to four credit conversion. PCC comprehensive degree and certificate minimum requirements must be met.

Experimental Courses: Experimental courses are courses numbered 99, 199 and 299. These courses may be offered twice in one academic year. After that time, they must either be converted to a regularly numbered course or inactivated. While experimental courses count for graduation at PCC, they may not be acceptable for transfer to other institutions.

Non-credit courses: PCC offers a large number and variety of non-credit courses for personal and career advancement as well as continuing education for professionals in several areas. See **www.pcc.edu/communityed** for a list of courses and registration information. Non-credit courses do not apply to any degrees or

certificates at PCC.

DEGREES AND CERTIFICATES

A complete listing of Portland Community College's degree and certificate programs and transfer disciplines may be found in the Programs and Disciplines section of the catalog.

CERTIFICATES

Some career/technical departments offer certificates ranging from 12-108 credits to students who complete the course of study with a minimum 2.0 grade point average. Specific courses required for each certificate program, including any General Education requirements, are listed under their appropriate programs in the Programs and Disciplines section of this catalog. Please note the following restrictions.

Two-year Certificate Restrictions

1. At least 24 credits must be earned at PCC, 18 of which must apply to the certificate requirements. The final nine credits that apply to the certificate must be earned at PCC.
2. Only nine credits of 199 and 299 Experimental courses apply.

One-year Certificate Restrictions

At least 12 credits must be earned at PCC, nine of which must apply to the certificate requirements. The final nine credits that apply to the certificate must be earned at PCC.

CAREER PATHWAYS CERTIFICATES

Career Pathways certificates are short-term credentials (12-44 credits) which prepare individuals for entry-level employment within an occupational area. Career Pathways certificates may be the first certificate a student earns while pursuing a certificate of greater length or an Associate of Applied Science (AAS) degree. Information about Career Pathways in specific areas of study can be found in the Programs and Disciplines section of the catalog under individual career technical programs.

EMPLOYMENT SKILLS TRAINING

Some career/technical departments offer the Employment Skills Training Certificate (EST). The EST is an individualized certificate ranging from 12-44 credits that prepares the student for a specific job. Students should contact the appropriate career/technical department to find out whether the department offers the EST. A full description of the EST may be found in the Programs and Disciplines section of this catalog.

ASSOCIATE DEGREE COMPREHENSIVE REQUIREMENTS

Students earning an associate degree from Portland Community College must successfully complete the Associate Degree Comprehensive Requirements listed below along with additional requirements for specific associate degrees. In addition, each associate degree requires basic competencies in Writing and Math. Competency requirements vary by associate degree. Check the competency requirements for specific associate degrees.

COMPREHENSIVE REQUIREMENTS:

1. All candidates must earn a minimum of 90 credits which count toward an associate degree. Credit courses, numbered 100 or less, cannot be used to fulfill the 90 credit minimum requirement for the AAOT,AS,ASOT-BUS and AAS Degrees.
2. Residency Requirement:

- All candidates for a degree at Portland Community College must accumulate at least 30 quarter hours of satisfactory work at PCC to establish residency.
- Twenty-four of the credits earned at PCC must apply to the specific associate degree requirements the student is pursuing.
- Non-traditional credit, credit transferred from another institution or challenge credit cannot be used to establish the 30 quarter hour residency requirement and the student petition process may not be used to waive the residency requirement.

3. All candidates for a degree must have a 2.0 grade point average (C average) or higher for courses applied to the degree.
4. Associate Degree Comprehensive Requirement limits are:

- A maximum of 12 credits of Cooperative Education courses may be applied to the degree.
- A maximum of 9 credits of 199 or 299 Special Topics courses may be applied to the degree.
- A maximum of 24 credits of English for Speakers of other Languages (ESOL) courses may be applied to the degree.
- A maximum of 12 credits of SP 270 may be applied to associate degrees.

ASSOCIATE OF APPLIED SCIENCE *(AAS)* DEGREE REQUIREMENTS

The Associate of Applied Science (AAS) degree is awarded to students in Career /Technical programs who meet the requirements listed below. Many career/technical programs require more than 90 credits for an associate degree. See specific program requirements in the Programs and Disciplines section of the PCC Catalog.

The Associate of Applied Science Degree is awarded to students who meet the following requirements:

1. Associate Degrees Comprehensive Requirements: see separate catalog section.
2. Associate of Applied Science Requirements:

A. The final 16 credits that apply to the AAS degree must include at least eight credits at PCC that apply to the specific program requirements, excluding courses used solely for the General Education requirements. Students may apply to the department chair for waiver of this requirement if they can demonstrate currency in the field.

B. General Education Requirements: Students must earn a minimum of 16 credits of General Education taken from the General Education Distribution List** (see Catalog Appendix for list). These credits must come from courses taken in the following categories:

- Arts and Letters
- Social Sciences

- Mathematics
- Natural and Physical Science, and Computer Studies

The 16 credits must include at least one course from each category and no more than eight credits from any one category. No more than two courses may come from program prerequisites or from courses required by specific programs. Because of these restrictions, it is possible that a course is acceptable as General Education for some students while it is not acceptable for others. Students should consult an advisor or faculty member in an AAS degree program for advice on General Education courses appropriate to their goals and interests. General Education requirements will be waived for students who enroll at PCC with an A.A., A.A.S., A.G.S., A.S., B.A., B.S. degree or higher from a regionally accredited United States institution. Program-specific General Education requirements for AAS degrees will not necessarily be waived. Students should consult the Career-Technical program department for specific courses required for General Education.

C. PCC Basic Competency Requirements for Writing and Math in AAS Degree:

- Writing: Competency in writing must be demonstrated by either:
- Completing WR 121 with a grade of C or better, or
- Passing a lower division collegiate* writing course for which WR121 is a prerequisite with a letter grade of C or better, or
- Passing the PCC WR 121 Challenge Exam. Students must meet criteria to sit for the exam.

**See "Course Descriptions" in PCC Catalog for a complete list.*

Students with A.A., A.A.S., A.G.S., A.S., B.A., B.S., degrees or higher from a U.S. regionally accredited institution will have the basic competency in writing (WR 121) waived. Other writing requirements specified by the program remain in effect.

Math: Competency in mathematics must be demonstrated by either:

- Completing MTH 65 or MTH 63 with a grade of C or better, or
- Passing the PCC competency exam for MTH 65, or
- Passing a math class (minimum of 3 credits) with a grade of "C" or better for which MTH 65 or higher level math skills are a prerequisite. Excludes MTH 93.

D. Program Requirements:

All AAS candidates must complete a program of approved course work in the major field. The Programs and Disciplines section of the catalog contains these course work requirements. No more than 3 credits (100 level and above) in physical education (PE) may be applied to an AAS Degree unless specifically required by the program. Students enrolled in programs that are accredited or licensed must meet the requirements most recently approved by the accrediting agency or licensing authority.

ASSOCIATE OF GENERAL STUDIES *(AGS)* DEGREE REQUIREMENTS

The Associate of General Studies degree is designed for students wishing to acquire a broad education, rather than pursuing a specific college major or career/technical program. Because of the flexibility of this degree, it may not fulfill requirements for transfer to a four-year institution.

The Associate of General Studies is awarded to students who meet the following requirements:

1. Associate Degree Comprehensive Requirements: see separate catalog section.
2. Associate of General Studies Requirements:

A. General Education Requirement: Students must earn a minimum of 16 credits of General Education taken from the General Education Distribution List** (see catalog Appendix for list). These credits must come from courses taken in the following categories:

- Arts and Letters
- Social Sciences
- Mathematics, Natural and Physical Sciences and Computer Studies

The 16 credits must include at least one course from each category and no more than 8 credits from any one category. The General Education requirements for the AGS degree will be waived for students who enroll at PCC with an A.A., A.A.S., A.G.S., A.S., B.A., B.S. degree or higher from a regionally accredited United States institution.

B. Basic Competency Requirements in Writing and Math for AGS Degree:

- Writing: Competency in writing must be demonstrated by either:
- Completing WR 121 with a grade of C or better, or
- Passing a lower division collegiate* writing course for which WR121 is a prerequisite with a letter grade of C or better or
- Passing the PCC WR 121 Challenge Exam. Students must meet criteria to sit for the exam.

**See "Course Descriptions" in PCC Catalog for a complete list.*

Students with A.A., A.A.S., A.G.S., A.S., B.A., B.S., degrees or higher from a U.S. regionally accredited institution will have the basic competency in writing (WR 121) waived. Other writing requirements specified by the program remain in effect.

Math: Competency in mathematics must be demonstrated by

- Completing MTH 65 or MTH 63 with a letter grade of C or better, or
- Passing the PCC competency exam for MTH 65, or
- Passing a mathematics course (minimum of 3 credits) for which MTH 65 is a prerequisite with a letter grade of C or better.

C. Elective Credit Requirements – All students must complete elective credits to meet the overall requirements of 90 credits for this degree. Elective credits may apply from MTH 30 or higher, any lower division collegiate or career technical courses. Elective credit limitations are:

- Maximum of six credits (100 level and above) of physical education (PE) may apply

- Maximum of six credits of one credit MSD workshops may apply
- Maximum of 24 credits of professional skills classes (PST) may apply

ASSOCIATE OF SCIENCE *(AS)* DEGREE REQUIREMENTS

The Associate of Science degree is designed for students planning to transfer credits to a baccalaureate degree program at four-year institutions of the Oregon University System. It allows more freedom in course selection than the Associate of Arts Oregon Transfer Degree, but does not guarantee that students will be accepted as having completed all lower division comprehensive and General Education requirements for a baccalaureate degree. In selecting course work, students should see advisors at PCC and the institution to which they will transfer about the requirements of their baccalaureate major.

The Associate of Science degree is awarded to students who meet the following requirements:

1. Associate Degree Comprehensive Requirements: see separate Catalog section

2. Associate of Science Requirements:

A. Writing*: All candidates must complete a minimum of six credits with a grade of "C" or better in English Composition by passing WR 121 with a grade of C or better, or passing the WR 121 challenge exam and passing another Lower Division Collegiate WR course with WR 121 as a prerequisite, with a grade of C or better.

B. Health: Complete HE 250 Personal Health and 1 credit (100 level or above) of Physical Education (PE) or complete HPE 295 Health & Fitness for Life.

C. Math*: Complete minimum of four credits with a grade of "C" or better. MTH 105 or above with Intermediate Algebra as a prerequisite.

**Basic Writing and Math competency will be met by these requirements.*

D. General Education Distribution Requirements:

Students must earn a minimum of 21 credits of General Education taken from the General Education Distribution List** (see catalog Appendix for list). A minimum of seven credits must be earned in each of the following distribution areas:

- Arts and Letters
- Social Sciences
- Mathematics, Natural and Physical Sciences and Computer Studies

E. AS Elective Credit Requirements:

All candidates must complete elective credits to meet the overall requirement of 90 credits for this degree. Elective credits may include any lower division collegiate courses (Course level of 100 or higher). A maximum of 3 credits of physical education (PE) courses maybe applied to this degree.

ASSOCIATE OF SCIENCE OREGON TRANSFER IN BUSINESS *(ASOT-BUS)*

The Associate of Science Oregon Transfer in Business degree is designed for students planning to transfer credits to any Oregon University system (OUS) school and seek entry into that institution's business program. Students completing the ASOT-BUS degree will have met the lower-division general education requirements of the OUS institution's baccalaureate degree programs. Students transferring will have junior status for registration purposes.

Admission to the business school of an OUS institution is not guaranteed upon completion of the ASOT-BUS degree. It is strongly recommended that students contact the specific OUS institution business program early in the first term of their ASOT-BUS program to be advised of additional requirements.

The Associate of Science Oregon Transfer in Business is awarded to students who meet the following requirements:

1. Associate Degree Comprehensive Requirements – see separate catalog section

2. Associate of Science Oregon Transfer in Business Degree Requirements

A. Writing: Students must complete a minimum of eight (8) hours in writing with a grade of "C" or better. The courses must be selected from WR 121, 122, & WR 227.

B. Math: Students must complete a minimum of 12 credits in MTH 111B or above, four (4) of which must be statistics.

C. Computer Application: Students must demonstrate proficiency in word processing, spreadsheet, database, and presentation software by the successful completion of BA 131 or CAS 133 and CAS 170 or CAS 171.

D. General Education Distribution Requirements: Students must earn the following credits from the General Education Distribution List.

- Arts and Letters: Must complete a minimum of 12 credits chosen from at least two disciplines. One of the courses must be SP 111, completed with a grade of "C" or higher. Second year of World Languages (including ASL) may be included, but not first year.
- Social Science: Must complete a minimum of 12 credits with

a minimum of eight credits in microeconomics and macroeconomics with a grade of "C" or better.

- Science: Must complete a minimum of 12 credits of laboratory courses in the biological or physical sciences.

E. Business Specific Requirements: Each course must be completed with a grade of "C" or better: BA 101, BA 211, BA 212, BA 213, BA 226. BA 226 may be replaced by any other faculty-approved 200-level BA course.

F. Elective Requirements: Must complete additional elective or university specific prerequisite courses* for a minimum of 90 credits. The ASOT-BUS may include up to a maximum of 12 credits of career/technical courses.

**University Specific Prerequisites, Recommendations:*

EASTERN OREGON UNIVERSITY

BA 226 – Business Law

OREGON INSTITUTE OF TECHNOLOGY

BA 226- Business Law; Recommend

BA 206- Management Fundamentals;

PSY 101- General Psychology

OREGON STATE UNIVERSITY

BA 226-Business Law; BA 275-Business

Quantitative Methods; MTH 241-Calculus;

MTH 245-Math for Social Sciences

PORTLAND STATE UNIVERSITY

BA 205-Solving Communications Problems with Technology; CIS 122-Software Design; MTH 244-Statistics II; GPA of 2.75 for all core courses

SOUTHERN OREGON UNIVERSITY

BA 271/282-Business Statistics; GPA of 2.0 with GPA of 2.75 in pre-business core courses

ASSOCIATE OF ARTS OREGON TRANSFER *(AAOT)* DEGREE REQUIREMENTS

The Associate of Arts Oregon Transfer Degree is an opportunity for students to complete lower division degree requirements at PCC. Students who complete this degree and are accepted at Oregon public universities will be admitted as having completed all lower division comprehensive and General Education Requirements for a baccalaureate degree.

Transfer Credits: Transfer credit (credit earned at other schools) is allowed for grades "C" or higher. Transfer grades of "pass" are considered equivalent to a "pass" grade at PCC, even when that institution defines a pass as "D" or better.

Pass/No Pass Credits: Maximum of 24 credits taken on a Pass/No Pass basis may be applied to this degree.

The Associate of Arts Oregon Transfer degree is awarded to students who meet the following requirements:

1. Associate Degree Comprehensive Requirements:

2. Associate of Arts, Oregon Transfer Degree Requirements:

A. Specific Requirements: Students must complete the following with a letter grade of "C" or better:

- Cultural Diversity: Three credits minimum. Applies to General Education Distribution requirement.
- Health: HE 250 plus one credit of PE or HPE 295 with a letter grade of "C" or "pass" or better.
- Math: *MTH 105 or above, minimum of four credits with Intermediate Algebra as a prerequisite. Applies to the Science and Math General Education Distribution requirement.
- Speech: Speech 111 or 112 or 113, three credits minimum. Applies to the General Education Distribution requirement.
- Writing: *Writing: WR 121, 122, 123 or 227; eight credits minimum.

**Basic Writing and Math competency will be met by these requirements.*

B. General Education Distribution Areas:

Students must complete 15 Distribution courses from the General Education Distribution List (see catalog Appendix for list), with a maximum of five courses in any single distribution area:

Arts and Letters Distribution Area (5 courses)

- Complete one 2-course sequence from the Arts and Letters Distribution Area.
- Complete three Arts and Letters courses. One course must have a prefix different from the Arts and Letters sequence.

Social Science Distribution Area (5 courses)

- Complete one 2-course sequence from the Social Science Distribution Area.
- Complete three Social Science courses. One course must have a prefix different from the Social Science sequence.

Science and Math Distribution Area (5 courses, must include 12 credits of lab sciences including one 2-course sequence).

- Complete one 2-course lab sequence from either physical or biological sciences from the Science and Math Distribution Area.
- Complete three Science and Math. One additional lab Science course is required in either physical or biological science. One course must have a prefix different from the Science and Math sequence completed.

C. Elective Credit Requirements: All candidates must complete elective credits to meet the overall requirement of 90 credits for this degree. Elective credits may include any lower division collegiate

courses (100 level or higher). Limitations: Maximum of 12 credits of career/technical courses (100-299); 1 credit MSD workshops may not be applied to this degree and a maximum of 3 credits of physical education (PE) courses may be applied to this degree.

OREGON TRANSFER MODULE *(OTM)*

The Oregon Transfer Module (OTM) provides a one-year curriculum for students who plan to transfer to a State of Oregon community college or university. The module allows students to complete one year of general education foundation course work that is academically sound and will meet the admission standards of the receiving school. The OTM is not a certificate or degree.

Students should work closely with an academic advisor to ensure selection of appropriate course work. Upon transfer, students may be required to complete additional course work in general education, or an academic major, that is specific to the receiving institution. Students who transfer prior to the completion of the Oregon Transfer Module will have their courses individually evaluated by the receiving institution.

Students must complete a minimum of 45 credits of lower division course work with a grade of “C-” or better in order to complete the Oregon Transfer Module. Students only need to take one course at PCC that applies to the OTM to have PCC be the school which transcript to it. The OTM worksheet is provided in the Appendix

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**Pending State Approval*

AGRICULTURAL MECHANICS

Rock Creek Campus
Building 2, Room 230
503-614-7210 or 503-614-7331

www.pcc.edu/pcc/pro/progs/agri

CAREER AND PROGRAM DESCRIPTION

The agricultural mechanic maintains, repairs and overhauls farm machinery such as pumps, hydraulic systems, tilling equipment, trucks and other mechanized, electrically powered or motor-driven equipment on farms or in farm equipment repair shops.

The program's first year offers a foundation in the field of agricultural mechanics. In the second year, students divide time between classroom work and field experience. Because the program is designed to meet a variety of student needs, a number of flexible features have been built into the curriculum. Consult the Diesel Department for information on courses, credit, class and laboratory hours per week, cooperative work experience arrangements and General Education requirements.

Total required credit may vary due to three to four credit conversion. PCC comprehensive degree and certificate minimum requirements must be met.

DEGREES AND CERTIFICATES OFFERED

Associate of Applied Science Degree

Agricultural Mechanics

PREREQUISITES AND REQUIREMENTS

Students should consult the Diesel Department prior to enrolling in a course.

AGRICULTURAL MECHANICS AAS DEGREE

Minimum 91 credit hours which includes 72 credit hours of required program courses plus General Education credit hours and elective credits to meet 91. Students must also meet Associate Degree Comprehensive Requirements and Associate of Applied Science Requirements.

COURSE OF STUDY

First Term

DS 101	Engine Rebuild & Lab Procedure	12

Second Term

DS 103	Fuel Injection Systems	6
DS 203	Fuel Injection Systems Diagnosis and Caterpillar Electronic Engine Controls	6

Third Term

DS 105	Fundamentals of Hydraulics/AC Systems	6
DS 205	Mobil and Hydrstatic Hydraulics	6

Second Year

Minimum of 18 cooperative education credits before graduation. Students will be placed at an agriculture equipment repair facility while enrolled in cooperative education courses.

Fourth Term

DS 104	Fundamentals of Electricity & Electronics	6
DS 280A	CE: Diesel Service Tech-variable credit	

Fifth Term

DS 102	Truck Power Train	6
DS 280A	CE: Diesel Service Tech-variable credit	

Sixth Term

DS 202	Heavy Duty Power Train	6
DS 280A	CE: Diesel Service Tech -variable credit	

ALCOHOL AND DRUG COUNSELOR

Cascade Campus
Jackson Hall, (JH) Room 210

Program Admissions Candia Elliot: 503-978-5667
Department Chair, Jon Gieber: 503-978-5254,
Program Advisors: Lucy Sheehey 503-978-5427,
Allen Hall 503-978-5507

www.pcc.edu/addiction

CAREER AND PROGRAM DESCRIPTION

Alcohol and drug counselors work in public and private sector organizations to provide diagnosis, assessment, education, referral and treatment services to clients with alcohol and other drug problems. Students enter the program with a variety of educational goals: graduation, employment, professional upgrading and/or self improvement.

Total required credit may vary due to three to four credit conversion. PCC comprehensive degree and certificate minimum requirements must be met.

DEGREES AND CERTIFICATES OFFERED

Associate of Applied Science Degree
- Alcohol and Drug Counselor

Less than One-Year Certificate
- Addiction Studies

Program Awards

PREREQUISITES AND REQUIREMENTS

1. Attendance at A&D Counselor Program orientation session.
2. Readiness for entry into WR 121 English Composition.
3. Completion of AD 101 Alcohol Use and Addiction, with a grade of "C" or above.
4. Documentation of not abusing alcohol or drugs for 18 months prior to admission.
5. An advising session with a program advisor.
6. Complete the A&D Counselor Program application

While participating in the program, recovering students will agree to abstain from alcohol and illicit drug use. All other students must agree to not abuse alcohol and other drugs while in the program.

Anyone interested in working in the addiction counseling profession in the State of Oregon should be aware that a Criminal History Check as a condition of employment is a standard practice. A conviction does not automatically disqualify someone from obtaining employment. Each situation is evaluated on a case by case basis and therefore it is very difficult to predict in advance who can be employed in any given employment situation. It is commonplace for individuals with a conviction on their record to be employed in the addiction counseling profession. The Alcohol and Drug Counselor Program cannot determine in advance who is or is not employable due to their criminal history.

COURSE OF STUDY

The majority of program courses are offered in late afternoons or evenings to accommodate students working during the day. A few courses are offered via distance learning format. The program has been designed to prepare individuals for entry into the alcohol and drug counseling field. The program also serves to update the skills of addiction counselors and related professionals. Criminal justice personnel, mental health counselors, health care workers, and prevention specialists have utilized our program for professional upgrading. Individuals wishing to take a specific course without acceptance in the program need to consult a program advisor at 503-978-5427 or 503-978-5507.

The program has an agreement with Warner Pacific College and Concordia University allowing graduates to be accepted at the junior level to work toward a bachelors' degree. Other four-year institutions may also accept a portion of the program's credits for application toward their degree. Students interested in pursuing their four year degree should contact a representative of their college of choice. Transferability of credits to another institution is subject to the approval of that institution.

Students are required to attend an Admitted Students Advising session upon admission to the program.

Students may enroll in AD 101, AD 102, AD 103, AD 104, AD 153, AD 184, WR 121, WR 122, PSY 239 and General Education courses prior to being accepted into either the degree or the certificate program. Although only required for the prevention program award AD 241, AD 242 and AD 243 can be taken without program admission.

Excellent writing and spelling skills are required by practicum sites. Students in both the degree and the certificate program will be expected to have achieved mastery in these areas prior to practicum placement.

CERTIFIED ALCOHOL AND DRUG COUNSELOR EXAMINATION (CADC)

The CADC is granted by the Addiction Counselor Certification Board of Oregon (ACCBO). Completion of The Alcohol and Drug Counselor Program does not result in completion of the CADC. The program does, however, meet the educational guidelines required for the CADC and provides 720 practicum hours that contribute to the "supervised experience" requirement of 1000 hours for CADC Level 1.

The Certified Alcohol Drug Counselor II (Level II) now requires an associate degree or equivalent with a minimum of 300 hours of alcohol and drug abuse/addiction education.

ALCOHOL AND DRUG COUNSELOR AAS DEGREE

Minimum 94 credit hours which includes 82 credit hours of required program courses plus 16 General Education credit hours and electives. Students with previous college experience need to have their transcripts reviewed to determine their General Education course requirement. Students are encouraged to take introductory psychology, speech, biology or computer courses.

Students must also meet Associate Degree Comprehensive Requirements and Associate of Applied Science Requirements.

AD 101	Alcohol Use and Addiction	3
AD 102	Drug Use and Addiction	3
AD 103	Women and Addiction	3
AD 104	Multicultural Counseling	3
AD 150	Basic Counseling and Addiction	3
AD 151	Basic Counseling Skills Mastery	1
AD 152	Group Counseling and Addiction	3
AD 153	Theories of Counseling	3
AD 154	Client Record Mgmt and Addiction	3
AD 155	Motivational Interviewing & Addiction	3
AD 156	Ethical and Professional Issues	3
AD 184	Men & Addiction	3
AD 201	Families and Addiction	3
AD 250	Advanced Counseling and Addiction	3
AD 251	Advanced Counseling Skills Mastery	1
AD 255	Multiple Diagnoses	3
AD 280A	Practicum: Addiction variable credit[1]	
AD 280B	Practicum: Addiction-Seminar variable[2]	
WR 121	English Composition	4
WR 122	English Composition	4
PSY 239	Introduction to Abnormal Psychology	4

[1]*Students are required to complete 18 credit hours, which equals at least 720 hours of practicum.*

[2]*Students attend a concurrent two credit seminar each term.*

ADDICTION STUDIES CERTIFICATE

For persons with college degrees: 42 credit hours; includes 32 credit hours of alcohol and drug specific academic and skill training courses and 10 credit hours of practicum for 400 hours of internship. Persons with an associates, bachelors, masters or higher degree from an accredited college or university may apply for admission to the addiction studies certificate program.

AD 101	Alcohol Use and Addiction	3
AD 102	Drug Use and Addiction	3
AD 104	Multicultural Counseling	3
AD 150	Basic Counseling and Addiction	3
AD 151	Basic Counseling Skills Mastery	1
AD 152	Group Counseling and Addiction	3
AD 153	Theories of Counseling	3
AD 154	Client Record Mgmt and Addiction	3
AD 155	Motivational Interviewing	3
AD 156	Ethical and Professional Issues	3

AD 280A	CE: Addiction Practicum[1]	10
AD 280B	CE: Addiction Practicum -Seminar[2]	variable

[1] *Students are required to complete 10 credit hours (400 clock hours) of practicum.*

[2] *Students attend a concurrent two- credit seminar each term.*

PREVENTION SPECIALIST PROGRAM AWARD

32 credit hours; includes 24 credit hours of alcohol, tobacco and other drug prevention, academic, skill training and speech courses, and six credit hours of supervised experiential learning.

CAREER DESCRIPTION

Prevention specialists serve as resource persons to assist in community alcohol, tobacco and other drug prevention efforts, as well as concurrent general prevention activities such as violence, HIV/STD and/or teen pregnancy prevention.

CERTIFIED PREVENTION SPECIALIST EXAMINATION (CPS)

The CPS is granted by the Addiction Counselor Certification Board of Oregon. Prevention Program Award does not result in the CPS. Alcohol and drug prevention courses will meet the education and supervised experiential learning requirements for the certified prevention specialist examination. Consult a program advisor.

AD 101	Alcohol Use and Addiction	3
AD 102	Drug Use and Addiction	3
AD 104	Multicultural Counseling	3
AD 241	Prevention Theory and Practice	3
AD 242	Community Organization	3
AD 243	Planning and Evaluating Outcomes	3
AD 280C	CE: Prevention Practicum	6
AD 280D	CE: Prevention Practicum-Seminar	4
SP 111	Fundamentals of Speech[1]	4

[1] *Students are required to complete three credit hours (240 clock hours) of prevention practicum which is supervised experiential learning.*

AMERICAN SIGN LANGUAGE

See Sign Language Studies

ANTHROPOLOGY

Cascade Campus
Liberal Arts & Mathematics Division
Terrell Hall (TH) Room 220
503-978-5251

Sylvania Campus
Social Science, (SS) Room 217
503-977-4289

Rock Creek Campus
Building 3, Room 201
503-614-7327

DESCRIPTION

Anthropology is the study of people. In this discipline, people are considered in all their biological and cultural diversities, in the present as well as in the prehistoric past, and wherever people have existed. Students are introduced to the interaction between people and their environments to develop an appreciation of human adaptations past and present.

Anthropology can be a synthesizing focus for data from many fields of inquiry and has integral importance in preparing students to survive and play positive roles in our emergent transcultural world. Students can pursue careers in teaching, research and other fields after completing graduate work.

At PCC, the general anthropology and cultural anthropology sequences are offered yearly. All other courses may be offered less frequently. The department suggests but does not require that students take cultural anthropology and field archaeology in sequential order. See the Course Description section of this catalog for individual Anthropology (ATH prefix) courses and specific course prerequisites.

APPRENTICESHIP

Cascade Campus
Technology Education Building, (TEB) Room 103
503-978-5651, 503-978-5650

www.pcc.edu/programs/apprenticeship/

CAREER AND PROGRAM DESCRIPTION

Portland Community College provides courses in accordance with the Apprenticeship and Training Laws for the State of Oregon. These courses present technical instruction for the trades and are intended to complement on-the-job skills for both men and women. Each apprenticeable trade has a Joint Apprenticeship and Training Committee (JATC) which outlines the procedures to become a journey person. This outline usually consists of two to five years of supervised, on-the-job experience in various aspects of the trade in conjunction with PCC course work. The JATC committees outline the type of supportive courses needed to prepare students to become qualified journey persons in addition to working with related training courses.

The current Apprenticeship Degree, an Associates of Applied Science (AAS) in Industrial Technology, is in the process of a redesign at the State level, and is pending both PCC and State approval. The new Statewide Apprenticeship degree pathways will replace the old degree and offers AAS degrees and certificates in electrical, manual construction trades, and industrial mechanics and maintenance. The transition to the new Statewide Apprenticeship Degrees and Certificates will go into effect on August 29, 2008. However, there will be a 'Sunset Period' for the current Industrial Technology Degree beginning Summer Term, 2008, and lasting for four consecutive terms, through Spring Term, 2009. All graduation petitions for the current Industrial Technology degree must be filed by then. Some students may need to transition to the new Statewide Apprenticeship degree program. Consult the Trades and Industry Department for assistance in program planning and transcript evaluation.

Students wanting to move into management, supervision, or small business management can transfer to Oregon Institute of Technology (OIT) with related-training credits toward a Bachelor of Science (BS) in Operations Management after earning an apprenticeship AAS degree.

Total required credit may vary due to three to four credit conversion. PCC comprehensive degree and certificate minimum requirements must be met.

DEGREES AND CERTIFICATES OFFERED

Associate of Applied Science Degrees (Pending State Approval)

- Electrician Apprenticeship Technologies
- Construction Trades, General Apprenticeship
- Industrial Mechanics & Maintenance Technology Apprenticeship

Certificates of Completion (Pending State Approval)

- Limited Electrician Apprenticeship Technologies
- Electrician Apprenticeship Technologies
- Manual Apprenticeship Trades
- Construction Trades, General Apprenticeship
- Mechanical Maintenance Apprenticeship
- Industrial Mechanics & Maintenance Technology Apprenticeship

PROGRAM PREREQUISITES AND REQUIREMENTS

Students pursuing a designated and sponsored Oregon State Bureau of Labor and Industries occupation must meet entrance requirements for their chosen career.

JOURNEY PERSON LICENSE RENEWAL

PCC's Trades and Industry Department is an approved training agent for continuing education for journey person electrical license renewal through the State of Oregon Electrical Licensing Division.

PRE-APPRENTICESHIP

PCC provides Pre-Apprenticeship opportunities to students seeking careers in the trades or an apprenticeship. These courses prepare students to apply for an apprenticeship, meet the minimum entry qualifications, and possibly boost your application score. Woman and minorities are encouraged to participate.

The Trades Preparation course covers construction trade topics, industry orientation, material handling, scaffolding, rigging, hand and power tool use, 30 hour OSHA safety certification, site visits and mock interviews. This course is approved by the Oregon Apprenticeship Council as an authorized Pre-Apprenticeship course.

The Exploring Trades and Apprenticeship course explores career opportunities within the Trades. It introduces resources for assisting students in identifying the skills needed to succeed in these fields.

Consult the Trades and Industry Department for assistance in program planning.

ELECTRICIAN APPRENTICESHIP TECHNOLOGIES PATHWAYS *(Pending State Approval)*

ELECTRICIAN APPRENTICESHIP TECHNOLOGIES AAS DEGREE

4000, 6000 or 8000 Hour BOLI-ATD Trades:

- College credit courses for Related-Training: 16 – 75 credits
- General Education: 16 credits
- Credit for Prior Certification: 0 – 22 credits
- Approved Program electives: 0 – 41 credits
- Total Credits: 90 – 108 credits

The AAS degree total credit requirement depends upon which state apprenticeship the student is pursuing and the requirements of the governing Joint Apprenticeship and Training Committee.

ELECTRICIAN APPRENTICESHIP CERTIFICATE OF COMPLETION *(Pending State Approval)*

4000 Hour BOLI-ATD Trades: Limited Energy Technician- License B, Limited Maintenance Electrician, Limited Renewable Energy Technician, and Limited Residential Electrician 4000 Hour BOLI-ATD Trades.

- College credit courses for Related-Training: 16 – 44 credits
- Related Instruction: 0 credits
- Credit for Prior Certification: 0 credits
- Approved Program Electives: 0 credits
- Total Credits: 16 – 44 credits

This certificate requires a minimum of 16 credits of related classroom training. Embodied in this Certificate are many state certifications. The total related training credits required depend upon which state apprenticeship the student is pursuing and the requirements of the governing Joint Apprenticeship and Training Committee.

ELECTRICIAN APPRENTICESHIP TECHNOLOGIES CERTIFICATE OF COMPLETION *(Pending State Approval)*

6000 Hour BOLI-ATD Trades: Limited Energy Technician-License A and Sign Maker/Fabricator

8000 Hour BOLI-ATD Trades: Inside Electrician, Limited Manufacturing Plant Electrician, Sign Assembler/Fabricator, Sign Maker/Erector and Stationary Engineer

6000-8000 Hour BOLI-ATD Trades

- College credit courses for Related-Training: 16 – 99 credits
- Related Instruction: 9 credits*
- Credit for Prior Certification: 0 credits
- Approved Program Electives: 0 credits
- Total Credits: 25 – 108 credits

**See related instruction list for approved courses*

This certificate requires a minimum of 16 credits of related classroom training as well as 9 credits of related instruction. Embodied in this Certificate are many state certifications. Both the total related training credits and the total related instruction credits depend upon which state apprenticeship the student is pursuing and the requirements of the governing Joint Apprenticeship and Training Committee.

CONSTRUCTION TRADES, GENERAL APPRENTICESHIP PATHWAY *(Pending State Approval)*

CONSTRUCTION TRADES, GENERAL APPRENTICESHIP AAS DEGREE *(Pending State Approval)*

4000, 6000 and 8000 Hour BOLI-ATD Trades:

- College credit courses for Related-Training: 16 – 75 credits
- General Education: 16 credits
- Credit for Prior Certification: 0 – 22 credits
- Approved Program Electives: 0 – 41 credits
- Total Credits: 90 – 108

The AAS degree total credit requirement depends upon which state apprenticeship the student is pursuing and the requirements of the governing Joint Apprenticeship and Training Committee.

MANUAL APPRENTICESHIP TRADES CERTIFICATE OF COMPLETION *(Pending State Approval)*

4000-Hour BOLI-ATD Trades: Brick Mason, Concrete Finisher, Floor Covering Installer, Glazier/Glass Worker, Laborer, Plasterer, and Roofer

4000 Hour BOLI-ATD Trades

- College credit courses for Related-Training: 16 - 44 credits
- Related Instruction: 0 credits
- Credit for Prior Certification: 0 credits
- Approved Program electives: 0 credits
- Total Credits: 16 – 44 credits

This certificate requires a minimum of 16 credits of related classroom training. Embodied in this Certificate are many state certifications. The total related training credits required depend upon which state apprenticeship the student is pursuing and the requirements of the governing Joint Apprenticeship and Training Committee.

CONSTRUCTION TRADES, GENERAL APPRENTICESHIP CERTIFICATE OF COMPLETION *(Pending State Approval)*

6000-8000 Hour BOLI-ATD Trades: Asbestos Removal, Carpenter, Exterior/Interior Finisher, HVAC/R, Painter, Pile Driver, Plumber, Scaffold Erector, and Sheet Metal Worker

6000-8000 Hour BOLI-ATD Trades

- College credit courses for Related-Training: 16–99 credits
- Related Instruction: 9 credits*
- Credit for Prior Certification: 0 credits
- Approved Program Electives: 0 credits
- Total Credits: 25 – 108 credits

**See related instruction list for approved courses*

This certificate requires a minimum of 16 credits of related classroom training as well as 9 credits of related instruction. Embodied in this Certificate are many state certifications. Both the total related training credits and the total related instruction credits depend upon which state apprenticeship the student is pursuing and the requirements of the governing Joint Apprenticeship and Training Committee.

INDUSTRIAL MECHANIC & MAINTENANCE TECHNOLOGY APPRENTICESHIP PATHWAY *(Pending State Approval)*

INDUSTRIAL MECHANICS & MAINTENANCE TECHNOLOGY APPRENTICESHIP AAS DEGREE *(Pending State Approval)*

4000 or 8000 Hour BOLI-ATD Trades:

- College credit courses for Related-Training: 16 – 75 credits
- General Education: 16 credits
- Credit for Prior Certification: 0 – 22 credits
- Approved Program Electives: 0 – 41 credits
- Total Credits: 90 – 108 credits

The AAS degree total credit requirement depends upon which state apprenticeship the student is pursuing and the requirements of the governing Joint Apprenticeship and Training Committee.

MECHANICAL MAINTENANCE APPRENTICESHIP CERTIFICATE OF COMPLETION *(Pending State Approval)*

4000 Hour BOLI-ATD Trades: Air Frame and Power Plant Technicians, Boiler Operator, and Programmable Logic Controller

4000 Hour BOLI-ATD Trades

- College credit courses for Related-Training: 16 – 44 credits
- Related Instruction: 0 credits
- Credit for Prior Certification: 0 credits
- Approved Program Electives: 0 credits
- Total Credits: 16 – 44 credits

This certificate requires a minimum of 16 credits of related classroom training. Embodied in this Certificate are many state certifications. The total related training credits required depend upon which state apprenticeship the student is pursuing and the requirements of the governing Joint Apprenticeship and Training Committee.

INDUSTRIAL MECHANICS & MAINTENANCE *(Pend-*

ing State Approval)

TECHNOLOGY APPRENTICESHIP CERTIFICATE OF COMPLETION *(Pending State Approval)*

8000 Hour BOLI-ATD Trades: Boiler/Turbine Operator, Die Cast Mold, Heat and Frost Insulator, Industrial Mobile Mechanic, Instrument Technician, Machinist, Millwright, Motor Winder, Pipefitter, Roll Turner, and Welder

8000 Hour BOLI-ATD Trades

- College credit courses for Related-Training: 16 – 99 credits
- Related Instruction: 9 credits
- Credit for Prior Certification: 0 credits
- Approved Program Electives: 0 credits
- Total Credits: 25 – 108 credits

**See related instruction list for approved courses*

This certificate requires a minimum of 16 credits of related classroom training as well as 9 credits of related instruction. Embodied in this Certificate are many state certifications. Both the total related training credits and the total related instruction credits depend upon which state apprenticeship the student is pursuing and the requirements of the governing Joint Apprenticeship and Training Committee.

ARCHITECTURAL DESIGN AND DRAFTING

Sylvania Campus
Science Technology Building, (ST) Room 208
503-977-4163

www.pcc.edu/programs/architectural-design/

CAREER AND PROGRAM DESCRIPTION

This two-year associate of applied science degree program helps students develop the design and technical skills needed in the residential and commercial building design industry.

Career possibilities exist for both self-employment and working for hire. Graduates may pursue various design and drafting jobs with residential designers, construction firms, interior designers, engineers, architects, architectural product manufacturers, city, county, state and federal drafting departments and corporate drafting departments.

PCC's program is designed to help students develop the skills needed in building design. The Architectural Design and Drafting Department should be contacted for program advising, program costs and employment opportunity information.

Consult a program advisor for information on PCC's policy on acceptance of courses taken at other colleges or high schools or the transferability of PCC courses to other colleges.

Students may transfer from Portland Community College to other colleges or universities to complete a bachelor's degree in Architecture or related field. Students interested in transferring should see an Architectural Design program advisor.

Students must receive a grade of "C" or better in all required classes in order to receive a degree in Architectural Design and Drafting. Pass/No pass grades are not accepted.

Total required credit may vary due to three to four credit conversion. PCC comprehensive degree and certificate minimum requirements must be met.

DEGREES AND CERTIFICATES OFFERED

Associate of Applied Science
  Architectural Design and Drafting
Less than One-Year Certificate
  Sustainable Building Certificate
One-Year Certificate
  Kitchen and Bath Certificate (Pending State Approval)

PREREQUISITES AND REQUIREMENTS

Students new to the program must take the college's placement exams for math and English prior to program advising and registration. Students must place in MTH 60 and WR 115 before registering for beginning drafting classes or have department approval.

ARCHITECTURAL DESIGN AND DRAFTING AAS DEGREE

Minimum of 98 credits which includes 82 credits hours of required program courses plus General Education credit hours. Students must also meet Associate Degree Comprehensive Requirements and Associate of Applied Science Requirements. Consult a program advisor for assistance in planning General Education classes.

COURSE OF STUDY

The following is a recommended course sequence for full time students starting fall term. Students may start at other times and terms and should see a program advisor for a schedule of course offerings.

ARCH 110 Introduction to Architectural Drawing is recommended as a first term class for students with no previous drafting experience. The two credit course will count toward the required elective credits listed in the fifth and sixth terms below.

First Term

ARCH 100	Graphic Communication for Designers	3
ARCH 124	Introduction to Building Systems	3
ARCH 126	Introduction to AutoCAD	3
ARCH 200	Introduction to Architecture	4

Second Term

ARCH 101	Architectural Graphics I	3
ARCH 111	Working Drawings I	3
ARCH 121	Structural Systems I	2

ARCH 132	Residential Building Codes	2
ARCH 136	Intermediate AutoCAD	3
ART 215	History of Residential Architecture	3

Third Term

ARCH 102	Architectural Graphics II	3
ARCH 112	Working Drawings II	3
ARCH 113	Site Planning	2
ARCH 122	Structural Systems II	4
ARCH 133	Commercial Building Codes	2
ARCH 137	AutoCAD Arch Desktop	3

Fourth Term

ARCH 123	Structural Systems III	4
ARCH 201	Design Studio I	6
ARCH 224	Active & Passive Building Systems	4
General Education		4

Fifth Term

ARCH 202	Design Studio II	6
ARCH Elective (see list)		3
General Education		8

Sixth Term

ARCH 203	Design Studio III	6
ARCH 280	CE: Architectural Design & Drafting	4
ARCH Elective (see list)		3
General Education		4

ARCH ELECTIVES:

Residential Electives

ARCH 110	Introduction to Architectural Drawing	2
ARCH 280	CE: Architectural Design & Drafting	2
ID 133	Space Planning	3
ID 135	Professional Practice for Designers	3
ID 138	Introduction to Kitchen & Bath Planning	3
ID 236	Lighting Design	3

Sustainability Electives

ARCH 131	Sustainable Structures	4
ARCH 204	Sustainable Design Studio	4
ID 121	Sustainable Materials for Residential Interiors	3
BCT 206	Sustainable Construction	3

CAD Electives

ARCH 237	Revit	3
ARCH 140	Chief Architect	3

SUSTAINABLE BUILDING CERTIFICATE

The Sustainable Building Certificate provides course work from architecture, interior design, building construction, social sciences and science as it relates to sustainable, or “green” building issues. This program will focus on creating buildings that are sited, designed, constructed, operated, and maintained for the health and well being of the occupants, while minimizing impact on the environment. See an advisor for current list of required courses.

KITCHEN AND BATH CERTIFICATE (*Pending State Approval)*

The Kitchen and Bath Certificate includes course work from Architecture and Interior Design and prepares the student to take the National Kitchen and Bath Association exams to become a certified kitchen and/or bath designer. See an advisor for current list of required courses. Total required credit may vary due to three to four credit conversion. PCC comprehensive degree and certificate minimum requirements must be met.

ART

Cascade Campus
Moriarty Arts and Humanities Building, (MAHB) Room 105
503 978- 5340

Southeast Center
Mt. Scott Hall, (MSH) Room 103
503-788-6147

Rock Creek Campus
Building 3, Room 201
503-614-7235

Sylvania Campus
Communications Technology Building, (CT) Room 216
503-977-4264

www.pcc.edu/programs/art/

DESCRIPTION

The art curriculum at PCC offers lower division college transfer courses in Art History (year-long sequences in Western Art, Asian Art, Modern Art; term courses in Women in Art, American Residential Architecture, and Comics Art), Basic Design (Black and White, Color 3-D), Painting (including Life Painting), Sculpture (Carving, Figure Sculpture, Plaster and Clay, Welding), Ceramics, Drawing (including Life Drawing), Photography (Darkroom and Digital), Printmaking, Calligraphy, and Watercolor.

Students exercise a wide range of technical, aesthetic, communication and problem-solving skills applicable to many career opportunities in an atmosphere that encourages the full realization of each individual potential. Studio and Art History classes play a vital role in a general liberal arts education as well as train students to become working artists or art historians. See the Course Description (ART prefix) section of this catalog for individual art courses and specific course prerequisites.

ASIAN STUDIES

Please see Focus Awards section of the catalog.

AUTO COLLISION REPAIR TECHNOLOGY

Rock Creek Campus
Building 2, Room 131
503-614-7331

www.pcc.edu/programs/auto-collision/

CAREER AND PROGRAM DESCRIPTION

Collision repair technicians possess the skills required to return a collision damaged vehicle to its pre-accident condition. Among these skills are metal working, welding, mechanical, electrical, air conditioning, plastic repair, shaping and forming fillers, structural analysis and repair and four wheel suspension alignment.

Total required credit may vary due to three to four credit conversion. PCC comprehensive degree and certificate minimum requirements must be met.

DEGREES AND CERTIFICATES OFFERED

Associate of Applied Science Degree
- Auto Collision Repair Technology

Two-Year Certificate
- Auto Collision Repair Technology

One-Year Certificate
- Auto Body Painting
- Auto Collision Repair Technology

PREREQUISITES AND REQUIREMENTS

None currently.

AUTO COLLISION REPAIR TECHNOLOGY AAS DEGREE

Minimum 90 credit hours which includes 74 credit hours of required program courses plus General Education credit hours and electives. Students must also meet Associate Degree Comprehensive Requirements and Associate of Applied Science Requirements.

AB 100	Auto Body Basic Skills	12
AB 105	Frame Analysis & Repair	12
AB 106	Panel Repair	12
AB 201	Panel Replacement	12
AB 205	Technical Skills and Collision Repair	12
AB 280A	CE: Auto Body Repair	10
AB 280B	CE: Auto Body Repair- Seminar	2
WLD 211	Auto Collision Repair Welding Aluminum	2

The following courses are offered and are not required courses for the certificates or the associate degree.

AB 9120	Auto Body Restoration	3

AUTO COLLISION REPAIR TECHNOLOGY CERTIFICATE

AB 100	Auto Body Basic Skills	12
AB 105	Frame Analysis & Repair	12
AB 106	Panel Repair	12
AB 201	Panel Replacement	12
AB 205	Technical Skills and Collision Repair	12
AB 280A	CE: Auto Body Repair	10
AB 280B	CE: Auto Body Repair- Seminar	2

72 credit hours of required courses.

The following courses are offered and are not required courses for the certificates or the associate degree.

AB 9120	Auto Body Restoration	3

AUTO BODY PAINTING CERTIFICATE

AM Courses

First Term

AB 116	Auto Body Painting I	12

Second Term

AB 117	Auto Body Painting II	12

Third Term

AB 118	Auto Body Painting III	12

PM Courses

First Term

AB 110	Auto Body Painting I	6
AB 111	Auto Body Painting II	6

Second Term

AB 112	Auto Body Painting III	6
AB 113	Auto Body Painting IV	6

Third Term

AB 114	Auto Body Painting V	6
AB 115	Auto Body Painting VI	6

36 Credits

AUTO COLLISION REPAIR TECHNOLOGY CERTIFICATE

AM Courses

AB 100 Auto Body Basic Skills	12
AB 105 Frame Analysis & Repair	12
AB 106 Panel Repair	12

or

PM Courses

AB 101 AB Basic Skills I	6
AB 102 AB Basic Skills II	6
AB 103 AB Panel Repair I	6
AB 104 AB Panel Repair II	6
AB 105 AB Frame Analysis & Repair	12*

**AB 105 is only currently only offered as a day course.*

36 Credits

AUTOMOTIVE SERVICE TECHNOLOGY

Sylvania Campus
Automotive Metals Building, (AM) Room 210
503-977-4130

www.pcc.edu/programs/auto-service/

CAREER AND PROGRAM DESCRIPTION

The automotive service technician maintains, diagnoses and repairs mechanical, hydraulic, fuel and electrical systems on modern automobiles and light-duty trucks. ASRT graduates find jobs in independent repair shops, dealerships and fleet maintenance facilities. Some start their own business.

The PCC Automotive Service Technology Department provides flexible, career-oriented automotive repair education and training in an authentic and diverse environment. As a PCC automotive student, you may prepare for any segment of the repair industry, including dealerships, fleets and independent repair shops. Partnerships between PCC and automotive repair businesses will allow you to learn in the classroom and on the job. PCC automotive service technology also provides up-grade training for technicians already in the field.

Total required credit may vary due to three to four credit conversion. PCC comprehensive degree and certificate minimum requirements must be met.

DEGREES AND CERTIFICATES OFFERED

Associate of Applied Science Degree
- Automotive Service Technology

Two-Year Certificate
- Automotive Service Technology

PROGRAM AWARDS

Brakes - 20 credit hours

Alignment - 20 credit hours

Transmission and Drive Train - 24 credit hours

Engine Performance - 40 credit hours

Technician Up-grade Training

PCC Automotive provides comprehensive training to technicians already working in the field. See the Automotive Department chairperson to develop a personal training plan or choose one to four

PREREQUISITES AND REQUIREMENTS

Applicants must take the placement test administered through test centers located at each campus. To begin the program, students must place into (RD 90 and WR 90) or (ESOL 260, 262, and 264); place into MTH 60 or higher-level math class. Students who place below MTH 60 must successfully complete MTH 20 and be ready for MTH 60 before registering for the automotive program. The ASRT Program accepts new students three times a year. New students must contact the PCC Automotive Department for advising and permission forms.

Students may receive PCC automotive credit for documented work experience. See the department chairperson for details.

COURSE OF STUDY

Students may select a certificate or degree program that meets their needs. The program consists of instructional modules of three weeks, each module being an intensive course in a specialized area. At the completion of each module, students are assessed according to their success in meeting course outcomes. The automotive modules consist of lecture and hands-on laboratory work. Students will have additional costs for tools and equipment.

AUTOMOTIVE SERVICE TECHNOLOGY AAS DEGREE

Minimum of 105 credit hours which includes 89 credit hours of required program plus General Education credit hours and electives. Consult an advisor for assistance in planning competency and General Education requirements. Students must also meet Associate Degree Comprehensive Requirements and Associate Applied Science Requirements.

AM 101	Unit 1: Engine Repair I	4
AM 102	Unit 2: Electrical Systems I	4
AM 103	Unit 3: Engine Performance I	4
AM 104	Unit 4: Steering and Suspension Systems I 4	
AM 105	Unit 5: Brake Systems I	4
AM 106	Unit 6: Heating and Air Conditioning Systems 4	
AM 107	Unit 7: Manual Drive Train & Axles I	4
AM 108	Unit 8: Introduction to Automotive Systems I	4
AM 112	Unit 12: Electrical II	4
AM 113	Unit 13: Engine Performance II	4
AM 114	Unit 14: Steering and Suspension Systems II 4	
AM 115	Unit 15: Brake Systems II	4
AM 117	Unit 17: Manual Drive Train & Axles II	4
AM 122	Unit 22: Electrical III	4
AM 123	Unit 23: Engine Performance III	4
AM 124	Unit 24: Steering and Suspension Systems III[1]	4
AM 125	Unit 25: Brake Systems III[1]	4
AM 127	Unit 27: Automatic Transmission/Transaxle I	4
AM 133	Unit 33: Engine Performance IV	4
AM 137	Unit 37: Automatic Transmission/Transaxle II	4
AM 143	Unit 43: Engine Performance V	4
AM 153	Unit 53: Engine Performance VI	4
AM 280A	CE: Automotive Service	2-8
CG 209	Job Finding Skills[2]	1
General Education		16
AM 124	Unit 24: Steering and Suspension Systems III[1]	4
AM 125	Unit 25: Brake Systems III[1]	4

[1]*Elective modules (Unit 24 & Unit 25 are required for the awards in alignment or brake specialist.)*

[2]*Class must be completed before enrolling in cooperative education (AM 280A.)*

AUTOMOTIVE SERVICE TECHNOLOGY CERTIFICATE

AM 101	Unit 1: Engine Repair I	4
AM 102	Unit 2: Electrical Systems I	4
AM 103	Unit 3: Engine Performance I	4
AM 104	Unit 4: Steering and Suspension Systems I	4
AM 105	Unit 5: Brake Systems I	4
AM 106	Unit 6: Heating and Air Conditioning Systems	4
AM 107	Unit 7: Manual Drive Train & Axles I	4

AM 108	Unit 8: Introduction to Automotive Systems I	4
AM 112	Unit 12: Electrical II	4
AM 113	Unit 13: Engine Performance II	4
AM 114	Unit 14: Steering and Suspension Systems II	4
AM 115	Unit 15: Brake Systems II	4
AM 117	Unit 17: Manual Drive Train and Axles II	4
AM 122	Unit 22: Electrical III	4
AM 123	Unit 23: Engine Performance III	4
AM 124	Unit 24: Steering and Suspension Systems III[1]	4
AM 125	Unit 25: Brake Systems III[1]	4
AM 127	Unit 27: Automatic Transmission/Transaxle I	4
AM 133	Unit 33: Engine Performance IV	4
AM 137	Unit 37: Automatic Transmission/Transaxle II	4
AM 143	Unit 43: Engine Performance V	4
AM 153	Unit 53: Engine Performance VI	4
AM 280	ACE: Automotive Service[2]	8
CG 209	Job Finding Skills	1
89 credit hours		
AM 124 Unit 24: Steering and Suspension Systems III[1]		4
AM 125 Unit 25: Brake Systems III[1]		4

[1]*Elective modules (Unit 24 and Unit 25 are required for the awards in alignment or brake specialist.)*

[2]*Class must be completed before enrolling in cooperative education (AM 280A.)*

ENGINE PERFORMANCE AWARD

40 credit hours

AM 101	Unit 1: Engine Repair I	4
AM 102	Unit 2: Electrical Systems I	4
AM 103	Unit 3: Engine Performance I	4
AM 108	Unit 8: Introduction to Automotive Systems I	4
AM 112	Unit 12: Electrical II	4
AM 113	Unit 13: Engine Performance II	4
AM 123	Unit 23: Engine Performance III	4
AM 133	Unit 33: Engine Performance IV	4
AM 143	Unit 43: Engine Performance V	4
AM 153	Unit 53: Engine Performance VI	4

TRANSMISSION AND DRIVE TRAIN AWARD

24 credit hours

AM 102	Unit 2: Electrical Systems I	4
AM 107	Unit 7: Manual Drive Train & Axles I	4
AM 108	Unit 8: Introduction to Automotive Systems I	4
AM 117	Unit 17: Manual Drive Train & Axles II	4
AM 127	Unit 27: Automatic Transmission/ Transaxle I	4
AM 137	Unit 37: Automatic Transmission/Transaxle II	4

ALIGNMENT AWARD

20 credit hours

AM 102	Unit 2: Electrical Systems I	4
AM 104	Unit 4: Steering and Suspension Systems I	4
AM 108	Unit 8: Introduction to Automotive Systems I	4
AM 114	Unit 14: Steering and Suspension Systems II	4
AM 124	Unit 24: Steering and Suspension Systems III[1]	4

BRAKE AWARD

20 credit hours

AM 102	Unit 2: Electrical Systems I	4
AM 105	Unit 5: Brake Systems I	4
AM 108	Unit 8: Introduction to Automotive Systems I	4
AM 115	Unit 15: Brake Systems II	4
AM 125	Unit 25: Brake Systems III[1]	4

ELECTIVE COURSE

AM 109	Unit 9: Fuel Systems[3]	4

[1]*Elective modules (Unit 24 and Unit 25 are required for the awards in alignment or brake specialist.)*

[3] *Offered on an "as needed" basis. See department chair for information.*

AUTOMOTIVE SERVICE EDUCATIONAL PROGRAM *(ASEP)*

ASEP is an educational partnership between Portland Community College and General Motors Corporation. It is a GM-specific program designed to upgrade the technical competency and professional level of the incoming GM dealership technician. The curriculum reflects current GM technology.

All ASEP students earn an associate of applied science degree. Once the degree is earned, additional GM certification is granted, qualifying the graduate to do various GM specific repairs. Students must meet college requirements for graduation including General Education, Math and English competencies.

CAREER DESCRIPTION

The automotive service technicians diagnose, maintain and repair the mechanical, hydraulic, pneumatic, electrical and electronic components of automobiles.

REQUIREMENTS

To be eligible for the ASEP Program, the applicant must:

1. Be age 18 or over at the time of the first dealership work experience period (second term).
2. Be a high school graduate or have a GED equivalent.
3. Ready for MTH 60 or higher and WR 115.
4. Obtain an authorized General Motors dealer sponsor.
5. Possess a valid driver's license.
6. Have a sincere desire for a career as a GM technician.

APPLICATION AND ACCEPTANCE

The ASEP Program accepts new students once a year. Contact the ASEP advisor for application materials.

COURSE OF STUDY

The student spends one term on campus in the classroom and lab. The following term, student technicians work for their sponsoring GM dealership, earning a wage and gaining practical on-the-job experience as they put to use the skills learned in the classroom. The terms will alternate until completion of the program.

Technical training is provided on campus in the lab classroom and at the dealership. This includes diagnosis, service and repair of current production vehicles and the latest developments in drive train, ignition, fuel and emission control management systems. Also covered are heating, vent and air conditioning and body and chassis electrical. General Education courses from Arts and Letters, mathematics, natural and physical sciences and social science provide the academic background. ASEP is an associate of applied science degree program. It requires a total of 96 weeks (eight terms of 12 weeks). During "on campus" terms, the student attends classes five days per week. Each "work experience" term, the student will accrue a minimum of 480 clock hours working in the sponsoring General Motors dealership.

ASEP 101	Electrical Systems and AC	16
ASEP 102	Engine Repair & Drive Train	16
ASEP 103	Engine Performance	16
ASEP 104	Steering, Suspension, & Brakes	12
ASEP 280A CE: ASEP[1]		12
ASEP 280A CE: ASEP[1]		12
ASEP 280A CE: ASEP[1]		12
ASEP 280A CE: ASEP[1]		12

[1]*See advisor before enrolling in this course.*

AVIATION MAINTENANCE TECHNOLOGY

Rock Creek Campus
Building 2, Room 230
503-614-7246

www.pcc.edu/amt

Email: shphilli@pcc.edu

CAREER AND PROGRAM DESCRIPTION

An aircraft mechanic certified under Part 65 of the Federal Aviation Regulations may maintain or alter aircraft within limitations specified by the regulations. The certificate also permits the holder to supervise other people in maintaining aircraft and to approve work for return to service. In addition, the certified mechanic may perform 100-hour inspections. After performing 100-hour inspections or maintenance, the mechanic must certify airworthiness or approval for return to service in a signed entry in the appropriate aircraft record.

The Aviation Maintenance Technology Program is approved by the State Division of Vocational Education, the Veterans Administration and the Federal Aviation Administration.

The certified AMT mechanic is considered to be a general practitioner at keeping aircraft in safe condition and may also decide to specialize in: hydraulics, pneumatics, rigging, inspection, bonded repair, corrosion control, sheet metal repair, electrical systems, avionics installation, propeller service, welding, painting, record keeping or engine service.

Total required credit may vary due to three to four credit conversion. PCC comprehensive degree and certificate minimum requirements must be met.

DEGREES AND CERTIFICATES OFFERED

Associate of Applied Science Degree
- Aviation Maintenance Technology

Two-year Certificate
- Aviation Technology

One –year Certificate
- Aviation Maintenance Technology: Airframe
- Aviation Maintenance Technology: Powerplant

PREREQUISITES AND REQUIREMENTS

All candidates for the AMT Program must have the placement test scores that demonstrate competency in basic reading, writing, and mathematics prior to program entry. Students who are attending only one class and are not an AMT Program participant are an exception.

Minimum test scores are:

Placement into MTH 60

Placement into RD 90

Placement into WR 90

COURSE OF STUDY

The Aviation Maintenance Program is offered in a recommended sequence of 24 courses, each an 18-day module. However, flexibility in program design does allow some variation in sequence. Any variation must be approved by the department representative.

The program is divided into the following three areas of study:

General: These courses, plus demonstrated math competency, contain requirements which are common to both airframe and powerplant ratings. AMT 203 and AMT 204 are required prior to entry into the airframe and powerplant areas.

Math competency is met by: successful completion of PCC Math 60 or by successful completion (70% minimum) of the AMT Department Math Competency Test. Department approval is required to take the department Math Competency Test and requires either: placement into higher than Math 60 or completion of higher than Math 60. This test may not be repeated within the same term.

Airframe: Students who have completed all of the courses in the airframe area and general area, plus WLD 210, may receive a certificate of completion which qualifies them to take FAA tests for an Aviation Mechanic Certificate with the Airframe rating.

Powerplant: Students who have completed all of the courses in the powerplant area and general area may receive a certificate of completion which qualifies them to take FAA tests for an Aviation Mechanic Certificate with the Powerplant rating.

AVIATION MAINTENANCE TECHNOLOGY AAS DEGREE

Minimum of 111 credit hours which includes 95 credit hours of required program courses plus General Education credit hours and electives. Students must also meet Associate Degree Comprehensive Requirements and Associate of Applied Science Requirements.

General Area Courses

AMT 101	Introduction to (Airframe and Powerplant)	1
AMT 102	Aircraft Electricity I	4
AMT 203	Aircraft Electricity II	4
AMT 204	Aircraft Electricity III	4
AMT 105	Aviation CFRs & Related Subjects	4
AMT 106	Aircraft Applied Science	4
AMT 107	Materials & Processes	4

Airframe Area Courses

AMT 208	Aircraft Systems	4
AMT 109	Assembly & Rigging	4
AMT 211	Composite Structures	4
AMT 212	Sheet Metal	4
AMT 213	Hydraulic Pneumatic and Landing Gear	4
AMT 214	Instruments, Communication and Navigation Systems	4
AMT 115	Aircraft Structures & Inspection	4
AMT 216	AMT Practicum/Airframe	2

Powerplant Area Courses

AMT 117	Reciprocating Engine Theory and Maintenance	4
AMT 218	Powerplant Inspection	4
AMT 219	Turbine Engine Overhaul	4
AMT 120	Propellers and Engine Installation	4
AMT 121	Turbine Engine Theory and Maintenance	4
AMT 222	Reciprocating Engine Overhaul	4
AMT 123	Ignition Systems	4
AMT 124	Fuel Metering Systems	4
AMT 225	AMT Practicum/Powerplant	2

Additional Required Courses

WLD 210	Aviation Welding	2

Optional Courses

AMT 126	A&P Self Study/Tutorial	4
AMT 227	A&P Makeup	4
AMT 228	AMT Shop Practice	4

For an Associate of Applied Science you must include 16 credit hours of General Education credits. Please see an Academic Advisor for assistance in planning General Education courses.

AVIATION MAINTENANCE TECHNOLOGY

Minimum 95 credit hours of required aviation maintenance courses, including general, airframe and powerplant courses, demonstrated math competency, and WLD 210.

AVIATION MAINTENANCE TECHNOLOGY: AIRFRAME CERTIFICATE

59 credit hours of required aviation maintenance technology courses; includes 25 credit hours of required general courses and 32 credit hours of required airframe area courses, plus demonstrated math competency, and WLD 210.

AVIATION MAINTENANCE TECHNOLOGY: POWERPLANT CERTIFICATE

61 credit hours of required aviation maintenance technology courses; includes 25 credit hours of required general courses and 36 credit hours of required powerplant area courses, plus demonstrated math competency.

AVIATION SCIENCE

Rock Creek Campus
Building 2, Room 230
503-614-7256

Southeast Center
Mt. Scott Hall (MTH) Room 103
503-788-6174

www.pcc.edu/fly

CAREER AND PROGRAM DESCRIPTION

The traditional entry-level position for professional airplane and helicopter pilots is as a certified flight instructor (CFI). This position offers the opportunity to gain experience sought by companies that employ pilots in a variety of interesting and challenging positions. Career opportunities for airplane pilots include work in flight instruction, charter, corporate cargo, and airline industries. Career opportunities for helicopter pilots include flight instruction, charter, corporate, air-ambulance and external load operations.

Flight classes are conducted at Hillsboro and Troutdale airports, an accredited FAA Part 141 certified flight school, located at the Hillsboro and Troutdale Airports. Additional fees apply for these classes; contact the Aviation Science Department for information on current flight fees.

Total required credit may vary due to three to four credit conversion. PCC comprehensive degree and certificate minimum requirements must be met.

DEGREES AND CERTIFICATES OFFERED

Associate of Applied Science Degree
- Aviation Science-Airplane
- Aviation Science-Helicopter

PREREQUISITES AND REQUIREMENTS

Applicants must take the placement test administered through the campus assessment centers. Minimum test scores:

Placement into MTH 20A

Placement into RD 90

Placement into WR 80

Attendance at an aviation science orientation or individual advising recommended prior to commencement in the program. Please see www.pcc.edu/fly for dates or contact the Aviation Science Department for dates or appointments.

Additionally, the FAA requires a Class II Medical Certificate prior to beginning flight training. See www.pcc.edu/fly and click on “Getting Started” for details.

AVIATION SCIENCE AAS DEGREE

Minimum of 90 credit hours of 100- and 200-level courses, including Aviation Science core courses plus General Education courses and approved electives. Students must meet Associate Degree Comprehensive Requirements and Associate of Applied Science Requirements. Electives must be from the list of approved electives or receive department approval. Consult a program advisor to help plan General Education courses, approved electives and math/writing competencies. The associate degree allows credit transfer to some four-year schools toward a bachelor's degree.

AIRPLANE

Includes 59 credit hours of required core aviation, academic, ground and flight courses (including the designated Meteorology course). The certified flight instructor specialization option in the second year includes an additional eight credit hours of ground and flight courses for a total of 67 credit hours. In either case, the student will log the flight hours in airplanes for the appropriate FAA pilot and instructor certificates by graduation.

HELICOPTER

Includes 57 credit hours of required aviation core academic, ground and flight courses (including designated physics and meteorology courses). The instrument specialization option in the second year includes an additional five credit hours of ground and flight courses for a total of 62 credit hours. In either case, the student will log the flight hours in helicopters for the appropriate FAA pilot and instructor certificates by graduation.

AIRPLANE

First-year students follow the same course of study regardless of program option. At the end of the first year, students must decide whether or not to add the certified flight instructor specialization to their course of study.

First Year

AVS 120	Airplane: Private Pilot Ground	4
AVS 125	Airplane: Private Pilot Flight	3
AVS 127	Introduction to Aviation	4
AVS 130	Instrument Ground School	4
AVS 135	Airplane: Instrument Flight	3
AVS 137	Applied Aerodynamics	4
AVS 140	Airplane: Commercial Pilot Ground	4
AVS 145	Introduction to Commercial Airplane	3
AVS 157	Aircraft Systems & Structures I: Airframe	3
AVS 167	Aircraft Systems & Structures II: Powerplant	3
GS 109	Meteorology	4
General Education		4

Second Year

Commercial pilot (without flight instructor specialization)

AVS 225	Airplane: Commercial Flight	4
AVS 227	Aviation Careers	4
AVS 237	Aviation Law and Regulations	4
AVS 255	Airplane: Pilot Performance	1
AVS 267	Economics of Flight Operations	4
AVS 275	Airplane: Professional Pilot	3
General Education		4
Approved Electives		15
Total second year:		44

COMMERCIAL PILOT *(with certified flight instructor specialization)*

AVS 225	Airplane: Commercial Flight	4
AVS 227	Aviation Careers	4
AVS 230	Airplane: Certified Flight Instructor Ground	4
AVS 235	Airplane: Certified Flight Instructor Flight	2
AVS 237	Aviation Law and Regulations	4
AVS 241	Airplane: CFII/MEI Ground	3
AVS 242	Airplane: CFII/MEI Flight	2
AVS 255	Airplane: Pilot Performance	1
AVS 267	Economics of Flight Operations	4
General Education		4
Approved Electives		7
Total second year:		44

HELICOPTER

First-year students follow the same course of study regardless of program option. At the end of the first year, students decide whether or not to add the instrument specialization to their course of study. Those students interested in earning an instrument specialization will select Helicopter Commercial Flight - B (AVS 215), which includes instrument training, instead of Helicopter Commercial Flight - A (AVS 205). This option, in conjunction with Instrument Ground (AVS 130), earns the student an instrument rating and instrument specialization.

First Year

AVS 110	Helicopter: Private Pilot Ground	4
AVS 115	Helicopter: Private Pilot Flight	3
AVS 127	Introduction to Aviation	4
AVS 137	Applied Aerodynamics	4
AVS 150	Helicopter: Commercial Ground	3
AVS 155	Helicopter: Introduction to Commercial Flight	3
AVS 157	Aircraft Systems & Structures I: Airframe	3
AVS 167	Aircraft Systems & Structures II: Powerplant	3
PHY 101	Fundamentals of Physics I	4
GS 109	Meteorology	4
General Education		4
Approved Electives		3
Total first year:		45

Second Year

Commercial pilot (without instrument specialization)

AVS 205	Helicopter: Commercial Flight-A	3
AVS 227	Aviation Careers	4
AVS 237	Aviation Law and Regulations	4
AVS 260	Helicopter: CFI Ground	4
AVS 265	Helicopter: CFI Flight	3
AVS 267	Economics of Flight Operations	4
General Education		8
Approved Electives		14
Total first year:		45

COMMERCIAL PILOT *(with instrument specialization)*

AVS 130	Instrument Ground School	4
AVS 215	Helicopter: Commercial Flight-B	4
AVS 227	Aviation Careers	4
AVS 237	Aviation Law and Regulations	4
AVS 260	Helicopter: CFI Ground	4
AVS 265	Helicopter: CFI Flight	3
AVS 267	Economics of Flight Operations	4
General Education		8
Approved Electives		10
Total second year:		45

Approved electives for Aviation Science - Airplane or Helicopter

CIS 120	Computer Concepts I	4
CIS 121	Computer Concepts II	4
CAS 133	Basic Computer Skills/Microsoft Office	3
CAS 170	Beginning Excel: WIN	3
CAS 171	Intermediate Excel: WIN	3
CAS 216	Beginning Word: WIN	3
CAS 217	Intermediate Word: WIN	3
PHY 101	Fundamentals of Physics	4
PSY 101	Psychology and Human Relations	3-4
WR 117	Introduction to Technical Writing	3-4
WR 121	English Composition	3-4
WR 214	Business Communications II	3-4
WR 227	Technical Writing I	3-4
EC 200	Principles of Economics: Intro, Institutions and Philosophies	3-4
EC 201	Principles of Economics: Microeconomics	4
EC 202	Principles of Economics: Macroeconomics	4
BA 101	Introduction to Business	4
BA 206	Management Fundamentals	3

BIOLOGY

Cascade Campus
Jackson Hall, (JH) Room 210
503-978-5209

Sylvania Campus
Health Technology, (HT) Room 305
503-977-4225

Rock Creek Campus
Building 7, Room 202
503-614-7257

www.pcc.edu/pcc/pro/progs/bit/

DESCRIPTION

At PCC, Biology (BI prefix) course offerings include biology classes for those interested in introductory topics, environmental habitats, anatomy and physiology, microbiology, and a wide variety of other science majors' classes.

Work in the sciences is an important part of many college programs. Courses at PCC are organized to present basic principles and to provide a coordinated overview of the sciences as they relate to living systems. See the Course Description (BI) section of this catalog for individual biology courses and course prerequisites.

BIOMEDICAL ENGINEERING TECHNOLOGY

See Electronic Engineering Technology

BIOSCIENCE TECHNOLOGY

Rock Creek Campus
Building 7, Room 202
503-614-7257 or 614-7282

CAREER PROGRAM AND DESCRIPTION

Bioscience Technology refers to the research and development of products which use the processes, products or principles of living organisms to solve problems. The applications of bioscience range from developing and manufacturing better ways to diagnose and treat disease, to improving the production of plant crops, and even using microorganisms to clean up toxic wastes. The field is dynamic, employing applications and innovations that are cutting-edge and in many cases cut across traditional disciplines. Skilled technicians with broad-based laboratory training find employment in a variety of settings, working with scientists at all levels in research, development, manufacturing, testing, and quality control and assurance. Technicians are needed in both large and small companies, research institutions, at local and state agencies, in private service laboratories and in some related industries.

Course work in the Bioscience program involves four distinct elements. Basic science courses provide the background information so that technical elements can be more completely understood. The foundation course work provides a broad base of technical knowledge that prepares individuals for entry-level positions in a variety of Bioscience companies, and includes emphasis on working in a regulated environment, as well as developing skill in technical communication and job readiness. The core of these foundation courses make up the Biotechnician Certificate. The advanced technical courses develop more specific skill sets, and provide for development of the fundamental skills in this more advanced context. Students may choose some electives from outside of the BIT program, in order to increase the breadth of training

or focus on a specify sector of the bioscience industry. Once the formal course work has been completed, the work experience component will ensure that students have a chance to put their skills and knowledge into a working context. The AAS in Bioscience Technology also allows for a smooth transfer to Portland State University toward a bachelor's degree in Biology.

Total required credit may vary due to three to four credit conversion. PCC comprehensive degree and certificate minimum requirements must be met.

DEGREES AND CERTIFICATES OFFERED

Associate of Applied Science Degree
Bioscience Technology (Pending State Approval)

Less than One-Year Certificates: Career Pathways

Career Pathways Certificates are short-term credentials (12-44 credits) which prepare individuals for entry-level employment. Career Pathways certificates may be the first certificate a student earns en route to a certificate of greater length or an Associate of Applied Science (AAS) degree. Contact the department for information.

Biotechnician (Pending State Approval)

PREREQUISITES AND REQUIREMENTS

AAS Bioscience Technology: Placement into WR 121 and MTH 95

Biotechnician Certificate: Placement into WR115, RD 115 and MTH 65

Application materials and specific instructions may be obtained from the Division of Science and Technology, Rock Creek Campus, 503-614-7257.

BIOSCIENCE TECHNOLOGY AAS DEGREE *(Pending State Approval)*

Students who wish to transfer to PSU will need to take additional BI and CH courses, for a total of 106 credits. Course work falls into four categories: Basic science and General Requirements, Bioscience Foundation Courses, Advanced Courses and Work Experience. The Work Experience component is taken after all other course work has been completed. 90 credits.

Basic Science and General Requirements

CAS 170	Beg Excel	3
WR 121	English Composition	4
MTH 95	Intermediate Algebra	4
General Education		8
BI 112	Cell Biology for Health Occupations *	5
CH 104	Fundamentals for Chemistry *	5

**May substitute BI 211 for 112 and CH 221 for 104*

Another 9 credits must be taken from the following list:

BI 211,212,213,234
CH 221, 222 223, 211
PHY 201,202,203, MTH 243

Note: Students who are interested in transferring to PSU for a BS degree in Biology will need to complete BI 211, 212, 213 and CH 221, 222 and 223 in order to be eligible for junior status.

Bioscience Foundation Courses – 17 cr

BIT 101	Introduction to Bioscience Technology	4
BIT 105	Safety in the Bioscience Workplace	2
BIT 107	Bioscience Lab Math	2
BIT 109	Basic Lab Techniques and Instrument	5
BIT 125	Quality Systems in Bioscience	2
BIT 181	Exploring Bioscience	2

Note: BIT 110 can be substituted for BIT 105, 107 and 109

Restricted Electives – 30 cr (20 must be BIT)

BIT 201	Immunochemical Methods	5
BIT 203	Recombinant DNA	5
BIT 205	Bioseparations	5
BIT 207	Cell Culture	5
BIT 215	Protein Purification	5
BIT 223	Advanced DNA Techniques	5
MT 111	Elec circuits and Devices I	4
MT 112	Elec circuits and Devices II	4
MT 113	Elec circuits and Devices III	4
MT 121	Digital Systems I	3
MT 122	Digital Systems II	3
MT 222	Quality Control Methods in Manufacturing	3

Work Experience

BIT 280A	Work Experience (240 hrs)	8
BIT 280B	Work Experience Seminar	1

BIOTECHNICAN CERTIFICATE: CAREER PATHWAYS *(Pending State Approval)*

BIT 110	Bioscience Technology Basics	9
BIT 125	Quality Systems in Bioscience	2
BIT 181	Exploring Bioscience	2
BIT 105, 107 and 109 may be used in place of BIT 110.		13 credits

BUILDING CONSTRUCTION TECHNOLOGY

Rock Creek Campus
Building 7, Room 202
503-614-7255, 503-614-7405, or 503- 614-7201

www.pcc.edu/bct

CAREER AND PROGRAM DESCRIPTION

Career possibilities exist for those going into business for themselves or seeking employment in the construction industry. PCC offers associate degrees and a certificate in several construction industry specialties.

This program is designed to help students develop the technical qualifications and life skills needed to enter the construction industry, as well as to help those currently in the construction trades upgrade and learn new skills.

Total required credit may vary due to three to four credit conversion. PCC comprehensive degree and certificate minimum requirements must be met.

PREREQUISITES AND REQUIREMENTS

Prerequisites and requirements for this program are degree and certificate specific. See individual degree and certificate for prerequisite and requirement details.

DEGREES AND CERTIFICATES OFFERED:

Associate of Applied Science Degrees
- Building Construction Technology
- Building Construction Technology - Design/Build Remodeling
- Building Construction Technology - Construction Management

Less than One-Year Certificate

BUILDING CONSTRUCTION TECHNOLOGY AAS DEGREE

Students new to the Building Construction Technology Program must take the college's placement tests for math and writing administered through the assessment centers prior to program advising and registration. Students must be enrolled in or have completed MTH 20 or have placed into MTH 60 or above on the Numerical Test and have enrolled in or completed WR 90 or placed into WR 115 or above. Students must complete BCT 106 Hand and Power Tool Use and Safety with a "C" or better or acquire department approval before enrolling in classes requiring the use of hand or power tools.

Students must complete the course work requirements outlined in the PCC catalog under Associate of Applied Science Degree in addition to 77 program credits for a minimum of 93 credit hours. Consult a program advisor for assistance in planning General Education classes.

COURSE OF STUDY

Fall Term

BCT 102	Residential Printreading	3
BCT 103	Residential Materials and Methods	3
BCT 104	Construction Mathematics	3
BCT 106	Hand Tool/Power Tool Use & Safety	3
General Education[3]		4

Winter Term

BCT 101	Principles of Construction Surveying	3
BCT 127	Concrete Construction I	6
ARCH 132	Residential Building Codes	2
ARCH 110	Intro. To Architectural Drawing	2
General Education		4

Spring Term

BCT 120	Floor Framing	3
BCT 121	Wall Framing	3
BCT 122	Roof Framing I	3
BCT 123	Roof Framing II	3
General Education[3]		4

Fall Term

BCT 128	Exterior Finish	6
BCT	Elective	3
BCT	Elective	3
SP 215	Small Group Communication Practices	4

Winter Term

BCT 203	Interior Finish	6
BCT 219	Cabinetmaking	6
General Education[3]		4

Spring Term

BCT 206	Sustainable Construction Practices	3
BCT 204B	Construction Estimating	3
BCT 211	Remodeling	6
WR 227	Technical Writing	4

BCT elective requirements may be fulfilled by taking any course with a BCT prefix, with the exception of BCT 217 and BCT 218, or instructor approval. See complete BCT course offerings in the Course Description List. Students wishing to use prior courses in related disciplines such as Architectural Drafting, Building Inspection etc., in lieu of approved BCT elective, must receive approval from a BCT advisor.

[3] *While General Education requirements are listed during specific terms, they may be taken any time.*

BUILDING CONSTRUCTION TECHNOLOGY CERTIFICATE

Students seeking a certificate in Building Construction Technology must take all the classes listed below. No electives may be substituted without department approval. Certificate is 37 credits.

Fall Term

BCT 102	Residential Printreading	3
BCT 103	Residential Materials and Methods	3
BCT 104	Construction Mathematics	3
BCT 106	Hand Tool/Power Tool Use & Safety	3

Winter Term

BCT 101	Principles of Construction Surveying	3
BCT 127	Concrete Construction I	6
ARCH 132	Residential Building Codes	2
ARCH 110	Intro. To Architectural Drawing	2

Spring Term

BCT 120	Floor Framing	3
BCT 121	Wall Framing	3
BCT 122	Roof Framing I	3
BCT 123	Roof Framing II	3

BUILDING CONSTRUCTION TECHNOLOGY - DESIGN/BUILD REMODELING AAS DEGREE

This associate degree offers coursework in building construction and interior design with an emphasis on kitchen and bath remodeling and design. The courses focus on hands-on residential construction practices, basic interior design principles and kitchen and bath design and drafting. Students also participate in professional organizations, competitions, and a variety of field trips to further enhance their training and knowledge.

This degree uses training materials supplied and supported by the National Kitchen and Bath Association (NKBA), and follows NKBA Kitchen and Bath Planning Guidelines in building construction and design coursework. Graduates would pursue becoming a certified kitchen designer (CKD) and/or a certified bath designer (CBD) while working in the industry.

CAREER DESCRIPTION

This degree allows students to choose from a wide variety of positions in the remodeling and kitchen and bath industry. A graduate might work as a kitchen or bath designer, remodeler, cabinet installer, project superintendent, project manager, estimator, or showroom and sales associate for a remodeling company or kitchen and bath design/build firm. Graduates might also work for wholesale or retail distributors of products such as cabinets, solid surface, appliances, lighting and plumbing fixtures. Job descriptions in this area include sales representatives, manufacturers' representatives, showroom managers and installers. With experience, motivated graduates may own and operate their own design/build remodeling company.

DEGREE REQUIREMENTS

College level reading and writing skills and basic math skills are required. Individual courses may have prerequisites which are included in the course description. A "C" grade of better is required in all coursework in this program option. Pass/No Pass grades are not accepted for design/build remodeling coursework. Students must complete the course work requirements outlined in the PCC catalog under Associate of Applied Science Degree. Minimum of 106 credits, including 90 credit hours of approved design/ build remodeling courses, and 16 credit hours of General Education. While General Education requirements are listed during specific terms, they may be taken any time.

Students desiring to use this degree as their NKBA education requirement for the Associate Kitchen and Bath Designer (AKBD) exam, must complete a 160 hour internship with a company engaged in the Kitchen and Bath Industry, in addition to the courses outlined below.

COURSE OF STUDY

Fall Term

BCT 102	Residential Printreading	3
BCT 103	Residential Materials & Methods I	3
BCT 104	Construction Mathematics	3
BCT 106	Hand Tool/Power Tool Use & Safety	3
General Education		4

Winter Term

BCT 127	Concrete Construction	6
ARCH 132	Residential Building Codes	2
ID 131	Introduction to Interiors	3
ARCH 110	Introduction to Architectural Drawing	2
SP 215	Small Group Communication	4

Spring Term

BCT 120	Floor Framing	3
BCT 121	Wall Framing	3
BCT 122	Roof Framing I	3
BCT 123	Roof Framing II	3
ID 132	Planning Interiors	3
BCT 206	Sustainable Construction Practices	3

Fall Term

BCT 129	Mechanical Systems for Kitchens and Baths	3
BCT 128	Exterior Finish	6
BCT 229	Introduction to Kitchens and Baths	2
BCT 202	Business Principles for Construction	3
General Education		4

Winter Term

ID 138	Introduction to Kitchen and Bath Planning	3
BCT 203	Interior Finish	6
BCT 219	Cabinetmaking	6
BA 238	Sales	3
General Education		4

Spring Term

ID 238	Advanced Kitchen & Bath Planning	3
ID 225	CAD Kitchens & Bath	1
BCT 211	Remodeling	6
BCT 204B	Construction Estimating	3
BCT 244	Kitchen & Bathing Cabinet Installation II	2

BUILDING CONSTRUCTION TECHNOLOGY - CONSTRUCTION MANAGEMENT AAS DEGREE

The degree is designed to develop the technical and management skills and qualifications needed to enter the building construction management industry. The core curriculum includes construction materials and methods, cost estimating, scheduling and project management. Students are also required to enroll in six hours of cooperative education.

This degree is an option within the Building Construction Technology Program. The degree will prepare students for entry level management and supervisory positions in the residential and commercial construction industries. Employment areas include project management, construction management, estimating, scheduling, and field supervision. This degree will also provide training for construction industry owners and their workers to learn new skills that help enhance their construction management performance.

Students completing the Construction Managements AAS have the option to transfer credits to the Operations Management BS at Oregon Institute of Technology. See program advisor for details.

DEGREE REQUIREMENTS

Students new to the Construction Management Program must

take the college's basic skills placement tests for math and writing administered through assessment centers prior to program advising and registration.

Students must have completed MTH 20 or place into MTH 60 and have completed WR 90 or placed into WR 115. Students must have completed CAS 133, or a similar course, or have basic computer skills. Keyboarding skills are also recommended. Students must complete the course work requirements outlined in the PCC catalog under Associate of Applied Science Degree. Degree requirements are a minimum 92 credit hours of approved Construction Management classes, including 76 credit hours of approved classes from the list and 16 credit hours in General Education. No courses may be substituted without department approval. While General Education requirements are listed during specific terms, they may be taken any time.

COURSE OF STUDY

Fall Term

BCT 100	Overview of the Construction Industry	3
BCT 102	Residential Printreading [2]	3
BCT 103	Residential Materials & Methods [2]	3
BCT 104	Construction Mathematics [2]	3

Winter Term

BCT 134	Construction Scheduling [2]	3
ARCH 110	Introduction to Architectural Drawing	2
BCT 202	Business Principles for Construction	3
ARCH 132	Residential Building Codes	2
General Education		4

Spring Term

BCT 221	Construction Law	3
ARCH 133	Commercial Building Codes	2
BCT 133	Commercial Materials and Methods	3
SP 215	Small Group Communication	4
Approved BCT Elective		3

Fall Term

BCT 150	Mechanical Electrical and Plumbing	3
BCT 213	Commercial Printreading [3]	3
WR 227	Technical Writing	4
CAS 170	Beginning Excel [5]	3

Winter Term

BCT 207	Construction Job Costing	3
BCT 206	Sustainable Construction Practices	3
BCT 101	Construction Surveying	3
BCT 204C	Construction Estimating	3
General Education		4

Spring Term

BCT 222	Engineering for Constructors [4]	3
BCT 130	Construction Safety	3
BCT 214	Advanced Estimating	3
BCT 225	Construction Project Management	3
General Education		4

Summer Term

BCT 280A	Cooperative Education - Internship [1]	6

[1] *Credits for this class may vary from one to six depending on the nature and duration of the co-op experience. This class may be taken one or more times until the required number of credits is fulfilled. See advisor for details.*

[2] *Class may be challenged by petitioning for course by examination.*

[3] *ARCH 162 Blueprint Reading Part 2 may be substituted for BCT 213 Advanced Printreading*

[4] *ARCH 122 Structural Systems 2 may be substituted for BCT 222 Engineering for Constructors*

[5] *CAS 170 Beginning Excel may be substituted with CAS 171 with instructor permission*

BUILDING INSPECTION TECHNOLOGY

Sylvania Campus
Science Technology Building, (ST) Room 208
503-977-4163

www.pcc.edu/programs/bldg-inspection/

CAREER AND PROGRAM DESCRIPTION

This program is designed to help students develop technical and other skills needed to be successful in building inspections technology. Plans examiners review new and remodel construction drawings submitted for building code compliance before a permit is issued. Building inspectors check construction sites work for compliance to the permitted plans and applicable code and standards. As an inspector and/or plans examiner you will identify, interpret and administer state and local codes; effectively communicate and interact with the public and design professionals; and conduct plan reviews and inspections to protect the safety of the public.

The two-year associate of applied science degree program prepares students for a career as a building inspector and plans examiner. After passing national certification exams offered by the International Code Council and the Oregon Inspector Certification, the student might work as a commercial structural/mechanical inspector, commercial plans examiner, one- and two-family dwelling structural/mechanical inspector, one- and two-family dwelling plans examiner, or all of the above. A one-year certificate prepares the student with extensive construction background for a career as a commercial structural/mechanical inspector, or a residential structural/mechanical inspector and plans examiner.

The Building Inspections Technology Department should be contacted for program advising, program costs, and employment opportunity information. Only Program courses graded "C" or better will be accepted toward Building Inspection Technology program completion.

Consult a program advisor for information on PCC's policy on acceptance of courses taken at other colleges or high schools or the transferability of PCC courses to other institutions.

Total required credit may vary due to three to four credit conversion. PCC comprehensive degree and certificate minimum requirements

must be met.

DEGREES AND CERTIFICATES OFFERED

Associate of Applied Science Degree

Building Inspection Technology

One-Year Certificates

Commercial Structural and Mechanical Inspection Certifi cate (Pending State Approval)

Residential Structural and Mechanical Inspection and Plans Examination Certificate (Pending State Approval)

DEGREE REQUIREMENTS

Placement tests are available at the PCC testing centers to determine entry level skills in math and writing.

Several courses in Building Inspection require students to have taken MTH 20, and WR 115 or RD 115 or higher-level math and writing courses. Additional skill requirements are specified through the listing of prerequisites. Students with questions about this entry-level readiness should arrange for evaluations of their skill levels through the PCC Counseling Department. Placement testing designed to assist students in selecting appropriate writing and mathematics courses may be required prior to registration. Students must meet PCC's writing and math competencies prior to graduation. See Comprehensive Degree Requirements in this catalog.

BUILDING INSPECTION TECHNOLOGY AAS DEGREE

Minimum 95 credit hours includes a minimum of 45 credit hours of building inspection courses, 17 credit hours of architectural design and drafting courses, 10 credits of INSP/ARCH electives, four credit hours of PHL 191 or SP 100 or PSY 101 or SOC 204, and six credit hours of Communication Electives. Students must complete 16 hours of General Education courses as defined under PCC General Education. Four credits of PHL 191 or SP 100 or PSY 101 or SOC 204 count as General Education courses. Consult a program advisor for assistance in planning General Education classes. Department minimums for graduation: MTH 65 and WR 121. Students must meet college graduation requirements including General Education, math and English competencies. A "C" grade or better is required for Program courses except for CG 209 and INSP 280B that need a grade of "P". The following is a recommended course sequence for students starting the Associate Degree in fall term. Students may start other terms but may be limited in class selection.

COURSE OF STUDY

First Term

INSP 251	International Building Code I	4
ARCH 161	Blueprint Reading I	2
ARCH 121	Structural Systems I	2
ARCH 124	Intro. to Building Systems	3
MTH 60	Introductory Algebra	4

Second Term

INSP 252	International Building Code II	3
ARCH 162	Blueprint Reading II	2
ARCH 122	Structural Systems II	4
MTH 65	Introductory Algebra	4
Communication Elective [2]		3-4

Third Term

INSP 253	International Building Code III	3
ARCH 123	Structural Systems III	4
General Education Elective[4]		3-4
WR 121	English Composition[4]	3-4
CG 209	Job Skills	1

Fourth Term

INSP 201	Plan Review – Commercial	4
General Education Specific		3-4
INSP/ARCH Electives		4
INSP 280B	CE: Field Experience [5]	2-5

Fifth Term

INSP 151	International Residential Code Structural	4
INSP 257	International Fuel Gas Code	3
INSP/ARCH Electives		3
General Education Elective [4]		3-4

Sixth Term

INSP 152	International Residential Code Mechanical	2
INSP 255	International Mechanical Code I	2
INSP 280B	Cooperative Experience [5]	2-5
INSP/ARCH Elective [1]		3
General Education Elective [4]		3-4

Seventh Term

INSP 202	Plan Review - Residential	4
INSP 256	International Mechanical Code II	3
INSP 220	Fire and Life Safety	3
INSP/ARCH Elective		1
INSP 280B	Cooperative Education [5]	2-5
Communication Elective [2]		3-4

[1] *INSP/ARCH Electives - 10 credits required, choose from the following list:*

INSP 101	Architectural Graphics	2
INSP 102	Architectural Graphics II	2
INSP 260	Oregon Inspection Certificate	2
ARCH 113	Site Planning	2
ARCH 126	Introduction to AutoCAD	3
ARCH 224	Active & Passive Bldg Systems	4

[2] *Communication Electives - 6 credits required, choose from the following list:*

MSD 105	Interpersonal Communication	3
MSD 110	Gender Conflict Resolution	1
MSD 111	Corresponding Effect at Work	3
MSD 116	Creative Thinking for Innovative Change	1
MSD 119A	Intercultural Communication	1
MSD 128	Handling the Difficult Person	1
MSD 130	Creative Problem Solving	3
MSD 150	Listening Skills	1
MSD 151	Dealing with Difficult People	1
MSD 157	Conflict Management	1
MSD 160A	Communication Styles	1
MSD 161	Customer Relations	1

MSD 162	Angry Feelings & Angry People	1
MSD 175B	Direct Communication in the Workplace	1
MSD 176	Non-verbal Communication	1
SP 105	Listening	3-4
SP 140	Intercultural Communication	3-4
SP 215	Small Group Communication	3-4
SP 227	Nonverbal Communication	3-4

[3] *General Education Specific course required. Choose one of the following (minimum): PHL 191 or SP 100 or PSY 101 or SOC 204*

[4] *General Education Electives totaling 16 credit hours are required for the degree. PHL 191 or SP 100 or PSY 101 or SOC 204 counts toward the 16 credit hours. Credits from other colleges may be used for General Education credits.*

[5] *Cooperative Education is a variable credit course*

Note: Cooperative work experience totals 300 hours minimum. See prerequisites for each course.

RESIDENTIAL STRUCTURAL AND MECHANICAL INSPECTION AND PLANS EXAMINATION CERTIFICATE *(Pending State Approval)*

CAREER AND PROGRAM DESCRIPTION

The Commercial Structural and Mechanical Inspection Certificate (44 credits), and the Residential Structural and Mechanical Inspection and Plans Examination Certificate (43 credits) prepare students with several years of experience in all aspects of construction for entry level employment as a building inspector or plans examiner, and the national certification exams offered by the International Code Council and the Oregon Inspector Certification tests. Check with the State Building Codes Agency or your advisor for specific requirements to meet eligibility to be employed in the State of Oregon.

These certificates are intended mainly for evening students with extensive construction background. Programs are designed to begin Fall term. INSP 280B Cooperative Education (work experience) is available only during the day, Monday through Friday. Courses may be offered evenings, days, online, or weekends.

PREREQUISITES AND REQUIREMENTS

To enter, students must have taken MTH 20 and WR 115 or RD 115 or higher level math and writing courses. Placement tests are available at PCC Testing Centers to determine entry level skills in math and writing. The Building Inspection Program should be contacted for advising

COURSE OF STUDY

First Term

INSP 151	International Residential Code-Structural	4
INSP 154	Introduction to Residential Inspection	1
ARCH 121	Structural Systems I	2
ARCH 161	Blueprint Reading I	2
CAS 216	Beginning WORD	3

Second Term

INSP 152	International Residential Code-Mechanical	2
ARCH 122	Structural Systems II	4
CG 209	Job Finding Skills	1
INSP 280B	CE: Field Experience	4

Third Term

INSP 202	Plans Exam-Residential	4
INSP 280B	CE: Field Experience	6
ARCH 123	Structural Systems III	4

Choose any 6 credits from the list below

MSD 105	Interpersonal Communication	3
MSD 130	Creative Problem Solving	3
MSD 110	Gender Conflict Resolution	1
MSD 119A	Intercultural Communication	1
MSD 151	Dealing with Difficult People	1
MSD 157	Conflict Management	1
MSD 160A	Communication Styles	1
MSD 150	Listening Skills	1
MSD 175A	Direct Communication in the Workplace	1
MSD 176	Nonverbal Communication	1
SP 100	Introduction to Speech Communication	4
SP 215	Small Group Communication	4

Note: CE: Field Experience totals a minimum of 300 hours.

See prerequisites for each course.

COMMERCIAL STRUCTURAL AND MECHANICAL INSPECTION CERTIFICATE *(Pending State Approval)*

COURSE OF STUDY

First Term

INSP 251	International Building Code I	4
INSP 257	International Fuel and Gas Code	3
ARCH 121	Structural Systems I	2
CAS 216	Beginning WORD	3
MSD 151	Dealing with Difficult People	1
CG 209	Job Finding Skills	1

Second Term

INSP 252	International Building Code II	3
INSP 255	International Mechanical Code I	2
ARCH 122	Structural Systems II	4
ARCH 162	Printreading II	2
MSD 130	Creative Problem Solving	3

Third Term

INSP 253	International Building Code III	3
INSP 256	International Mechanical Code II	3
ARCH 123	Structural Systems III	4
INSP 280B	CE: Field Experience	6

Note: CE Field Experience totals a minimum of 180 hours.

See prerequisites for each course

BUSINESS ADMINISTRATION

Cascade Campus
Technology Education Building, (TEB) Room 210
503-978-5317

Rock Creek Campus
Building 3, Room 201
503-614-7235

Sylvania Campus
Social Science Building, (SS) Room 215
503-977-4324

Extended Learning Campus

Southeast Center
Mt. Scott Hall, (MSH) Room 103
503-788-6146

www.pcc.edu/programs/business/

CAREER AND PROGRAM DESCRIPTION

Three associate of applied science degrees in business administration are offered. They are: accounting, management and marketing. These two-year degrees emphasize skills to be used on the job upon completion of the degree requirements and are not designed for students intending to transfer to four-year schools. If transferability of courses is a concern, students should consult with the institution of their choice regarding transfer possibilities.

All courses and programs of study in business require a minimum of college entry-level competency in English and in computational skills. Additional skill requirements are specified through the listing of prerequisites. Students with questions about this entry-level readiness should arrange for evaluations of their skill levels through the PCC Counseling Department. Placement testing designed to assist students in selecting appropriate writing and mathematics courses may be required prior to registration. Additional testing may be required for selected business courses. Due to the rapid changes in employment opportunities, technological advances and certifying agency regulations, business programs are subject to change.

Students must meet PCC's writing and math competencies prior to graduation. See Comprehensive Degree Requirements in this catalog.

Portland Community College offers a variety of degrees and certificates depending on the student's career and educational goals. Each degree listed below is described more completely in the following pages.

Total required credit may vary due to three to four credit conversion. PCC comprehensive degree and certificate minimum requirements must be met.

DEGREES AND CERTIFICATES OFFERED

Associate of Science Oregon Transfer Degree in Business

Associate of Applied Science Degrees
- Accounting
- Marketing
- Management

One-Year Certificates
- Accounting Clerk
- Marketing

Less than One-Year Certificates
- Accelerated Accounting
- Retail Management

Less than One-Year Certificates: Career Pathways

Career Pathways Certificates are short-term credentials (12-44 credits) which prepare individuals for entry-level employment. Career Pathways certificates may be the first certificate a student earns en route to a certificate of greater length or an Associate of Applied Science (AAS) degree. Contact the department for information.

- Entry Level Sales and Service
- Entry Level Accounting

Program Awards
- International Business Award

For more information and worksheet please see the comprehensive degree requirements listed earlier in the catalog.

ACCOUNTING AAS DEGREE

Minimum 92 credit hours; includes 76-78 credit hours of required courses and 16 credit hours of General Education. Consult a program advisor for assistance in planning General Education courses. MTH 65 is required for graduation. A math competency exam is available. Students must meet college graduation requirements including General Education, Math and English competencies.

CAREER DESCRIPTION

The associate of applied science accounting program prepares students for entry into the accounting field as bookkeepers, accounting clerks or accounting assistants who perform routine calculations, posting and typing duties, check items on reports, summarize and post data in designated books and perform a variety of other duties such as preparing invoices or monthly statements, preparing payrolls, verifying bank accounts, keeping record files and making periodic reports of business activities.

DEGREE REQUIREMENTS

College entry-level competencies in English and in computational skills. Additional skill requirements for individual business courses are listed in the course description section of this catalog.

COURSE OF STUDY

The two-year associate of applied science degree program includes accounting and specialty courses in addition to general business and General Education courses.

First Term

General Education		4
BA 111	Introduction to Accounting [1]	3
OS 131	10-key on Calculators	1
WR 121	English Composition	4
CAS 170	Beginning Excel: WIN or	
CAS 171	Intermediate Excel	3

Second Term

BA 211	Principles of Accounting I [2]	3

BA 101	Introduction to Business	4
CAS 216	Beginning Word: WIN	
	or	
CAS 217	Intermediate Word	3
BA 131	Computers in Business	4
General Education		4

Third Term

BA 206	Management Fundamentals	3
BA 212	Principles of Accounting II [2]	3
EC 201	Principles of Economics: Microeconomics [3]	4
BA 205	Solving Communication Problems with Technology [2]	4

Fourth Term

BA 226	Business Law I	4
BA 213	Principles of Accounting III [2]	3
BA 228	Computer Accounting Applications [2]	3
EC 202	Principles of Economics: Macroeconomics [3]	4

Fifth Term

BA 177	Payroll Accounting [2]	3
BA 256	Income Tax	3
BA 285	Human Relations-Organizations	3
BA Approved Business Electives [4]		6-7

Sixth Term

BA 222	Financial Management [2]	3
BA 240	Governmental Accounting or	
BA 242	Introduction to Investments [2]	3
PHL 202	Introduction to Philosophy: Elementary Ethics	
	or	
PHL 209	Business Ethics [3]	4
BA Approved Business Elective [4]		6-7

[1]*Students who have completed high school book keeping or have had work experience with full-cycle bookkeeping responsibilities should substitute an approved business elective and start the accounting series BA 211 in the second term.*

[2]*Prerequisites for business courses are listed in the course description section.*

[3]*For the program a maximum of two courses may count toward 16 credits of General Education.*

[4]*Choose from list of approved business elective for Business Administration programs.*

Note: Scheduling requirements may prevent all courses from being offered every term. Consultation with an advisor is critical to student's selection of courses.

ACCOUNTING CLERK CERTIFICATE

CAREER DESCRIPTION

This program prepares students for entry-level positions in bookkeeping. Entry-level bookkeepers perform routine tasks such as bank reconciliations, journalizing, posting, worksheets, accounts payable, accounts receivable and payroll, plus clerical duties such as typing and filing.

CERTIFICATE PREREQUISITES

College entry-level competencies in English and in computational skills. Additional skill requirements for individual business courses are listed in the Course Description section of this catalog.

COURSE OF STUDY

This program and individual courses are available at several PCC locations. Please call a campus or center for further information. The program emphasizes bookkeeping and accounting specialty courses plus keyboarding, in addition to general business microcomputer applications courses. 48-49 credit hours as outlined in the required courses.

First Term

BA 101	Introduction to Business	4
	Approved Business Elective	3-4
BA 111	Introduction to Accounting [1]	3
CAS 121	Beginning Keyboarding or	
CAS 122	Keyboarding for Speed & Accuracy [2]	3
WR 121	English Composition	4

Second Term

BA 211	Principles of Accounting I [3]	3
BA 177	Payroll Accounting [3]	3
OS 131	10-key on Calculators	1
BA 131	Computers in Business	4

Choose three credits from the following:

CAS 170	Beginning Excel	3
CAS 171	Intermediate Excel	3
CAS 216	Beginning Word	3
CAS 217	Intermediate Word	3

Third Term

BA 205	Solving Comm Problems w/ Tech	4
BA 228	Computer Accounting Applications [3]	3
BA 212	Principles of Accounting II [3]	3
BA 285	Human Relations-Organizations	3

Choose four credits from the following:

EC 200	Introduction to Economics: [4]	4
EC 201	Principles of Economics: Micro [4]	4
EC 202	Principles of Economics: Macro [4]	4

[1]*Students who have completed high school bookkeeping or have had work experience with full-cycle bookkeeping responsibilities should substitute an approved business elective and start the accounting series BA 211 in the second term.*

[2] *Students who can touch type more than 40 words per minute should substitute an approved business elective.*

[3] *Prerequisites for business courses are listed in the course description section.*

[4] *Students considering the Associate of Applied Science (Accounting) degree are recommended to take EC 201 or EC 202.*

Note: Scheduling requirements may prevent all courses from

being offered every term. Consultation with an advisor is critical to student's selection of courses.

ACCELERATED ACCOUNTING CERTIFICATE

CAREER DESCRIPTION

This program prepares students for entry-level positions such as accounts receivable and payable clerks for service, merchandising, manufacturing and professional offices (medical and legal).

COURSE OF STUDY

This program and individual courses are available at several PCC locations. The program emphasizes learning accounting skills in conjunction with computer skills. 29 - 31 credit hours.

CERTIFICATE REQUIREMENTS

College placement test.

First Term

BA 111	Introduction to Accounting [1]	3
CAS 121	Beginning Keyboarding or	
CAS 122	Keyboarding for Speed & Accuracy [2]	3
Approved Business Elective		3-4
CAS 170	Beginning Excel: WIN or	
CAS 171	Intermediate Excel	3
CAS 216	Beginning Word: WIN or	
CAS 217	Intermediate Word	3
OS 131	10-Key on Calculator	1

Second Term

BA 211	Principles of Accounting I [3]	3
BA 177	Payroll Accounting [3]	3
BA 228	Computer Accounting Applications [3]	3
WR 90	Writing 90 or	3
WR 115	Introduction to Expository Writing or	4
WR 121	English Composition	4
CG 209	Job Finding Skills	1

[1]*Students who have completed high school book keeping or have had work experience with full-cycle bookkeeping responsibilities should substitute an approved business elective and start the accounting series BA 211 in the second term.*

[2] *Students who can touch type more than 40 words per minute should substitute an approved business elective.*

[3]*Prerequisites for business courses are listed in the course description section.*

ENTRY-LEVEL ACCOUNTING CLERK CERTIFICATE: CAREER PATHWAYS

CAREER DESCRIPTION

This program prepares students for entry-level positions such as accounting or bookkeeping clerks. Skills gained in this program can lead to a variety of jobs that support the accounting and finance functions within an organization.

COURSE OF STUDY

This program emphasizes learning accounting and computer skills. 14 credit hours

First Term

BA 111	Introduction to Accounting	3
BA 101	Introduction to Business	4
BA 131	Computers in Business	4
BA 228	Computer Accounting Applications	3

MANAGEMENT AAS DEGREE

Minimum 91 credit hours; includes 75 credit hours of required courses and 16 credit hours of General Education. Consult a program advisor for assistance in planning General Education classes. MTH 65 is required for graduation. A math competency exam is available. Students must meet college graduation requirements including General Education, math and English competencies.

CAREER DESCRIPTION

A management graduate enters business as a supervisory trainee who will coordinate activities and direct personnel to attain operational goals. Management supervisors assign duties to workers and establish work schedules. They may also evaluate performance and may recommend hiring, promotions and dismissals.

DEGREE REQUIREMENTS

College entry-level competencies in English and in computational skills. Additional skill requirements for individual business courses are listed in the Course Description section of this catalog.

COURSE OF STUDY

This program and individual courses are available at several PCC locations. Please call a campus or center for further information. The emphasis of the Management Program is on management principles, marketing, accounting, office management and small business management.

Required Business Courses

BA 101	Introduction to Business	4
BA 111	Introduction to Accounting [2]	3
BA 131	Computers in Business	4
BA 205	Solving Communication Problems with Technology	4
BA 206	Management Fundamentals	3
BA 211	Principles in Accounting I	3
BA 212	Principles in Accounting II	3
BA 223	Principles in Marketing	3
BA 224	Human Resource Management	3
BA 226	Business Law	4
BA 285	Human Relations - Organizations	3

Required Business Related Courses

CAS 121	Beginning Keyboarding or	
CAS 122	Speed & Accuracy	3
CAS 216	Beginning Word or	
CAS 217	Intermediate Word	3
CAS 170	Beginning Excel or	
CAS 171	Intermediate Excel	3
EC 200	Introduction to Economics [3]	4
OS 131	Ten Key Calculator	1
WR 121	English Composition	4
Required General Education		12
(EC 200 will count toward General Education)		

Choose a minimum of 15 BA credits from the following list

BA 177	Payroll Accounting	3
BA 203	Introduction to International Business	3
BA 207	Introduction to E-Commerce	3
BA 213	Principles of Accounting III	3
BA 218	Personal Finance	3
BA 228	Computer Accounting Applications	3
BA 238	Sales	3
BA 239	Advertising	3
BA 242	Investments	3
BA 250	Small Business Management	3
BA 280A	Business Experience [4]	3
BA 280B	Seminar [4]	1

Choose a minimum of 9 credits from the following list:

CAS 109	Powerpoint	1
CAS 111D	Beginning Dreamweaver	3
CAS 140	Beginning Access	3
CAS 171	Intermediate Excel	3
CAS 217	Intermediate Word	3
CAS 231	Publisher	3
OS 240	Filing and Records Management	4

[1]*Prerequisites for business courses are listed in the course description section.*

[2]*Students who have completed high school bookkeeping or have had work experience with full-cycle bookkeeping responsibilities should substitute an approved business elective and start the accounting series with BA 211 in the second term. Approved business electives follow at the end of the Business Administration section.*

[3]*This course may count toward 16 credits of General Education*

[4] *Complete 12 BA Credits before enrolling*

MARKETING AAS DEGREE

Minimum 90 credit hours; includes minimum 79 credit hours of required courses; 16 credit hours of General Education. Consult a program advisor for assistance in planning General Education classes. MTH 65 is required for graduation. A math competency exam is available. Students must meet college graduation requirements including General Education, Math and English competencies.

CAREER DESCRIPTION

Marketing is a major function of business, with widely diverse job opportunities in the world of commerce, industry and merchandising. Marketing workers typically are employed in advertising, direct sales, physical distribution, purchasing, retailing, manufacturing and other commercial and industrial firms.

DEGREE REQUIREMENTS

College entry-level competencies in English and in computational skills. Additional requirements for individual business courses are listed in the Course Description section of this catalog.

This program and individual courses are available at several PCC locations. The program emphasis is on a diverse cross section of marketing courses. This foundation will enable students to successfully compete in the dynamic marketing environments of commerce, industry and retailing. Practical experience is provided through outside cooperative education jobs. Graduates of this program are prepared to enter marketing management training programs.

Note: While courses listed below are required, the following is merely a suggested sequence for completing the degree. Course offerings will vary for each campus. See a marketing faculty advisor for assistance in planning a schedule.

First Term

BA 101	Introduction to Business	4
WR 121	English Composition	3-4
General Education		3-4
BA 111	Introduction to Accounting	3

Second Term

CAS 121	Beginning Keyboarding [3]	3
BA 211	Principles of Accounting I	3
CAS 170	Excel	3
BA Elective [4]		3-4
BA 223	Principles of Marketing	3

Third Term

BA 131	Computers in Business	4
BA 205	Solving Communication Problems with Technology	4
EC 200	Principles of Economics: Intro, Institutions & Philosophies [5]	4
SP 111	Fundamentals of Speech [5]	4

Fourth Term

BA 238	Sales	3
BA 203	Introduction to International Business	3
BA 250	Small Business Management	3
CAS 216	Beginning Word: WIN	3
BA Approved Business Elective		3-4

Fifth Term

BA 239	Advertising	3
BA	Approved Business Elective [4]	4
BA 234	International Marketing [8]	3
BA 226	Business Law	4
BA 285	Human Relations in Business	3

Sixth Term

BA 249	Principles of Retailing & E-tailing	3

Choose 1 course:

BA 280A/BA 280B		3-4
	or	
CAS Class [7]		
BA Business Elective [4]		3-4
General Education		4

[1]*Prerequisites for business courses are listed in the Course Description section.*

[2]*Students who have completed high school bookkeeping or have had work experience with full-cycle bookkeeping responsibilities should substitute an approved business elective and start the accounting series with BA 211 in the second term. Approved business electives are listed at the end of the business administration section.*

[3] *Students who can touch type should substitute an approved business elective.*

[4]*Students working toward the marketing degree program must complete Business electives selected from list of "Approved Business Electives for Business Administration Programs," which appears at the end of the program descriptions in this section.*

[5]*These courses may count toward 16 credits of General Education.*

[6] *Complete 12 BA credits before enrolling.*

[7] *Choose from CAS 111D, CAS 111F, CAS 140, CAS 171, or CAS 231.*

[8] *May substitute approved BA elective.*

MARKETING CERTIFICATE

Minimum 44 credit hours; includes 41 credit hours of required courses and three or four credit hours of approved business electives.

CAREER DESCRIPTION

Persons completing this program are prepared to enter the marketing field at entry-level positions with firms in commerce, industry and merchandising.

CERTIFICATE REQUIREMENTS

College entry-level competencies in English and in computational skills. Additional skill requirement for individual business courses are listed in the Course Description section of this catalog.

COURSE OF STUDY

This program and individual courses are available at several PCC locations. The emphasis on this program is to provide a basic understanding of the marketing environment of commerce and industry to develop a career in the field.

Note: While all courses below are required to complete the certificate, course offerings will vary for each campus. See a marketing faculty advisor for assistance in planning a schedule.

BA 111	Introduction to Accounting [2]	3
BA 101	Introduction to Business	4
BA 131	Computers in Business	4
BA 223	Principles of Marketing	3
BA 238	Sales	3
BA 239	Advertising	3
BA 249	Principles of Retailing & E-tailing	3
BA 280A	CE: Business Experience	3
	and	
BA 280B	CE: Business Experience - Seminar [1]	1
BA 285	Human Relations-Organizations	3
CAS 121A	Beginning Keyboarding [4]	1
CAS 216	Beginning Word: WIN [1]	3
WR 121	English Composition	3-4
Business Elective [3]		6-8

[1]*Prerequisites for business courses are listed in the Course Description section of this catalog.*

[2]*Students who have completed high school bookkeeping or have had work experience with full-cycle bookkeeping responsibilities should substitute an approved business elective.*

[3]*Approved business electives are listed at the end of the Business Administrative Program description.*

[4] *Students who can touch type should substitute an approved business elective.*

Note: Scheduling requirements may prevent all courses from being offered every term. Consultation with an advisor is critical to student's selection of courses.

Approved Business Electives for Business Administration Programs

These business electives apply to all business administration degrees and certificates that have electives identified in the curriculum. Contact the business division at any PCC location for further information. Prerequisites for business courses are listed in the Course Description section of this catalog.

BA 131	Computers in Business	4
BA 141	Introduction to International Business Law	3
BA 160	Purchasing I	3
BA 161	Purchasing II	3
BA 177	Payroll Accounting	3
BA 203	Introduction to International Business	3
BA 205	Solving Communication Problems with Technology	4
BA 206	Management Fundamentals	3
BA 207	Introduction to E-Commerce	4
BA 211	Principles of Accounting I	3
BA 212	Principles of Accounting II	3
BA 213	Principles of Accounting III	3
BA 215	Basic Cost Accounting	3
BA 218	Personal Finance	3
BA 222	Financial Management	3
BA 223	Principles of Marketing	3
BA 224	Human Resource Management	3
BA 226	Business Law I	4
BA 227	Business Law II	3
BA 228	Computer Accounting Applications	3
BA 234	International Marketing	3
BA 237	Fundamentals of Import/Export	3
BA 238	Sales	3
BA 239	Advertising	3
BA 240	Governmental Accounting	3
BA 242	Introduction to Investments	3
BA 249	Principles of Retailing and E-tailing	3

BA 250	Small Business Management	3
BA 256	Income Tax	3
BA 280A	CE: Business Experience	variable credit
BA 280B	CE: Business Experience-Seminar	1
BA 285	Human Relations-Organizations	3
BA 9235	Financial Statement Analysis I	3
BA 9236	Credit Management Case Studies	3
BA 9703	Income Tax Preparation: Basic	8
BA 9706	Income Tax Preparation: Advanced	3
CAS 109	Beginning PowerPoint: WIN	1
CAS 111D	DreamWeaver	3
CAS 122	Keyboarding for Speed and Accuracy	3
CAS 123	Production Keyboarding	3
CAS 133	Basic Computer Skills/Microsoft Office	3
CAS 140	Beginning Access	3
CAS 170	Beginning Excel	3
CAS 171	Intermediate Excel	3
CAS 216	Beginning Word	3
CAS 216A	Beginning Word	1
CAS 231	Publisher	3
CAS 246	Integrated Computer Projects	4
OS 131	10-Key on Calculators	1
OS 240	Filing and Records Management	4
WR 214	Business Communications II	4

RETAIL MANAGEMENT CERTIFICATE

Designed for people already working in retail as well as those wanting to enter this fast-paced career path. The curriculum incorporates ten core courses that provide basic business skills and knowledge that have been identified as essential for a retail management career. The educational foundation includes management, communication, computation, and computer skills.

Adding to that foundation is a cluster of business, marketing, human resources, management, and retailing courses. This Certificate can easily transfer into a two-year Associate of Applied Science Degree and beyond.

- Increase your Knowledge of the Retail Industry
- Improve your Business and your Professional Skills
- Enhance your Employability and your Promotion Potential
- Earn credits toward your college degree

Total credits 34. This certificate is approved by the Western Association of Food Chains (WAFC) and supported by several major retailers. See this link for a list of major retail members: **www.wafc.com/links/groceryretailers.htm.**

MTH 30	Business Math (or MTH 60 or higher)	4
SP 111	Fundamentals of Speech	3-4
BA 205	Solving Communications Problems with Technology	4
BA 211	Principles of Accounting I	3
BA 131	Computers in Business (or CIS 120)	4
BA 206	Management Fundamentals	3
BA 223	Principles of Marketing	3
BA 224	Human Resources Management	3
BA 249	Principles of Retailing and E-tailing	3
BA 285	Human Relations-Organizations	3

ENTRY-LEVEL SALES AND SERVICE CERTIFICATE: CAREER PATHWAYS

Contact department

INTERNATIONAL BUSINESS PROGRAM AWARD

The Business Administration Department confers a program award in International Business. This is not a career certificate but a program designed to enhance cultural awareness and expose the student to the international business environment in general. Students will be introduced to international law, international marketing, importing and exporting, global economics and the managerial implications of operating in a foreign environment. Courses may be offered at various locations. Placement test administered through assessment centers. 30-31 credit hours; includes 15 credit hours of required courses and 15-16 credit hours of restricted electives.

Note: Program award will be issued by the Sylvania Business Division to students who meet the requirements. Students should contact the Sylvania Business Division in their last term to apply for the award.

REQUIRED COURSES

BA 203	Introduction to International Business	3
BA 141	Introduction to International Business Law	3
BA 237	Fundamentals of Import/Export	3
BA 234	International Marketing	3
EC 230	Contemporary World Economic Issues: International Economics	4
	or	
PS 205	Global Politics: Conflict & Cooperation	4
Restricted Electives		15-16

[1]*Prerequisites for business courses are listed in the Course Description section of this catalog.*

[2]*Restricted electives. See Course Descriptions in this catalog*

ELECTIVE COURSES. CHOOSE 15-16 CREDITS

BA 101	Introduction to Business	4
BA 131	Computers in Business	4
BA 205	Solving Communication Problems with Technology	4
BA 206	Management Fundamentals	3
BA 211	Principles of Accounting I	3
BA 212	Principles of Accounting II	3
BA 213	Principles of Accounting III	3
BA 222	Financial Management	3
BA 223	Principles of Marketing	3
BA 224	Human Resource Management	3
BA 226	Business Law I	4
BA 227	Business Law II	3
BA 238	Sales	3
BA 280A	CE: Business Experience	3
BA 280B	CE: Business Experience - Seminar	1
BA 285	Human Relations-Organizations	3
CAS 133	Basic Computer Skills/Microsoft Office	3

ATH 207	Cultural Anthropology: Culture Concepts	4
ATH 208	Cultural Anthropology: Cultures of the World	4
ATH 209	Cultural Anthropology: Cultural Growth & Change	4
GEO 105	Introduction to Human Cultural Geography	4
GEO 106	Introduction to Human Cultural Geography	4
GEO 107	Introduction to Human Cultural Geography	4
HST 103	Western Civilization: 1799 to the Present	4
HST 104	History of Eastern Civilization: Middle East	4
HST 105	History of Eastern Civilization: India and Subcontinent	4
HST 106	History of Eastern Civilization: Far East	4
HST 278	Russian History I	4
HUM 125	International Education	4
PHL 202	Introduction to Philosophy: Elementary Ethics	4
PS 220	U.S. Foreign Policy	4
WR 121	English Composition	3-4

Any modern language including English for Speakers of Other Languages (limited to nine credit hours)

CAREER GUIDANCE AND COLLEGE SUCCESS

Cascade Campus
Student Services Building, (SSB) Room 150
503-978-5271

Southeast Center Tabor Hall, Room 152
503-788-6256

Rock Creek Campus
Building 9, Room 118
503-614-7300

Sylvania Campus
College Center, (CC) Room 216
503-977-4531

DESCRIPTION

College students face numerous challenges, not the least of which are learning how to manage time, finances, and personal commitments. While developing an understanding of their own unique strengths and skills, students must choose an appropriate major and make careful career choices. These challenges, combined with those of everyday living, present an opportunity to grow from important life experiences, renew one's career commitments, and oftentimes, manage an exciting career change.

PCC's Career Guidance and College Success courses are designed to help students maximize college success; choose a career or major; explore changing careers; and assess and develop strengths and

personal skills. Several different exploratory, instructive classes offer students opportunities to envision themselves and their careers in new ways. "Career and Life Planning" offers students tools to make important career decisions, while other courses, such as "Introduction to Health Careers," allow students to grasp the day-to-day challenges within a field and understand the workplace environment, licensing procedures, and career pathways.

See the Course Description (CG prefix) section of this catalog for individual career guidance and college success courses and course prerequisites.

CHEMISTRY

Cascade Campus
Jackson Hall (JH) Room 210
503-987-5209

Rock Creek Campus
Building 7, Room 202
503-614-7500

Sylvania Campus
Science Technology (ST) Room 312
503-977-4174

DESCRIPTION

Chemistry is the fundamental science of matter – its structure, composition, and transformations. As such, chemistry has wide applications in all the physical, biological, and behavioral sciences. Chemistry is involved in solving some of the most pressing problems facing our society today, such as environmental problems, medical issues, dwindling energy resources, the need for new and better materials, and worldwide food shortages.

Courses in chemistry are offered for students who will transfer to four-year institutions, who are completing requirements for career/technical programs, or who are taking courses for personal enrichment. Chemistry courses at PCC are equivalent to freshman and sophomore courses at four-year colleges and universities. Students should check the specific requirements of the institution to which they plan to transfer prior to finalizing their course of study at PCC. For complete listing of Chemistry (CH prefix) courses, see Course Descriptions at the end of the catalog

CHICANO/LATINO STUDIES

Rock Creek Campus
Building 3, Room 201
503-614-7235

DESCRIPTION

Chicano/Latino Studies is the interdisciplinary study of the social, cultural, political, economic, and historical forces that shaped and continue to shape the development of the people of Mexico and other Latin American countries in the United States over the past 300 years. Emphasis is on the experience of the Chicano/Mexican-American and other Latinos as residents and citizens in the United States and not in their countries of origin or descent.

The Chicano/Latino experience pre-dates the mid-19th century. Chicanos and other Latinos living in the United States developed a rich and extensive literature, and became involved in and made major contributions to all aspects of life in the United States.

PCC courses in this area of study are designed to transfer with full credit to the Chicano/Latino Studies Certificate program at Portland State University. They will transfer to most other colleges

and universities as elective credit. Students planning to transfer to a college or university other than Portland State University should see a counselor for additional information and guidance. See the Course Description (CHLA prefix) section of this catalog for individual courses and course prerequisites.

CIVIL ENGINEERING TECHNOLOGY

Sylvania Campus
Science Technology Building, (ST) Room 208
503-977-4163

www.pcc.edu/programs/civil-engineering

engineering@pcc.edu

CAREER AND PROGRAM DESCRIPTION

Civil engineering technicians work as part of a team involved in the planning, design, construction and management of environmental protection, transportation and public works facilities. They work for consulting engineering firms, government agencies and construction organizations.

Total required credit may vary due to three to four credit conversion. PCC comprehensive degree and certificate minimum requirements must be met.

DEGREES AND CERTIFICATES OFFERED

Associate of Applied Science Degree
- Civil Engineering Technology

One-year Certificate
- Civil Engineering Technology

PREREQUISITE AND REQUIREMENTS

All students must have an advising interview with a civil engineering technology (CET) faculty advisor. Students must place in WR 115 and have completed MTH 60 or equivalent. High school courses in chemistry and physics are helpful, but not required. Skill in keyboarding is highly recommended. A specific calculator is required.

For students not meeting these requirements, advising is available to assist in preparing for entrance into the program and to earn credits which will apply toward the certificate or degree once accepted into the program.

APPLICATION AND ACCEPTANCE

Full-time students: CET is a limited enrollment program for students seeking a certificate or degree. Qualified applicants are accepted in the order in which the application process is completed. Program starts in fall and winter terms. See a program advisor for other term starts.

Job-upgrade students: non-program students seeking to upgrade job skills are welcome to enroll in individual courses. Students must meet individual course prerequisites and complete an advising interview with a CET faculty advisor prior to enrollment. Admission is granted on a space-available basis after the needs of the full-time students have been met.

Continuing Education: Students of this program may transfer to various out-of-state institutions to pursue a Bachelor of Science degree in civil or construction engineering technology or to Oregon State University for a degree in construction engineering management. Faculty advisors will provide assistance in the selection of additional course work appropriate to each student's goals.

CIVIL ENGINEERING TECHNOLOGY AAS DEGREE

Minimum 100 credit hours which includes 92 credit hours of required program courses plus General Education credit hours and electives. Students must also meet Associate Degree Comprehensive Requirements and Associate of Applied Science Requirements.

First Term

CMET 110	Statics	4
CMET 111	Engineering Tech Orientation	4
CMET 112	Technical Algebra/Trigonometry	4
CMET 113	Engineering Technology Graphics	3

Second Term

CMET 121	Strength of Materials	4
CMET 122	Technical Engineering Physics	4
CMET 123	Technical Algebra with Analytic Geometry	4
CH 104	General Chemistry [1]	5

Third Term

CMET 131	Applied Calculus	8
CMET 227	Applied Electricity Fundamentals	2
WR 121	English Composition [2]	4
General Education [1]		3-4

CMET 280A Cooperative Education, available any term after completing term three (optional).

Fourth Term

CMET 132	Plane Surveying	3
CMET 133	Materials Technology	3
CMET 221	Environmental Systems	4
CMET 213	Fluid Mechanics	3
SP 100/111	Speech Communication [1]	3-4

Fifth Term

CMET 228	Construction Materials	3
CMET 212	Thermodynamics I	4
CMET 211	Environmental Quality	4
CMET 241	Structural Steel Drafting	3
CMET 254	CMET Seminar	1
General Education [1]		4

Sixth Term

CMET 214	Route Surveying	3
CMET 233	CET Applied Computer Aided Design	3
CMET 222	Thermodynamics II	4
CMET 223	Project Management	3
CMET 236	Structural Design	3

[1] *General Education: 16 credits are required for the AAS degree, including the speech and chemistry classes listed above. See AAS degree requirements elsewhere in this catalog.*

[2] *Writing: WR 121 is a basic competency requirement, but is not on PCC's General Education course list. (WR 115 is a prerequisite for WR 121). WR 227 is highly recommended to all students.*

CIVIL ENGINEERING TECHNOLOGY CERTIFICATE

First Term

CMET 110	Statics	4
CMET 111	Engineering Technology Orientation	4
CMET 112	Technical Algebra/Trigonometry	4
CMET 113	Engineering Technology Graphics	3

Second Term

CMET 121	Strength of Materials	4
CMET 122	Technical Engineering Physics	4
CMET 123	Technical Algebra with Analytic Geometry	4
CH 104	General Chemistry [1]	5

Third Term

CMET 131	Applied Calculus	8
CMET 227	Applied Electricity Fundamentals	2
WR 121	English Composition [2]	3-4
General Education [1]		3-4

CMET 280A Cooperative Education, available any term after completing term three (optional).

Fourth Term

CMET 132	Plane Surveying	3
CMET 133	Materials Technology	3
CMET 221	Environmental Systems	4
CMET 213	Fluid Mechanics	3
SP 100/111	Speech Communication [1]	3-4

COMPUTER APPLICATIONS AND OFFICE SYSTEMS

Cascade Campus
Moriarty Arts and Humanities Bldg (MAHB) Room 105
503-978-5317

Southeast Center
Mt. Tabor Hall, (MTH) Room 116
503-788-6295

Rock Creek Campus
Building 3, Room 201
503-614-7235

Sylvania Campus
Technology Classroom Building, (TCB) Room 312
503-977-4393 or 503-977-4287

www.pcc.edu/programs/computer-applications/

CAREER AND PROGRAM DESCRIPTION

Portland Community College offers associate degrees and certificates of study within the Computer Applications and Office Systems Department. Associate degree programs may be completed in approximately two years and the certificate programs may be completed in approximately one year, assuming the student is enrolled on a full-time basis.

Students completing the Computer Applications and Office Systems Certificate will have also completed the first year's work toward the Administrative Assistant and Administrative Assistant-Office Management associate degrees.

All courses and programs of study in CAS/OS require placement in WR 115 and MTH 20 and keyboarding by touch or CAS 121. Additional skill requirements are specified in course descriptions. Students with questions about this entry-level readiness should arrange for evaluations of their skill levels through the PCC Counseling Department. Placement examinations to assist students in selecting appropriate writing and mathematics courses are required prior to registration. Students must meet PCC's writing and math competencies prior to graduation. See academic requirements in this catalog.

Due to the rapid changes in employment opportunities, technological advances, and certifying agency regulations, these programs are subject to change.

State-approved Certificates of Completion are designed to be completed in as short as one term but less than one year. These certificates help students attain skills for targeted entry-level jobs in specific areas of Computer Applications, Office Systems, and Web Development. The credits earned will provide a convenient pathway for students who wish to continue to pursue the one-year certificates and two-year AAS degree in the program.

Important: See the course descriptions at the back of the catalog for recommended competencies for all classes. The courses below are not listed in the order in which they should be completed. It is important to see a CAS/OS faculty advisor to assist you in scheduling classes.

Total required credit may vary due to three to four credit conversion. PCC comprehensive degree and certificate minimum requirements must be met.

DEGREES AND CERTIFICATES OFFERED

Associate of Applied Science Degrees
- Computer Applications/Office Systems: Administrative Assistant
- Computer Applications/Office Systems
- Administrative Assistant: Office Management
- Web Site Development & Design

One-Year Certificates
- Computer Applications and Office Systems
- Web Site Development

Less than One-Year Certificates: Career Pathways

Career Pathways Certificates are short-term credentials (12-44 credits) which prepare individuals for entry-level employment. Career Pathways certificates may be the first certificate a student earns en route to a certificate of greater length or an Associate of Applied Science (AAS) degree. Contact the department for information.

Basic Computer Literacy: 12 credits minimum

Word Processing: 25 credits minimum

Spreadsheet: 26 credits minimum

Office Assistant: 42 credits minimum

Web Assistant I: 12-14 credits minimum

Web Assistant II: 24-26 credits minimum

ADMINISTRATIVE ASSISTANT AAS DEGREE

Minimum 90 credit hours which includes 74 credit hours of required program courses plus General Education credit hours and electives. Math 65 is required for graduation. A math competency exam is available. Students must also meet Associate Degree Comprehensive Requirements and Associate of Applied Science Requirements. A CAS/OS instructor's assistance is critical in planning your classes.

CAREER AND PROGRAM DESCRIPTION

An administrative assistant possesses advanced knowledge of popular software applications, excellent communication, and interpersonal skills. An administrative assistant is prepared to make decisions, set priorities, and establish work flow.

Students who successfully complete the AAS, Administrative Assistant Degree will develop skills and knowledge appropriate to an entry-level office position as an administrative assistant.

PREREQUISITES AND REQUIREMENTS

Complete the CAS/OS certificate. All CAS/OS courses must be passed with a "C" grade or better.

COURSE OF STUDY

The program emphasis is on using business software, communications, Internet, and emerging technologies.

These courses are not listed in the order in which they should be completed. It is critical that you see a CAS/OS instructor. Recommended course sequence will differ from campus to campus.

This degree requires a CAS/OS certificate with an additional 38 credit hours minimum of required course work as outlined below.

REQUIRED COURSES

CAS 140	Beginning Access	3
CAS 217	Intermediate Word	3
OS 280F	Cooperative Education: Administrative Assistant	4
OS 280G	Cooperative Education: Administrative Assistant Seminar	1
(Unless taken in first year)		
Writing course higher than WR 121		4
General Education		12

BA Electives - 6 credits minimum

Take any BA courses not including BA courses from CAS/OS certificate. May not include BA 131 if CAS 133 was taken.

CAS/OS electives 7 credits minimum

CAS/OS Electives

CAS 103	Introduction to Windows	1
CAS 104	Basic Internet Skills	1
CAS 106	Introduction to HTML	1
CAS 109	Beginning PowerPoint	1
CAS 111D	Beginning Web Site Creation: Dreamweaver	3
	or	
CAS 111F	Beginning Web Site Creation: FrontPage	3
CAS 112D	Intermediate Dreamweaver	3
CAS 122	Keyboarding for Speed and Accuracy	3
CAS 150	Introduction to Speech Recognition	1
CAS 171	Intermediate Excel	3
CAS 231	Publisher	3
CAS 232	Desktop Publishing: InDesign	3
CIS 178	Applied Internet Concepts	4

ADMINISTRATIVE ASSISTANT: OFFICE MANAGEMENT AAS DEGREE

Minimum 90 credit hours which includes 74 credit hours of required program courses plus General Education credit hours and electives. Math 65 is required for graduation. A math competency exam is available. Students must also meet Associate Degree Comprehensive Requirements and Associate of Applied Science Requirements. Consulting a CAS/OS instructor for assistance is critical in planning your classes.

CAREER AND PROGRAM DESCRIPTION

Coordinates various office support services and frequently supervises office support staff. Establishes short range and long range plans for the office. Requires excellent communications and organizational skills.

Students who successfully complete the AAS, Administrative Assistant Office Management degree will develop skills and knowledge appropriate to an entry-level office position as an administrative assistant leading to managerial responsibilities.

PREREQUISITES AND REQUIREMENTS

Complete the CAS/OS certificate. All CAS/OS courses must be passed with a "C" grade or better.

COURSE OF STUDY

The program emphasis is on using business software, communications, Internet, emerging technologies, and office management skills.

The courses are not listed in the order in which they should be completed. It is critical that you see a CAS/OS instructor or pick up a "Recommended Course Sequence" handout to use when planning your schedule. Recommended course sequence will differ from campus to campus.

This degree requires a CAS/OS certificate with an additional 39 credit hours of required course work as outlined below:

REQUIRED COURSES

CAS 140	Beginning Access	3
BA 211	Principles of Accounting I	3
BA 206	Management Fundamentals	3
CAS 171	Intermediate Excel	3
	or	
BA 210	Advanced Accounting Spreadsheet Applications	3

Writing course above WR 121		4
General Education		12-13
BA Electives - 6 credits minimum		
CAS/OS Electives - 6 credits minimum		

CAS/OS Electives

CAS 103	Introduction to Windows	1
CAS 106	Introduction to HTML	1
CAS 109	Beginning PowerPoint	1
CAS 111D	Beginning Web Site Creation: Dreamweaver or	3
CAS 111F	Beginning Web Site Creation: FrontPage	3
CAS 112D	Intermediate Dreamweaver	3
CAS 122	Keyboarding for Speed and Accuracy	3
CAS 150	Introduction to Speech Recognition	1
CAS 217	Intermediate Word	3
CAS 231	Publisher	3
CAS 232	Desktop Publishing: InDesign	3
CIS 178	Applied Internet Concepts	4

Business Administration Electives

BA 101	Introduction to Business	4
BA 177	Payroll Accounting	3
BA 203	Introduction to International Business	3
BA 207	Introduction to E-Commerce	4
BA 212	Principles of Accounting II	3
BA 223	Principles of Marketing	3
BA 224	Human Resource Management	3
BA 226	Business Law	4
BA 228	Computer Accounting Applications	3
BA 238	Sales	3
BA 239	Advertising	3
BA 242	Introduction to Investments	3

WEB SITE DEVELOPMENT AND DESIGN AAS DEGREE

Minimum 98 credit hours which includes required program courses plus General Education credit hours and electives. Students must also meet Associate Degree Comprehensive Requirements and Associate of Applied Science Requirements.Math 65 is required for graduation. A math competency exam is available.

CAREER AND PROGRAM DESCRIPTION

Web design and development represents a significant and growing industry segment that combines computer programming, extensive knowledge of software applications and proficiency in multimedia techniques. This program prepares students to plan, create, manage, supervise, and market web-based business operations, products, and services. These skills are transferable to a wide variety of web-related careers.

The Computer Applications/Office Systems (CAS/OS), Computer Information Systems (CIS) and Multi-Media (MM) Departments have partnered to create an Associate of Applied Science (AAS) two-year degree option. This interdisciplinary degree option combines back-end programming and development skills with front-end design skills to prepare students for a wide variety of web-related careers. Furthermore, students in this program will learn the designing, implementing, testing, and troubleshooting skills needed for web site construction and e-commerce applications, as well as incorporating multimedia techniques into web sites with audio and video applications.

In addition to foundational Web Design and Development skills, this degree has two distinct focuses for students to choose from:

Web Development – This emphasis will focus on web application development, networking, and server setup.

Web Design – This emphasis will focus on multimedia, graphical as well as layout aspects of web site design.

PREREQUISITES AND REQUIREMENTS

Students must be competent with basic composition and math skills, word processing, spreadsheet, and basic formatting skills for common office documents. Basic browser navigation, searching the web, and file management skills are also essential to be successful in this program. Recommended classes to obtain these skills: WR 121, MTH 20, CAS 104, CAS 133, CAS 170, CAS 216, OS 120, BA 101, BA 131. All CAS/OS courses applied to this certificate must be passed with a “C” grade or better.

COURSE OF STUDY

All students must complete General Education and Development and Design Requirements. Students will choose either the Development Emphasis or the Design Emphasis. Students must take all courses listed under Requirements for the chosen emphasis. They must also choose sufficient credits from the Electives section to make up the rest of the 98 credits for the degree.

Development and Design Requirements – 65 credits minimum

CAS 111D	Beginning Web Site Creation: Dreamweaver	3
CAS 112D	Intermediate Dreamweaver	3
CAS 206	Principles of HTML/XHTML	4
CAS 215	CSS and Dynamic HTML	4
CIS 120	Computer Concepts I	4*
CIS 121	Computer Concepts II	4*
CIS 178	Applied Internet Concepts	4
MM 110	Intro to Multimedia	1
MM 120	Multimedia Design	2
CAS 208	Beginning PhotoShop for the Web	3
BA 207	Introduction to E-Commerce or	4
CIS 243	E-ssentials of E-Commerce Information Systems	4
BA 223	Principles of Marketing or	3
BA 239	Advertising	3
BA 205	Solving Communication Problems with Technology or	4
MM 270	Writing for Multimedia or	3
WR 227	Technical Writing I	4
BA 101	Introduction to Business	4
CAS 280W	Cooperative Education: Web Site Development	4
MSD 279	Project Management	3
WR 121	English Composition	4

General Education (Arts & Letters)		4
General Education (Social Sciences)		4

Development Emphasis Requirements- 28 credits

CAS 213	Enhancing Web Pages with JavaScript	4
	or	
CIS 233S	Internet Web Page Scripting	4
CAS 214	Beginning ColdFusion	4
	or	
CIS 234S	Web Application Development Using .NET	4
	or	
CIS 195P	PHP Web Development I	4
CIS 122	Software Design	4
CIS 133B	Introduction to Visual Basic .NET Programming	4
	or	
CIS 133J	Java Programming I	4
CIS 125D	Database Application Development I	4
CIS 287I	Web Server Administration	4
CIS 179	Data Communication Concepts I	4

Design Emphasis Requirements- 27 credits

CAS 175	Introduction to Flash	3
ART 115	Basic Design	3*
ART 116	Basic Design	3*
MM 130	Multimedia Graphic Video and Audio Production	3
MM 140	Multimedia Authoring I	3
MM 160	Marketing Yourself as a Multimedia Professional	2
MM 220	Multimedia Design II	3
MM 230	Graphics for Multimedia	4
MM 231	Vector Graphics & Animation for the World Wide Web	3

Development and Design Electives - Choose classes to make 98 credits total

CIS 275	Data Modeling and SQL Introduction	4
CIS 276	Advanced SQL	4
CIS 233B	Intermediate Visual Basic .NET Programming	4
	or	
CIS 233J	Java Programming II	4
CIS 234B	Advanced Visual Basic .NET Programming	4
	or	
CIS 234J	Java Programming III	4
ART 140	Digital Photography	3
ART 197	Artist's Skills/Practical Issues	3
MM 235	Digital Video Editing and Production	3
MM 236	Internet Delivery of Digital Video and Audio Files	3
MM 245	Internet Delivery Methods	3
CAS 110	Introduction to Web Graphics Fireworks	1
CAS 246	Integrated Computer Projects	4

Any other course in either emphasis area

** Up to 2 of these classes may be used toward General Education requirements.*

COMPUTER APPLICATIONS/OFFICE SYSTEMS CERTIFICATE

CAREER AND PROGRAM DESCRIPTION

The Computer Applications and Office Systems Certificate is intended to meet business career needs for entry-level administrative assistants, secretaries, receptionists, file clerks and data entry personnel. Workers in these positions may perform a wide variety of duties such as working with office technology to produce and file business documents, greeting the public, planning and scheduling, accounting, and creating web pages.

Students who successfully complete the one-year certificate, 52 credits, will develop skills and knowledge appropriate to basic entry-level office work.

PREREQUISITES AND REQUIREMENTS

Placement in WR 115 and in MTH 20 and keyboarding by touch or CAS 121. All CAS/OS courses must be passed with a "C" grade or better.

COURSE OF STUDY

Programs are located at Cascade, Rock Creek and Sylvania campuses. The program emphasis is on use of computers, document preparation and editing, filing, and use of the Internet.

These courses are not listed in the order in which they should be completed. It is critical that you see a CAS/OS instructor or pick up a "Recommended Course Sequence" handout to use when planning your schedule. Recommended course sequence will differ from campus to campus.

REQUIRED COURSES

CAS 133	Basic Computer Skills/Microsoft Office	3-4
	or	
CAS	Elective	
CAS 216	Beginning Word	3
CAS 170	Beginning Excel	3
MTH 30	Business Math	4
CAS 123	Production Keyboarding	3
CAS 246	Integrated Computer Projects	4
OS 120	Business Editing Skills	4
OS 131	10-Key on Calculators	1
OS 240	Filing & Records Management	4
OS 245	Office Systems and Procedures	4
BA 111	Introduction to Accounting	3
BA 205	Solving Communication Problems with Technology	4
BA 285	Human Relations-Organizations	3
WR 121	English Composition	4
General Education		3-4

CAS/OS Electives 3 credits minimum

CAS 103	Introduction to Windows	1
CAS 104	Basic Internet Skills	1
CAS 106	HTML	1
CAS 109	Beginning PowerPoint	1
CAS 111D	Beginning Web Site Creation:Dreamweaver	3
	or	
CAS 111F	Beginning Web Site Creation: FrontPage	3
CAS 122	Keyboarding for Speed and Accuracy	3
CAS 140	Beginning Access	3
CAS 150	Introduction to Speech Recognition	1

CAS 171	Intermediate Excel	3
CAS 217	Intermediate Word	3
CAS 231	Publisher	3
CAS 232	Desktop Publishing: InDesign	3
OS 280F	Cooperative Education: Administrative Assistant	1-2

Minimum 15 CAS/OS credits completed before enrolling

OS 280G Cooperative Education: Administrative Assistant: Seminar 1

Minimum 15 CAS/OS credits completed before enrolling. Concurrent enrollment in OS 280F

WEB SITE DEVELOPMENT CERTIFICATE

CAREER AND PROGRAM DESCRIPTION

A Web Site Development Certificate is intended to meet business career needs for entry-level positions that assist web site developers, HTML programmers, web designers, web producers, and web technologists. Certificate completers will be able to create functional web sites and assist in the production of professional dynamic web sites. Administrative support personnel and entrepreneurs will gain the necessary skills to develop and manage departmental and personal web sites.

Students who successfully complete the Web Site Development Certificate, 51 credits, will develop skills and knowledge appropriate to an entry-level position in a web-related career. Students will also gain “hands-on” experience of the applications used to produce professional web sites.

PREREQUISITES AND REQUIREMENTS

Students must be competent with basic composition and math skills, word processing, spreadsheet, and basic formatting skills for common office documents. Basic browser navigation, searching the web, and file management skills are also essential to be successful in this program. Recommended classes to obtain these skills: WR 121, MTH 20, CAS 104, CAS 133, CAS 170, CAS 216, OS 120, BA 101, BA 131. All CAS/OS courses applied to this certificate must be passed with a “C” grade or better.

COURSE OF STUDY

Programs are located at Cascade, Rock Creek, and Sylvania campuses. The program is targeted to students and working professionals who wish to specialize in web site creation and maintenance.

These courses are not listed in the order in which they should be completed. It is critical that you see a CAS/OS instructor or pick up a “Recommended Course Sequence” planning sheet to use when planning your schedule. Recommended course sequences will differ from campus to campus.

Required Courses - Minimum 39 credits

CAS 208	Beginning Photoshop for the Web	3
CAS 111D	Beginning Web Site Creation: Dreamweaver	3
CAS 112D	Intermediate Dreamweaver	3
CAS 175	Introduction to Flash	3
CAS 206	Principles of HTML/XHTML	4
CAS 215	CSS and Dynamic HTML	4
CAS 280W	Cooperative Education: Web Site Development	2
CIS 178	Applied Internet Concepts	4
BA 207	Introduction to E-Commerce	4
	or	
CIS 243	Essentials of E-Commerce Information Systems	4
MM 110	Intro to Multimedia	1
MM 120	Multimedia Design	2
BA 205	Solving Communication Problems with Technology	4
	or	
MM 270	Writing for Multimedia	3
BA 223	Principles of Marketing	3
	or	
BA 239	Advertising	3

Restricted Electives - Total to equal 12 credits

CAS 110	Introduction to Web Graphics Fireworks	1
CAS 111F	Beginning Web Site Creation: FrontPage	3
CAS 213	Enhancing Web Pages with JavaScript	4
CAS 214	Beginning ColdFusion	4
CAS 246	Integrated Computer Projects	4
MM 130	Multimedia Graphics Video &Audio Production	3
MM 140	Multimedia Authoring I	3
MM 230	Graphics for Multimedia	4
MM 231	Vector Graphics & Animation for the World Wide Web	3

BASIC COMPUTER LITERACY CERTIFICATE: CAREER PATHWAYS

CAS 122	Keyboarding for Speed and Accuracy	3*
CAS 133	Basic Computer Skills	4
CAS 216	Beginning Word	3
CAS 170	Beginning Excel	3

Total Credits – 12 minimum

**If a student already has knowledge of basic computer skills then take a CAS Elective Class from One-year Certificate list.*

WORD PROCESSING CERTIFICATE: CAREER PATHWAYS

CAS 122	Keyboarding for Speed and Accuracy	3
CAS 216	Beginning Word	3
OS 120	Business Editing Skills	4
CAS 123	Production Keyboarding	3
CAS 217	Intermediate Word	3
CAS 170	Beginning Excel	3
CAS 231	Publisher	3
WR 121	English Composition or higher	3-4

Total Credits - 25 minimum

SPREADSHEET CERTIFICATE: CAREER PATHWAYS

CAS 122	Keyboarding for Speed and Accuracy	3
OS 131	10-Key on Calculator	1
CAS 170	Beginning Excel	3
CAS 171	Intermediate Excel	3
CAS 140	Beginning Access	3

CAS 216	Beginning Word	3
	or	
CAS 217	Intermediate Word	
BA 111	Introduction to Accounting	3
MTH 30	Business Mathematics	4
WR 121	English Composition or higher	3-4

Total Credits - 26 minimum

OFFICE ASSISTANT CERTIFICATE: CAREER PATHWAYS

CAS 216	Beginning Word	3
CAS 217	Intermediate Word	3
CAS 170	Beginning Excel	3
	or	
CAS 171	Intermediate Excel	3
CAS 123	Production Keyboarding	3
OS 120	Business Editing Skills	4
OS 240	Filing & Records Management	4
CAS 109	Beginning PowerPoint	1
OS 245	Office Systems and Procedures	4
CAS 246	Integrated Computer Projects	4
CAS 140	Beginning Access	3
WR 121	English Composition or higher	3-4
BA 205	Solving Com. Problems w/ Tech	4
OS 280F	Co-Op Ed: Administrative Assistant	2
OS 280G	Co-Op Ed: Adm. Assistant Seminar	1

Total Credits - 42 minimum

WEB ASSISTANT I CERTIFICATE: CAREER PATHWAYS

CAS 111D	Beg Web Site Creation: Dreamweaver	3
CAS 112D	Intermediate Dreamweaver	3
CAS 206	Principles of HTML/XHTML	4
CAS 208	Beginning Photoshop for the Web	3
	or	
CAS 110	Intro. to Web Graphics Using Fireworks	1
CAS 280W	Co-Op Ed: Web Site Development	1

Total Credits 12-14

WEB ASSISTANT II CERTIFICATE: CAREER PATHWAYS

CAS 111D	Beg Web Site Creation: Dreamweaver	3
CAS 112D	Intermediate Dreamweaver	3
CAS 213	Enhance Web Pages w/ JavaScript	4
CAS 206	Principles of HTML/XHTML	4
CAS 175	Introduction to Flash	3
CAS 208	Beginning Photoshop for the Web	3
	or	
CAS 110	Intro. to Web Graphics Using Fireworks	1
CAS 214	Beginning Cold Fusion	4
CAS 280W	Co-Op Ed: Web Site Development	2

Total Credits 24-26

COMPUTER INFORMATION SYSTEMS

Sylvania Campus
Technology Classroom Building, (TCB) Room 312
503-977-4287 or 503-977-4393

www.pcc.edu/programs/computer-info/

CAREER AND PROGRAM DESCRIPTION

A wide variety of career opportunities are available to the computer information systems professional. The traditional career programmer and analyst are responsible for all phases of program design and development. Another career option is that of microcomputer specialist, who is involved in application development, troubleshooting, technical support and end user training. Local area network environments offer career opportunities in network administration. Systems analysis and database design are an integral part of most jobs involving computer information systems.

Students in the program are able to custom build a CIS Program to meet their career objectives. The student is expected to work with a CIS Department advisor in planning term by term class schedules leading toward fulfillment of all program requirements. Students should contact a CIS Department advisor at the earliest opportunity. Students, who plan to work toward a bachelor degree at a four-year institution, should contact the college or university of their choice to obtain specific information on the issue of transferability. Many of the courses in the CIS Program are transferable to four-year colleges or universities. PCC has articulation agreements with some local colleges for the CIS Program. Contact a CIS Department advisor for current information.

Total required credit may vary due to three to four credit conversion. PCC comprehensive degree and certificate minimum requirements must be met.

DEGREES AND CERTIFICATES OFFERED

Associate of Applied Science Degree
- Computer Information Systems
- Computer Information Systems, Network Administration

One-Year Certificate
- Computer Information Systems
- CIS: E-Commerce

Less than One-Year Certificates: Career Pathways

Career Pathways Certificates are short-term credentials (12-44 credits) which prepare individuals for entry-level employment. Career Pathways certificates may be the first certificate a student earns en route to a certificate of greater length or an Associate of Applied Science (AAS) degree. Contact the department for information.

Windows Network Security Certificate-36cr *(Pending State Approval)*

Linux/Unix Network Security-28cr *(Pending State Approval)*

Network Administration-16cr *(Pending State Approval)*

Microsoft Server Administration-24cr *(Pending State Approval)*

Linux Server Administration-16cr *(Pending State Approval)*

Web Application Development-16cr *(Pending State Approval)*

Oracle and SQL-12cr *(Pending State Approval)*
Java Application Programming-16cr *(Pending State Approval)*
Database Design and SQL-12cr *(Pending State Approval)*
VB.Net Application Programming-16 *(Pending State Approval)*

PREREQUISITES AND REQUIREMENTS

In order to follow the recommended sequence of courses, students should be ready to enter WR 121 and MTH 95 (readiness can be demonstrated through placement tests or documented previous college level work). Those students with insufficient background to enter at this level may need to extend the time it takes to complete the program. Students with limited typing skills are strongly advised to take CAS 121A Beginning Keyboarding. CIS Department advisors will provide information regarding options to those students who may need to take preparatory course work.

COMPUTER INFORMATION SYSTEMS AAS DEGREE

Minimum 92 credit hours which includes 78 credit hours of required CIS courses plus General Education credit hours and electives. Students must also meet Associate Degree Comprehensive Requirements and Associate of Applied Science Requirements.

COURSE OF STUDY

First Term

CIS 120	Computer Concepts I	4
WR 121	English Composition	3-4
Business Elective [6]		3-4
General Education Elective [2]		3-4

Second Term

CIS 121	Computer Concepts II	4
CIS 122	Software Design	4
CIS 179	Data Communication Concepts I	4
Business Elective** [6]		3-4

Third Term

WR 227	Technical Writing I** [1]	3-4
Programming Elective [4]		4
CS/CIS	140 Operating Systems [3]	4
CIS/CS Elective [5]		4

Fourth Term

CIS 275	Data Modeling and SQL	4
CIS/CS Elective [5]		4
Programming Elective [4]		4
General Education Elective		3-4

Fifth Term

CIS 244	Systems Analysis	4
CIS/CS Electives [5]		8
General Education Elective		3-4

Sixth Term

CIS/CS	Electives [5]	12
General Education Elective		3-4

***You can swap Business Elective with WR 227.*

[1] *WR 122 can substitute for WR 227.*

[2] *Placement at MTH 111 College Algebra or higher is required for graduation. It is strongly recommended that eight credits of General Education be taken in the math area.*

[3] *CIS 140M, CS 140U, CIS 240M or CIS 240L*

[4] *Programming electives must be a two-term sequence from the approved list (see below).*

[5] *CIS Electives - 28 credit hours of CIS electives, 12 must be at the 200 level.*

[6] *Choose from business elective course list (see below).*

Programming Sequence Elective Course List

CS 161 and CS 162 Computer Science sequence
CIS 133B and CIS 233B Visual Basic.NET sequence
CIS 133J and CIS 233J JAVA Programming sequence

CIS-CS Electives Course List

CIS 125D	Database Applications Development I	4
CIS 133B	Introduction to Visual Basic.NET Programming	4
CIS 133J	JAVA Programming I	4
CIS 140M	Operating Systems I: Windows	4
CIS 140S	Perl Script Programming	1
CIS 145	Microcomputer Hardware	4
CIS 178	Applied Internet Concepts	4
CIS 179	Data Communications I	4
CIS 185	Computer and Ethics	3
CIS 188	Introduction to Wireless Networking	4
CIS 189	Wireless Security	4
CIS 195P	PHP Web Development I	4
CIS 225	End User Support	4
CIS 233B	Intermediate Visual Basic.NET Programming	4
CIS 233J	JAVA Programming II	4
CIS 233S	Internet Web Page Scripting	4
CIS 234B	Advanced Visual Basic.NET Programming	4
CIS 234J	Java Programming III	4
CIS 234N	C# Programming	4
CIS 234S	Web Application Development	4
CIS 240L	Linux Installation and Configuration	4
CIS 240M	Managing a Windows Server Environment	4
CIS 244	Systems Analysis	4
CIS 246	Structured Systems Design	4
CIS 275	Data Modeling and SQL	4
CIS 276	Advanced SQL	4
CIS 277O	Advanced Database Concepts – Oracle	4
CIS 277T	Business Intelligence App Dev	4
CIS 278	Data Communication Concepts II	4
CIS 279L	Linux Network Administration	4
CIS 280D	CE: Application Development [1]	4
CIS 284	Network Security	4
CIS 285	Security Tools	4
CIS 286	Computer Forensics	4
CIS 287I	Web Server Administration	4
CIS 288L	Linux Security	4
CIS 288M	Microsoft Network Administration	4
CIS 289M	Microsoft Active Directory Administration	4
CIS 295P	PHP Web Development II	4

CS 133U	Introduction to C	4
CS 140U	Introduction to UNIX	4
CS 160	Exploring Computer Science	4
CS 161	Computer Science I	4
CS 162	Computer Science II	4
CS 200	Computer Systems I	4
CS 201	Computer Systems II	4
CS 260	Data Structures	4
CS 261	Programming Systems	4
EET 178	PC Architecture for Technician	4

[1] *Normally, a maximum of four CIS 280D credits can be applied toward the CIS degree. Additional credits, up to a maximum of eight, may be applied toward the degree, but must be approved by a CIS Department advisor.*

Business Electives Course List

BA 203	Introduction to International Business	3
BA 206	Management Fundamentals	3
BA 211	Principles of Accounting I	3
BA 212	Principles of Accounting II	3
BA 213	Principles of Accounting III	3
BA 215	Basic Cost Accounting	3
BA 222	Financial Management	3
BA 223	Principles of Marketing	3
BA 226	Business Law I	4
BA 227	Business Law II	3
BA 234	International Marketing	3
BA 240	Governmental Accounting	3
BA 242	Introduction to Investments	3
BA 244	Introduction to Records Management	3
BA 250	Small Business Management	3
BA 251	Office Management	3
EC 201	Principles of Economics: Microeconomics	4
EC 202	Principles of Economics: Macroeconomics	4
EC 203	Principles of Economics: Application to Economic Issues	3

CIS: NETWORK ADMINISTRATION AAS DEGREE

CAREER PROGRAM AND DESCRIPTION

Students prepare for a career in network administration with classes in the Computer Information Systems Department including data communications, Windows and Linux network administration, network security and more. Students earning this degree will be well on their way to several network administration certifications from Microsoft and Comp TIA.

COURSE OF STUDY

CIS 120	Computer Concepts I	4
CIS 121	Computer Concepts II	4
CIS 122	Software Design	4
CIS 140M	Operating Systems I: Microsoft	4
CS 140U	Introduction to Unix	4
CIS 244	Systems Analysis	4
CIS 179	Data Communications Concepts I	4
CIS 145	Microcomputer Hardware	4
CIS/CS	Programming Elective	4
WR 121	English Composition	3-4
WR 227	Technical Report Writing	3-4
Business Electives		6-8

Note: See footnotes under CIS AAS degree.

Elective Courses

General Education Electives 1	8
CIS Network degree electives	28
Total Credits	92

Approved Network degree electives

CIS 178	Applied Internet Concepts	4
CIS 188	Introduction to Wireless Networking	4
CIS 189	Wireless Security	4
CIS 240L	Linux Installation and Configuration	4
CIS 240M	Managing a Windows Server Environment	4
CIS 278	Data Communications Concepts II	4
CIS 279L	Linux Network Administration	4
CIS 280D	CE: Application Development	1-4
CIS 285	Security Tools	4
CIS 286	Computer Forensics	4
CIS 288L	Linux Security	4
CIS 288M	Microsoft Network Administration	4
CIS 289M	Microsoft Active Directory Administration	4

COMPUTER INFORMATION SYSTEMS ONE-YEAR CERTIFICATE

CAREER PROGRAM AND DESCRIPTION

Computer information systems one-year certificate, minimum 47 credits as outlined in the suggested sequence of courses, is developed and utilized by individuals in a wide variety of job titles (corporate executives, department managers, small business owners, secretaries, accountants, etc.) with various job responsibilities. Typical computer information systems functions include applications design and development, software and hardware evaluation and selection, software integration, system maintenance, data management, security and integrity, documentation, training and technical support.

This program is designed to prepare and upgrade you for career positions involving the evaluation, selection and use of computer hardware and software packages. It also enables students in other disciplines to acquire skills in using the computer as a managerial, organizational and analytical tool. The one-year curriculum provides a foundation in computer system concepts with an emphasis in microcomputer applications and practical experience. All required courses in this program apply toward the credits needed to obtain an Associate of Applied Science Degree in Computer Information Systems or AAS Network Administration options.

You are expected to work with an advisor in planning term by term schedules leading toward fulfillment of all program requirements. Contact a CIS Department advisor at the earliest opportunity.

PREREQUISITES AND REQUIREMENTS

Some classes in the program will require prospective students to show, by college transcripts or PCC placement examination, that they are prepared to take WR 121 and MTH 95. Students with

limited typing skills are strongly advised to take CAS 121A.

Students should consult with a CIS Department advisor prior to enrolling in Computer Information Systems courses.

COURSE OF STUDY

First Term

CIS 120	Computer Concepts I	4
WR 121	English Composition	3-4
MTH 95	Intermediate Algebra	4
Business Elective [1]		3-4
General Education elective from either Arts and Letters, or Social Science		3-4

Second Term

CIS 121	Computer Concepts II	4
CIS 122	Software Design	4
CS/CIS140	Operating Systems [2]	4
CIS-CS	Elective	4

Third Term

WR 227	Technical Writing I [3]	4
CIS-CS	Electives	4

[1] *See business elective courses list at the end of the AAS -CIS degree requirements.*

[2] *CIS 140M or CS 140U*

[3] *WR 122 can substitute for WR 227*

Electives

From CIS-CS Elective course list		4
or		
DRF 126	Introduction to AutoCAD	3
or		
CAS 216	Beginning Word: WIN	3

Optional cooperative education work experience placements are available. For more information, see a CIS Department advisor.

COMPUTER INFORMATION SYSTEMS: E-COMMERCE CERTIFICATE

CAREER PROGRAM AND DESCRIPTION

A computer information systems: E-Commerce certificate, minimum 47 credit hours as outlined, is intended to meet technical career needs in business and industry for positions such as web server administrator, webmaster, E-Commerce manager, HTML programmer, help desk/user support, web technologist, web developer, web designer/programmer and web producer. Specialists in these positions will be able to administer and manage web servers and design and program transaction-based web sites that interface to databases. They will be able to communicate effectively and use key programming, publishing, database and transaction tools. With both a business and technical perspective, they will be able to identify E-Commerce issues such as telecommunications, security and scalability.

The program is targeted to students and working professionals who wish to specialize in web server and database programming and administration as they relate to E-Business and E-Commerce.

These courses are not listed in the order in which they should be completed. The student is expected to work with a CIS advisor in planning term by term schedules leading toward fulfillment of all program requirements.

PREREQUISITES AND REQUIREMENT

Students must have a strong CIS background before beginning this certificate. This may be accomplished by the CIS AAS degree or by equivalent industry experience.

COURSE OF STUDY

WR 227	Technical Writing I	4
CIS 225	End User Support	4
CIS 275	Data Modeling and SQL	4
CIS 244	Systems Analysis	4
CIS 243	E-Commerce Information Systems	4
CIS 280D	CE: Application Development (Co-op)	1

Business Elective - Choose one:

BA 203	Introduction to International Business	3
BA 206	Management Fundamentals	3
BA 223	Principles of Marketing	3
BA 226	Business Law I	4

Gen Ed Elective from Arts and Letters or Social Sciences 4

Select 20 credit hours from one of two the tracks listed below.

Note that at least 12 of the 20 credits must be CIS courses.

DESIGN AND DEVELOPMENT TRACK

CIS programming and database electives Java or VB.NET (non .NET courses not accepted)

CIS 233B	Intermediate VB.NET	4
CIS 234B	Advanced VB.NET	4
CIS 233J	Intermediate Java Programming	4
CIS 234J	Advanced Java Programming	4
CIS 233S	Internet Web Page Scripting	4
CIS 234S	Web Application Development .NET	4
CIS 276	Advanced SQL	4
CIS 277O	Advanced Database Concepts – Oracle	4
CIS 277T	Business Intelligence App Dev	4
CIS 280D	CE: Application Development	1-2

Design and Web Development electives:

Note: Maximum of eight credits will apply.

CAS 110	Introduction to Web Graphics	1
CAS 112D	Intermediate Web Site Creation	3
CAS 175	Introduction to Flash	4
CAS 213	Enhancing Web Pages with Javascript	3
MM 130	Graphics Video & Audio Production	3
MM 230	Graphics for Multimedia	4

ADMINISTRATION TRACK

CIS 179	Data Communication Concepts I	4

CIS 240L	Linux Installation and Configuration	4
CIS 240M	Managing a Windows Server Environment	4
CIS 279L	Linux Network Administration	4
CIS 280D	CE: Application Development	1-4
CIS 287I	Web Server Administration	4
CIS 288L	Linux Security	4
CIS 288M	Microsoft Active Directory Administration	4
CIS 289M	Microsoft Network Administration	4

DATABASE DESIGN AND SQL: CAREER PATHWAYS

CIS 125D	Database Application Development	4
CIS 275	Data Modeling and SQL Introduction	4
CIS 276	Advanced SQL	4

Total Credits – 12 minimum

MICROSOFT SERVER ADMINISTRATION: CAREER PATHWAYS

CS 140M	Operating Systems I: Microsoft	4
CIS 179	Data Communication Concepts I	4
CIS 240M	Managing a Windows Server Environment	4
CIS 288M	Microsoft Network Administration	4
CIS 287M	Windows Network Security	4
CIS 289M	Microsoft Active Directory Administration	4

Total Credits – 24 minimum

LINUX/UNIX SERVER NETWORK SECURITY: CAREER PATHWAYS

CS 140U	Introduction to Unix	4
CIS 179	Data Communication Concepts I	4
CIS 189	Wireless Networking Security	4
CIS 240L	Linux Installation and Configuration	4
CIS 279L	Linux Network Administration	4
CIS 284	Network Security	4
CIS 286	Computer Forensics	4

Total Credits – 28 minimum

WINDOWS NETWORK SECURITY: CAREER PATHWAYS

CIS 140M	Operating Systems I: Microsoft	4
CIS 179	Data Communication Concepts I	4
CIS 189	Wireless Networking Security	4
CIS 240M	Managing a Windows Server Environment	4
CIS 284	Network Security	4
CIS 286	Computer Forensics	4
CIS 287M	Windows Network Security	4
CIS 288M	Windows IP networks & services	4
CIS 289M	Windows Active Directory	4

Total Credits – 36 minimum

JAVA APPLICATION PROGRAMMING: CAREER PATHWAYS

CIS 122	Software Design	4
CIS 133J	Java programming I	4
CIS 233J	Java programming II	4
CIS 234J	Java Programming III	4

Total Credits – 16 minimum

NETWORK ADMINISTRATION: CAREER PATHWAYS

CIS 179	Data Communication Concepts I	4
CIS 278	Data Communication Concepts II	4
CIS 188	Introduction to Wireless Networking	4
CIS 189	Wireless Networking Security	4

Total Credits – 16 minimum

VB.NET APPLICATION PROGRAMMING: CAREER PATHWAYS

CIS 122	Software Design	4
CIS 133B	Introduction to VisualBasic.NET Programming	4
CIS 233B	Introduction Visual Basic.NET Programming	4
CIS 234B	Advanced Visual Basic.NET Programming	4

Total Credits – 16 minimum

LINUX SERVER ADMINISTRATION: CAREER PATHWAYS

CS 140U	Introduction to UNIX	4
CIS 179	Data Communication Concepts I	4
CIS 240L	Linux Installation and Configuration	4
CIS 279L	Linux Network Administration	4

Total Credits – 16 minimum

ORACLE AND SQL: CAREER PATHWAYS

CIS 276	Advanced SQL	4
CIS 277O	Advanced Database Concepts – Oracle	4
CIS 277T	Business Intelligence Application Development	4

Total Credits – 12 minimum

WEB APPLICATION DEVELOPMENT: CAREER PATHWAYS

CIS 195P	PHP Web Development I	4
CIS 233S	Internet Web Page Scripting	4
CIS 234S	Web Application Development	4
CIS 295P	PHP Web Development II	4

Total Credits – 16 minimum

COMPUTER SCIENCE

Rock Creek Campus
Building 2, Room 230
503-614-7331 or 503-614-7604

Sylvania Campus
Technology Classroom Building, (TCB) Room 312
503-977-4393 or 503-977-4287

www.pcc.edu/programs/computer-science/

DESCRIPTION

Computer science is the study of information systems, their representation, architecture, and implementation, used for a variety of practical and theoretical purposes. Computer science addresses methods by which data is accessed, stored, and retrieved, which include areas such as representational computation, programming languages, algorithmic modeling, and software design, testing and development. Computer scientists apply their knowledge of mathematics, physics, and logic to solve a variety of problems using diverse technology.

Students will learn practical methods of reasoning, problem-solving, and theoretical analysis to develop their skills in computer science. While exploring general courses in programming, systems analysis, mathematics, and physics, students apply their skills to core challenges within the field. Students may also complete courses for an associate degree in preparation for a bachelor's or advanced degree or update skills to industry standards. Students wishing to transfer credits must check the specific requirements of the college/university to which they intend to transfer. Articulation agreements exist with Portland State University, Oregon State University, and the Oregon Institute of Technology for the two-year transfer degree. See the Course Description (CS prefix) section of this catalog for individual computer science courses and their prerequisites.

CRIMINAL JUSTICE

Cascade Campus,
Public Service Education Building, (PSEB) Room 121
Program Advisors: Jim Parks 503-978-5236,
Ken Moore, 503-978-5629, office, 503-978-5430

www.pcc.edu/programs/criminal-justice/

CAREER AND PROGRAM DESCRIPTION

Persons in the criminal justice field may work in a municipal, county, state or federal law enforcement organization or corrections system. Other positions requiring law enforcement education are available at all levels of government and in private industry. Duties range from crime prevention programs to investigative and uniform patrols. Technical skills such as data processing and criminalistics are used to support overall criminal justice operations.

Total required credit may vary due to three to four credit conversion. PCC comprehensive degree and certificate minimum requirements must be met.

DEGREES AND CERTIFICATES OFFERED

Associate of Applied Science Degree

Criminal Justice

One-Year Certificate

Juvenile Corrections

Less than One-Year Certificate: Career Pathway

Career Pathways Certificates are short-term credentials (12-44 credits) which prepare individuals for entry-level employment. Career Pathways certificates may be the first certificate a student earns en route to a certificate of greater length or an Associate of Applied Science (AAS) degree. Contact the department for information.

CRIMINAL JUSTICE AAS DEGREE

Minimum 93 credit hours which includes 65 credits of required program courses, 12 credits of Criminal Justice electives, and 16 General Education credits. Students must also meet Associate Degree Comprehensive Requirements and Associate of Applied Science Requirements. Students are asked to consult a program advisor for assistance in planning General Education elective courses.

Students who plan to transfer to a four-year institution should contact that institution for transfer information, as well as consult a program advisor.

COURSE LIST

CAS 133	Basic Computer Skills/MS Office	4
CJA 100	Introduction to Professions in Criminal Justice	3
CJA 101	Cultural Diversity in Criminal Justice Professions	3
CJA 111	Introduction to Criminal Justice System Police	3
CJA 112	Introduction to Criminal Justice System – Courts	3
CJA 113	Introduction to Criminal Justice System – Corrections	3
CJA 114	Introduction to Juvenile Process	3
CJA 210	Arrest, Search, & Seizure	3
CJA 211	Civil Liability & Ethical Issues for Criminal Justice Practitioners	3
CJA 212	Criminal Law	3
CJA 225	Criminal Justice & The United States Constitution	3
CJA 243	Narcotics & Dangerous Drugs	3
PS 203	State and Local Government	4
PSY 239	Introduction to Abnormal Psychology	4
SOC 206	General Sociology: Social Problems Conformity & Deviance	4
SP 100	Introduction to Speech Communication	4
	or	
SP 111	Public Speaking	4
WR 121	English Composition	4
WR 122	English Composition	4
CJA 230	Police Report Writing	4

Criminal Justice Electives - 12 credits required

CJA 213	Evidence	3
CJA 214	Criminal Investigation	3
CJA 215	Forensic Science & Criminalistics	3
CJA 217	Interviewing & Interrogation	3
CJA 218	Criminal Justice Perspectives of Violence & Aggression	3
CJA 280A	CE: Criminal Justice	3
CJA 228	Organized Crime and Terrorism	3
CJA 244	Tactical Communication in Critical Incidents	3
CJA 245	Search Warrant Preparation	3
CJA 260	Introduction to Correctional Institutions	3
CJA 261	Introduction to Probation & Parole	3
CJA 262	Introduction to Correctional Treatment	3
CJA 263	Introduction to Corrections Casework	3
CJA 264	Introduction to Corrections Administration	3

PREREQUISITES

Students must pass all prerequisites with a grade of "C" or higher in order to enroll in any CJA courses with a "200" or higher designator.

JUVENILE CORRECTIONS CERTIFICATE

Successful completion of the 54 credit hours of required courses.

CAREER AND PROGRAM DESCRIPTION

The statewide juvenile corrections one-year certificate was developed at the request of the Oregon Youth Authority (OYA) to provide entry-level workers to fill positions in the juvenile correction facilities. Students will have an understanding of the psychological, developmental and sociological issues which are present within the juvenile correctional system. Students who possess this certificate will automatically score 100 on the initial written test for the position of Group Life Coordinator 2.

COURSE OF STUDY

The courses in this certificate program have been designated in conjunction with both the needs and the authority of the OYA.

REQUIRED COURSES

CJA 101	Cultural Diversity in Criminal Justice Professions	3
CJA 113	Introduction to Criminal Justice Systems Corrections	3
CJA 114	Introduction to Juvenile Process	3
CJA 263	Introduction to Corrections Casework	3
CJA 280A	CE: Criminal Justice [1]	3
PSY 201 or PSY 201A	Introduction to Psychology	4
PSY 202 or PSY 202A	Introduction to Psychology	4
PSY 222	Family and Intimate Relationships	4
PSY 239	Introduction to Abnormal Psychology	4
SOC 206	General Sociology: Social Problems - Conformity & Deviance	4
AD 101	Alcohol Use and Addiction [2]	3
AD 150	Basic Counseling and Addiction [2]	3
AD 151	Basic Counseling Skills Mastery [2]	1
WR 121	English Composition	4
CAS 133	Basic Computer Skills/MS Office	4
MTH 60	Introductory Algebra - First Term	4

[1]*Department permission required prior to registration.*

[2]*Students must contact Susan Garber at 503-978-5245 in order to enroll in AD courses.*

CORRECTIONS TECHNICIAN CERTIFICATE: CAREER PATHWAY

CAREER AND PROGRAM DESCRIPTION

This certificate will give students the skills and knowledge needed for entry-level technical work in a correctional setting. This certificate identifies the first stop in an educational pathway for the one-year Juvenile Corrections Certificate and the AAS in Criminal Justice degree. This certificate provides a credential to students who want to work in the field as they continue on their educational pathways. Almost all of the courses can be used for both the current AAS degree and Juvenile Corrections Certificate should the student choose to continue their education. It can also be marketed in the catalog.

COURSE OF STUDY

CJA 100	Introduction to Criminal Justice Professions	3
CJA 101	Cultural Diversity in Crim Justice Professions	3
CJA 113	Introduction to Criminal Justice System-Corrections	3
CJA 114	Introduction to Juvenile Process	3
CJA263	Introduction to Corrections Casework	3
CJA 280A	Cooperative Education: Criminal Justice	3
CAS 133	Basic Computer Skills/MS Office	4
WR 121	English Composition	4

CULINARY ASSISTANT TRAINING

Sylvania Campus
Science & Technology Building, (ST) Room 229
503-977-4305

www.pcc.edu/pcc/pro/progs/hr/

CAREER AND PROGRAM DESCRIPTION

The Culinary Assistant Program is designed for students with disabilities who have significant barriers to employment. Students will develop entry level job skills in food service and custodial service. The program also focuses on the acquisition of work habits and behaviors necessary to maintain competitive employment.

Total required credit may vary due to three to four credit conversion. PCC comprehensive degree and certificate minimum requirements must be met.

DEGREES AND CERTIFICATES OFFERED

One-Year Certificate
- Culinary Assistant

PREREQUISITES AND REQUIREMENTS

An interview with the program coordinator is required prior to enrollment. Qualified students must be 18 years or older with a documented disability, have the ability to work semi-independently, willing to learn and improve.

COURSE OF STUDY

Students can enroll at the beginning of each fall, winter or spring term of a year. Students work with PCC food service or physical plant staff to learn the specific job skills in their work area. Individualized training and assistance in maintaining positive work habits are provided by the program coordinator. Classroom sessions focus on good work ethics, positive attitude, appropriate work behaviors, professionalism, etc. Developing job success skills, specific job-related knowledge (such as food safety, job safety, money handling, etc), as well as job search technique. The program coordinator also provides six hours of individualized job development activities with each student.

CULINARY ASSISTANT TRAINING CERTIFICATE

COURSES

HR 107	Culinary Assistant Training	15
HR 108	Culinary Assistant Training	15
HR 109	Culinary Assistant Training	15

DANCE

Sylvania Campus
Communications Technology Building, (CT) Room 216
503-977-4264

Cascade Campus
Terrell Hall, (TH) Room 2200
503-978-5251

DESCRIPTION

PCC offers dance technique courses designed to explore dance at the beginning through intermediate levels. Courses emphasize correct alignment, principles of movement, development of individual dance skills, and an awareness and appreciation of dance as a performing art. The study of dance develops physical and mental discipline, expands cultural perspectives, enhances personal growth and enrichment, and supports lifelong learning. Dance performance opportunities for students include participation in dance concerts or musical theatre productions on campus.

Most dance courses are offered concurrently and co-listed in both the Performing Arts Department and the Physical Education Department. Students can choose to take the courses for dance or PE credit, which may be applied to degree and/or transfer programs. Students may not sign up for dance and PE credit for the same class in the same term. Students should check transferability of specific dance courses with the institution to which they are planning to transfer.

Although a physical examination is not required, students are advised to seek approval from their personal health care provider before entering into a regular program of vigorous physical activity as is found in dance courses.

It is the student's responsibility to advise the dance faculty of any health condition that may limit or affect a student's ability to participate safely and successfully in the course. In some instances an instructor may recommend an alternative activity program/class or a statement from the student's health care provider. Students will pay one $4 service fee per term for classes requiring showers/towels/lockers. Locks and towels must be turned in at the end of the term. If these items are lost, students will be charged $4.

See the Course Description (D prefix and PE prefix) section of this catalog for individual dance courses and course prerequisites. Contact the Performing Arts Department, and the Physical Education and Fitness Department for additional information.

DEALER SERVICE TECHNOLOGY

Rock Creek Campus
Building 2, Room 105
503-614-7246

www.pcc.edu/thinkbig

CAREER AND PROGRAM DESCRIPTION

This program is a partnership between Portland Community College The Caterpillar Corp. and the five Northwest Caterpillar dealerships. It is an industry specific two-year associate degree program with required on-the-job training/internships at a sponsoring Caterpillar dealership. It is designed to prepare individuals to become qualified Caterpillar service technicians. Students will learn how to work on many types of Caterpillar equipment including agricultural, construction, forestry, and earthmoving equipment. The Dealer Service Technology Program combines technical and academic education with real world experience through paid on -the-job training. Students will learn about engine fundamentals, machine hydraulics, fuel systems, electrical systems, transmissions, torque converters, undercarriage, final drives and more. During the four paid internships students will have the opportunity to experience a future career firsthand through on-the-job training. On completion of the program, students will earn an Associate of Science Degree from Portland Community College.

Total required credit may vary due to three to four credit conversion. PCC comprehensive degree and certificate minimum requirements must be met.

DEGREES AND CERTIFICATES OFFERED

Associate of Applied Science Degree
Dealer Service Technology

PREREQUISITES AND REQUIREMENTS

Applicants must take the placement test administered through the testing center at PCC, or a center provided by their CAT dealer contact person. Prospective students must sign a release of information form to allow their CAT dealership access to their educational records and PCC the ability to share information with the dealership. To begin the program students must secure a paid CAT dealership internship (required to stay in program also). Final selection for this program is based on the capacity of each CAT dealership's allotted seats in the program and actual hire as a CAT intern by a sponsoring CAT dealership. This is a two year, nine term program (24 months). Students must meet General Education and Comprehensive Degree requirements.

REQUIRED MINIMUM PROGRAM ENTRANCE LEVEL REQUIREMENTS:

Placement into WR 115 or higher, placement into RD 115 or higher and placement into MTH 60 or higher.

APPLICATION AND ACCEPTANCE PROCESS

All prospective students must apply to PCC and their prospective sponsoring CAT dealership. For details on final program acceptance and other information contact 503.614-7246

DEALER SERVICE TECHNOLOGY AAS DEGREE

Course List

DST 110	Caterpillar Engine Fundamentals	6
DST 111	Introduction to Caterpillar Service Industry	1
DST 150	Caterpillar Service Technology Internship	7
DST 112	Fundamentals of Hydraulics	4
DST 113	Caterpillar Engine Fuel Systems	4
DST 114	Fundamentals of Electricity	4
DST 150	Caterpillar Service Technology Internship II	7
DST 115	Air Conditioning	3
DST 116	Fundamentals of Transmissions and Torque Converters	4
DST 117	Machine Hydraulic Systems	4
DST 150	Caterpillar Service Technology Internship III	7
DST 200	Undercarriage and Final Drive	4
DST 201	Machine Electronic Systems	4
DST 150	Caterpillar Service Technology Internship IV	7
DST 202	Caterpillar Engine Performance	3
DST 203	Diagnostic Testing	3
DST 204	Machine Specific Systems	6
WR 121	English Composition	4
WLD 217	Diesel Welding	3
Total Credits		**101**

DENTAL ASSISTING

Sylvania Campus
Health Technology Building, (HT) Room 206
503-977-4236

www.pcc.edu/programs/dental-assisting/

CAREER AND PROGRAM DESCRIPTION

The dental assistant is a member of the dental team, working with and assisting the dentist during clinical procedures. Traditional duties and responsibilities include: Exposing and developing dental radiographs, mixing dental materials, organizing and preparing treatment rooms, passing dental instruments and materials to the dentist, taking impressions, preparing, placing and removing rubber dams, placing topical anesthetic, fluoride and desensitizing agents, sterilizing instruments, disinfecting dental equipment, comforting patients during dental procedures and educating patients on various dental procedures. Graduates are also prepared to perform the following expanded duties: Polish teeth and amalgam restorations, fabricate and cement temporary crowns, remove cement, place temporary restorations, place and remove matrix retainers, place sealants, temporary denture relines and various orthodontic duties.

Computer skills are an important asset to a dental assistant. Dental computer programs are learned in the office procedures courses.

Applications are accepted from October 1 to April 15. Forty-five students will be selected each year by lottery. Application forms may be obtained from and should be submitted along with high school and college transcripts to:

Dental Sciences Department
Sylvania Campus, (HT) Room 206
Portland Community College
P.O. Box 19000
Portland, Oregon 97280-0990

Candidates will be notified of their admission status by mid to late May. For information call 503-977-4795 or 503-977-4236, or check the web site **www.pcc.edu/programs/dental/assisting.**

DEGREES AND CERTIFICATES OFFERED

One-Year Certificate

Dental Assisting

Accredited by the Commission on Dental

Accreditation without reporting requirements.

PREREQUISITES AND REQUIREMENTS

All aspects of the Dental Assisting Program are continually assessed to provide on-going excellence and continuing improvement, and are subject to change.

1. High school or college transcripts showing a minimum 2.0 GPA, or GED.
2. Completion of the following courses or their equivalents, with a grade of “C” or better, is required to be considered for application to the Dental Assisting Program.

   a. WR 115 or higher level writing course (Placement into WR 121 can substitute for the WR 115 course)

   b. Approved college level health or nutrition course. Recommended classes include HE 250, HPE 295, or FN 225.

   c. MTH 10 or higher level math course.(Placement into MTH 20 can substitute for the MTH 10 course.)

Prerequisites may be in progress at the time of application (winter term.) Courses planned for spring term may not be considered. Pass/No Pass grade is not acceptable in prerequisites. It is the applicant’s responsibility to update their information by providing final grades of courses which are in progress at the time of application.

3. All students are required to be immunized against Hepatitis B as well as evidence of immunity to measles, tetanus immunization and current tuberculin skin test (TST). Positive TST will require evidence of normal chest xray (supply upon acceptance).

CRIMINAL BACKGROUND CHECK

All PCC students enrolled in a health care or child care program, including Dental Assisting, with requirements for practical experience of field training may have to pass a Criminal History Check (CHC) as a condition of their acceptance into a medical or other facility for training.

Students who do not pass the CHC may not be eligible to complete training at affiliated practicum sites, to sit for licensure or certification exams, or be hired for some professional positions. If you believe that your past history may interfere with your ability to complete the program of study or to obtaining licensure, or certification in your chosen field, you should contact the appropriate

state board or program director.

COURSE OF STUDY

The 45 credit hours prepare the student for job entry with State and National certification in dental radiology, basic dental assisting and expanded function dental assisting.

Students enrolled in the Dental Assisting Program will be performing exposure prone procedures and will be required to wear safety glasses, gloves, face masks and protective clothing during all laboratory and clinic activities that produce airborne particulate matter, or expose students to patients during dental procedures. An exposure prone procedure is one in which there is an increased opportunity for the exchange of blood borne pathogens between the patient and the dental health care provider because of the kind of procedure being performed.

Safety policies, procedures and protocols are taught and followed according to OSHA regulations and CDC Standards to provide a safe learning and patient care environment. The program policies on Blood borne Pathogens and Infectious Disease are available to applicants upon request. Upon acceptance to the program, extensive training in this area will occur.

Applicants who have an infectious disease or who are carriers of an infectious disease should seek counsel from their physician and the program director prior to application. The College will follow CDC suggested work restrictions for health-care personnel infected with or exposed to major infectious diseases in health care settings, from the CDC's Guidelines for Infection Control in Dental health-Care Settings --2003 available at **www.ccdc.gov/mmwr/preview/mmwrhtml/rr5217al.htm**, Table 1, attached to and incorporated by this reference to this policy.

DENTAL ASSISTING CERTIFICATE

First Term

DA 110	Clinical Procedures I	3
DA 111	Clinical Procedures I Lab	2
DA 120	Dental Radiology I	2
DA 121	Dental Radiology I Lab	2
DA 130	Dental Materials I	1
DA 131	Dental Materials I Lab	2
DA 140	Integrated Basic Science I	3
DA 160	Pharmacology	1

Second Term

DA 112	Clinical Procedures II	1
DA 113	Clinical Procedures II Lab	3
DA 118	Expanded Duties I	1
DA 122	Dental Radiology II	1
DA 123	Dental Radiology II Lab	2
DA 132	Dental Materials II	1
DA 133	Dental Materials II Lab	2
DA 142	Integrated Basic Science II	2
DA 150	Dental Office Procedures I	2

Third Term

DA 114	Clinical Procedures III	1
DA 115	Clinical Procedures Lab III	5
DA 119	Expanded Duties II	1
DA 125	Dental Radiology III Lab	2
DA 135	Dental Materials III Lab	2
DA 152	Dental Office Procedures II	2
DA 156	Ethics and Jurisprudence	1

DENTAL HYGIENE

Sylvania Campus
Health Technology Building, (HT) Room 206
503-977-4236

www.pcc.edu/programs/dental-hygiene/

CAREER AND PROGRAM DESCRIPTION

The dental hygienist is a licensed dental health care professional who specializes in periodontal therapy and oral health education. A broad-based education in biological sciences and humanities as well as dental sciences and clinical techniques prepares the graduate for work in private practice and community settings. In the dental office, the hygienist assesses the patient's oral health, treats periodontal (gum) disease and provides follow-up care. In addition, the hygienist provides a variety of preventive services including the application of fluoride and sealants, tobacco and nutritional counseling and oral health education to individuals and community groups.

The Dental Hygiene Program offers a two-year curriculum that is accredited by the Commission on Dental Accreditation without reporting requirements. The program of study prepares students for the National Board written examination and regional licensure examinations.

Computer skills: Students must have acquired basic computer skills in word processing and the Internet. It is recommended that this preparation be taken prior to entry. **Electives must include one course of nutrition, speech, sociology and psychology.*

Applications are accepted each year from January 1 to April 15 only. Twenty students and twelve alternates will be selected based upon specific admissions criteria. Further information can be obtained from the Dental Sciences Department or the Health Professions Advising Office:

Dental Sciences Department
Sylvania Campus, (HT) Room 206
Portland Community College
P.O. Box 19000
Portland, Oregon 97280-0990

For additional help, call 503-977-4236 or 503-977-4795 or check the web site **www.pcc.edu/programs/dental-hygiene/**.

Total required credit may vary due to three to four credit conversion. PCC comprehensive degree and certificate minimum requirements must be met.

DEGREES AND CERTIFICATES OFFERED

Associate of Applied Science Degree
- Dental Hygiene

PREREQUISITES AND REQUIREMENTS

1. High school graduation or GED, and computer literacy.

2. The following courses or their equivalents are required to be considered for application to the Dental Hygiene Program:

a. WR 121 English Composition, 3-4

b. MTH 65 Algebra II, 4 , or higher

c. BI 121 and BI 122 or BI 231 and BI 232 Human Anatomy and Physiology sequence with lab, 8 *

d. BI 234 Microbiology with lab, 4 or 5 Must be completed within the last seven years.

e. CH 102 or 106, Organic Chemistry Principles, 5

**Students planning to transfer dental hygiene course work to a university baccalaureate degree should take BI 231, 232, 233 and CH 104, 105, 106.*

These prerequisite courses may be in progress at the time of application (winter term.) Courses planned for spring term will not be considered. Pass/No Pass evaluation is not acceptable in the prerequisite courses. It is the applicant's responsibility to update their application information by providing final grades of winter term courses which are in progress at the time of application. Our admission is competitive those who have completed the prerequisite courses and have the highest point total will be selected for our current point evaluation sheet please visit **www.pcc.edu/dh**. Candidates will be notified of their admissions status by mid to late May.

3. All students are required to be immunized against Hepatitis B as well as evidence of immunity to measles. Tetanus immunization and current tuberculin skin test (TST). Positive TST will require evidence of normal chest x-ray (supply upon acceptance).

Students enrolled in the Dental Hygiene Program will be performing exposure prone procedures and will be required to wear safety glasses, gloves, face masks and protective clothing during all laboratory and clinic activities that produce airborne particulate matter, or expose students to patients during dental procedures. An exposure prone procedure is one in which there is an increased opportunity for the exchange of blood borne pathogens between the patient and the dental health care provider because of the kind of procedure being performed.

Safety policies, procedures and protocols are taught and followed according to OSHA regulations and CDC standards to provide a safe learning and patient care environment. The program policies on Bloodborne Pathogens and Infectious Disease are available to applicants upon request. Upon acceptance to the program, extensive training in this area will occur.

Applicants who have an infectious disease or who are carriers of an infectious disease should seek counsel from their physician and the program director prior to application. The College will follow CDC suggested work restrictions for health-care personnel infected with or exposed to major infectious diseases in health care settings, from the CDC's Guidelines for Infection Control in Dental Health-Care Settings -- 2003, available at **www.cdc.gov/mmwr/preview/mmwrhtml/rr5217al.htm**, Table 1, attached to and incorporated by this reference to this policy.

All PCC students enrolled in a health care or child care program, including dental hygiene, with requirements for practical experience of field training may have to pass a Criminal History Check (CHC) as a condition of their acceptance into a medical or other facility for training.

Students who do not pass the CHC may not be eligible to complete training at affiliated practicum sites, to sit for licensure or certification exams, or be hired for some professional positions. If you believe that your past history may interfere with your ability to complete the program of study or to obtaining licensure, or certification in your chosen field, you should contact the appropriate state board or program director.

DENTAL HYGIENE AAS DEGREE

Minimum 95 credit hours to include required program courses and at least 16 credits of General Education. Program prerequisites are not included in the 95 credit total. Program Accreditation requires that general education must include Sociology, Psychology, Oral and Written Communication and Food Nutrition. Recommended for meeting General Education Requirements: SOC 204, General Sociology: Sociology in Everyday Life 3-4, PSY 101, Psychology & Human Relations 4

COURSE OF STUDY

First Term

DH 101	Dental Hygiene Theory I	4
DH 104	Dental Hygiene Practice I	3
DH 113	Dental Anatomy	2
DH 113L	Dental Anatomy Lab	1
DH 121	Dental Health Education	2
DH 228	Head and Neck Anatomy	2
Speech Elective*		4

Second Term

DH 102	Dental Hygiene Theory II	2
DH 105	Dental Hygiene Practice II	3
DH 127	Medical Emergencies	2
DH 128	Oral Histology	1
DH 236	Ethics & Jurisprudence	1
DH 230	Dental Materials	2
Psychology Elective*		4

Third Term

DH 103	Dental Hygiene Theory III	2
DH 106	Dental Hygiene Practice III	3
DH 109	Dental Radiology I	2
DH 109L	Dental Radiology I Lab	1
DH 129	Oral Pathology	3
DH 246	Pharmacology	3
Sociology Elective*		4

**Recommended: SP 111, PSY 101, SOC 204, FN 225*

Summer Term

DH 100	Special Dental Hygiene Practice (Elective) I or II	1-5
FN 225	Nutrition*	4
	or	

FN 270	Applied Nutrition	4

Fourth Term

DH 201	Dental Hygiene Theory IV	2
DH 204	Dental Hygiene Practice IV	5
DH 208	Community Oral Health I	2
DH 210	Dental Radiology Lab II	1
DH 229	Local Anesthesia	2
DH 260	Periodontology I	2

Fifth Term

DH 202	Dental Hygiene Theory V	2
DH 205	Dental Hygiene Practice V	5
DH 250	Research Methods and Issues in Oral Health	1
DH 252	Community Oral Health II	2
DH 261	Periodontology II	2

Sixth Term

DH 203	Dental Hygiene Theory VI	3
DH 206	Dental Hygiene Practice VI	5
DH 253	Community Oral Health III	2
DH 232	Nitrous Oxide Sedation (Elective)	2

DENTAL LABORATORY TECHNOLOGY

Sylvania Campus
Health Technology Building, (HT) Room 206
503-977-4236

www.pcc.edu/programs/dental-tech/

CAREER AND PROGRAM DESCRIPTION

The dental laboratory technologist is a professional member of the dental team and is considered the “artist” of that group. Using an order from a dentist, the technician designs and fabricates dental replacements such as crowns, bridges, dentures and orthodontic appliances. In the process, the technician carves complex structures and designs in wax, casts and finishes a variety of metals, and duplicates tooth form and color in acrylic resin or porcelain materials.

PCC offers a two-year program that is accredited by the Commission on Dental Accreditation without reporting requirements. Applications are accepted on a rolling basis throughout the academic year. All prerequisites must be completed by summer term in the year in which you apply. The program starts fall term only. Enrollment is limited, so students are encouraged to apply early. Application forms may be obtained from and should be submitted to:

Dental Sciences Department
Sylvania Campus, HT 206
Portland Community College
P.O. Box 19000
Portland, Oregon 97280-0990

Total required credit may vary due to three to four credit conversion. PCC comprehensive degree and certificate minimum requirements must be met.

DEGREES AND CERTIFICATES OFFERED

Associate of Applied Science Degree
  Dental Laboratory Technology
Two-Year Certificate
  Dental Laboratory Technology

DENTAL LABORATORY TECHNOLOGY

SKILL UPGRADE COURSES

Laboratory practicums are offered to experienced technicians who wish to upgrade their skills in any of the five specialties. Laboratory credit hours vary from 1-5, depending on the technicians needs.

PREREQUISITES AND REQUIREMENTS

1. GED or high school graduation. (proof of completion/graduation must be submitted in your application)
2. Successful completion of RD 90 or WR 115 with a grade of “C” or higher or college placement into RD 115.
3. Successful completion of Math prerequisite test. (prerequisite)
4. Satisfactory performance of wax carving tests. (prerequisite)
5. Students must show evidence of having begun or completed the immunization series for Hepatitis B.
6. Students must complete MTH 20 or higher to receive the Certificate or MTH 65 or higher for the A.A.S. degree. (required)

Students enrolled in the Dental Laboratory Technology Program will be required to wear safety glasses or goggles and face masks during procedures that produce airborne particulate matter. Additional protective wear and gear may be required. Safety policies, procedures and protocols are taught and reinforced throughout the curriculum according to industry standards and OSHA regulations to provide a safe learning environment. All aspects of the Dental Laboratory Technology Program are continually assessed to provide on-going excellence and continuing improvement, and are subject to change.

DENTAL LABORATORY TECHNOLOGY AAS DEGREE

Minimum 95 credit hours which includes 75 credit hours of required program courses plus General Education credit hours and enough electives to equal required minimum. Students must also meet Associate Degree Comprehensive Requirements and Associate of Applied Science Requirements.

COURSE OF STUDY

First Term

DT 101	Dental Technology Lab I	6

DT 120	Dental Anatomy	2
DT 141	Denture Techniques I	2
DT 151	Science of Dental Materials I	2
MTH 20	Basic Math (or higher level math courses)	4

Second Term

DT 102	Dental Technology Lab II	6
DT 142	Denture Techniques II	2
DT 152	Science of Dental Materials II	3
HE 125	First Aid & Industrial Safety	3

Third Term

DT 103	Dental Technology Lab III	6
DT 143	Denture Techniques III	2
SP 100	Introduction to Speech Communication	3-4

Fourth Term

DT 204	Dental Technology Lab IV	6
DT 253	Science of Dental Materials III	2
DT 270	Inlay Casting, Crown and Bridge	3
DT 275	Dental Laboratory Management	2

Fifth Term

DT 205	Dental Technology Lab V	6
DT 254	Science of Dental Materials IV	2
DT 272	Dental Ceramics	3
DT 276	Dental Laboratory Management Lab	1

Sixth Term

DT 206	Dental Technology Lab VI	6
DT 271	Partials, Clasp and Bar	2
DT 284	Dental Specialties	2
DT 285	Dental Seminar & Practicum	2

DENTAL LABORATORY TECHNOLOGY CERTIFICATE

79 credit hours of basic DLT courses

DIESEL SERVICE TECHNOLOGY

Rock Creek Campus
Building 2, Room 107
503-614-7210 or 503-614-7331

www.pcc.edu/about/diesel

CAREER AND PROGRAM DESCRIPTION

The diesel service technician repairs and maintains diesel powered trucks and equipment and their support systems.

The program is designed to prepare students for entry-level positions in diesel service technology. Training is varied to give students a broad understanding and background in the different phases of the diesel service industry. Students have additional cost for tools and books. In addition, the program offers industry upgrade courses.

Total required credit may vary due to three to four credit conversion. PCC comprehensive degree and certificate minimum requirements must be met.

DEGREES AND CERTIFICATES OFFERED

Associate of Applied Science Degree
- Diesel Service Technology

Two-year Certificate
- Diesel Service Technology

One-year Certificate
- Diesel Service Technology

PREREQUISITES AND REQUIREMENTS

College placement test administered through the testing centers.

DIESEL SERVICE TECHNOLOGY AAS DEGREE

Minimum 91 credit hours which includes 72 credit hours of required program courses plus General Education credit hours and electives, four credit hours must be an approved computer course (CIS 120 recommended). Students must also meet Associate Degree Comprehensive Requirements and Associate of Applied Science Requirements.

COURSE OF STUDY

The following courses may be taken in any sequence.

DS 101	Engine Rebuild and Lab Procedures	12
DS 102	Truck Power Train	6
DS 103	Fuel Injection Systems	6
DS 104	Fundamentals of Electricity & Electronics	6
DS 105	Fundamentals of Hydraulics/AC Systems	6
DS 106	Preventive Maintenance Inspection and Detroit Diesel Electronic Control	3
DS 202	Heavy Duty Power Train	6
DS 203	Fuel Injection System Diagnosis and Caterpillar Electronic Engine Controls	6
DS 204	Diesel Starting, Charging & Electronic Control Systems	6
DS 205	Mobile and Hydrostatic Hydraulics	6
DS 206	Medium/Heavy Duty Brakes, Suspension and Steering Systems	9

Cooperative Education

DS 280A	CE: Diesel Service Technology Field Experience	variable credit
DS 280B	CE: Diesel Service Technology Seminar	1

DIESEL SERVICE TECHNOLOGY TWO-YEAR CERTIFICATE

Minimum of 79 credit hours of required diesel courses as well as three credits of WLD 217 and four credit hours of CAS 133 or CIS 120. Students are required to take the college placement test before entering the program. It is highly recommended that each student meet with an advisor after taking the placement test. Students must place into WR 90 or complete WR 80 before completing the program. Students must place into RD 90 or complete three credits in reading before completing the program. Students must place into MTH 60 or complete MTH 20 before completing

the program. These courses may be taken before or while the student is taking the Diesel classes.

DIESEL SERVICE TECHNOLOGY ONE-YEAR CERTIFICATE

Minimum of 43 credit hours of required diesel courses as well as three credits of WLD 217 and four credit hours of CAS 133 or CIS 120. Students are required to take the college placement test before entering the program. It is highly recommended that each student meet with an advisor after taking the placement test. Students must place into WR 90 or complete WR 80 before completing the program. Students must place into RD 90 or complete three credits in reading before completing the program. Students must place into MTH 60 or complete MTH 20 before completing the program. These courses may be taken before or while the student is taking the Diesel classes.

Industry Upgrade Courses

DS 9112 Small Marine Diesel Engine Preventive Maintenance and Tune-up 2

DRAFTING TECHNOLOGY AND DESIGN

Sylvania Campus
Science Technology Building, (ST) Room 208
503-977-4163

www.pcc.edu/programs/drafting-design/

CAREER AND PROGRAM DESCRIPTION

Design drafters are skilled technicians who interpret engineering data to produce sketches, plans and detailed working drawings used in manufacturing and construction. Career opportunities exist for drafters in many areas including: product design, electronic schematic, sheet metal layout, structural steel detailing, special tools and fixtures and machine design. Graduates are found working for manufacturing firms, construction companies, engineering firms, city, state and federal agencies or they may be self-employed. Advancement to positions of designer, drafting supervisor, or engineering technician are possible.

Total required credit may vary due to three to four credit conversion. PCC comprehensive degree and certificate minimum requirements must be met.

DEGREES AND CERTIFICATES OFFERED

Less Than One-Year Certificate

Drafting Technology and Design

PREREQUISITES AND REQUIREMENTS

Students new to the certificate program must take the college's placement examination for math prior to program advising and registration. Students must place in MTH 60 and WR 115 before registering for first term drafting classes.

Consult a program advisor for information on PCC's policy for acceptance of courses taken at other colleges or high schools or the transferability of PCC courses to other institutions.

COURSE OF STUDY

This program is designed to assist students in acquiring the knowledge and skills required of drafters and designers. The program and courses are developed with the advice and support of an advisory committee.

Both day and evening courses are offered. Contact a program advisor for curriculum variations.

Students must receive a grade of "C" or better in all required classes in order to receive a certificate in drafting technology and design. "D" or "F" grades and "pass/no pass" options are not acceptable grades for department required classes.

Modern CAD (computer aided drafting) labs provide the opportunity for CAD skill development using a variety of CAD software.

DRAFTING TECHNOLOGY AND DESIGN CERTIFICATE

Students typically begin the drafting technology certification program during the fall term, and follow in sequential order. Fundamental classes are repeated on a periodic basis, which provides the student with a variety of options in completing their certification in a timely manner. Certificate is 42 credit hours. Consult a program advisor for entrance into the program.

First Term

Must be able to enter MTH 60 and WR 115

DRF 117	Drafting Fundamentals	4
DRF 126	Introduction to AutoCAD	3
DRF 136	Intermediate AutoCAD	3
DRF 100	Drafting Orientation	3

Second Term

DRF 133	Intermediate Drafting	4
DRF 185	Inventor Fundamentals	3
DRF 246	AutoCAD 3-D-Modeling	3
DRF 270	SolidWorks Fundamentals	3

Third Term

DRF 135	Advanced Drafting	4
DRF 237	Pro-Engineer Basics	3
DRF 251	Kinematics Drafting	3
DRF 271	SolidWorks Advanced	3
DRF 285	Inventor Advanced	3

EARLY EDUCATION AND FAMILY STUDIES

Sylvania Campus
Health Technology Building, (HT) Room 318
503-977-4217

If Spanish is your first language please contact 503-977-4853

www.pcc.edu/programs/early-ed/

CAREER PROGRAM AND DESCRIPTION

Teachers and home care providers of young children, ages birth through five, plan environments, develop suitable learning experiences, and work closely with families in childhood care education situations. They also supervise play and physical needs of small children, organize daily activities, keep records of children's progress, and confer with parents. Early childhood graduates may also work in related fields such as child care resource and referral.

The Early Education and Family Studies coursework is designed to meet the needs of the working student. All coursework for the Certificate and 85% of coursework for the AAS degree can be completed through a combination of courses offered in the evening, on Saturdays, and online.

Portland Community College's early education articulation agreement with Portland State University allows for up to 80 transfer credits toward PSU's child and family studies degree or degree completion program.

Total required credit may vary due to three to four credit conversion. PCC comprehensive degree and certificate minimum requirements must be met.

DEGREES AND CERTIFICATES OFFERED

Associate of Applied Science

Early Education and Family Studies

Less Than One Year Certificate

Early Education and Family Studies

PREREQUISITES AND REQUIREMENTS

1. College placement test administered through assessment centers.
2. An initial advising/information session with an Early Education Program faculty advisor. Info session schedule available from the EEFS Office.
3. Students entering into the ECE Program must demonstrate through transcripted record or by appropriate placement test scores the ability to be placed into WR 115 for certificate level course work and completion of WR 121 for AAS degree classes. Math 20 is recommended for Environments (ECE 122).

Exit requirements for the early childhood certificate and the AAS degree in Early Education and Family Studies are as follows: Students must receive a grade of "C" or better in every required early education class in order to receive a certificate or degree. Students must meet practicum competencies for the certificate and the degree. Students may retake classes in order to meet the grade requirement with the exception of ECE Practicum I (ECE 130, ECE 133), ECE Practicum II (ECE 130, 134), ECE Practicum for Experienced Teachers (ECE 151), and ECE Advanced Practicum (ECE 260, ECE 263, and 264) seminar and lab classes. These classes may be re-enrolled in only once after a student receives a grade of less than "C." SAC approval is required for any student desiring to attempt any ECE course for the third time.

A minimum of five credits and a maximum of 10 practicum lab credits are required to meet Practicum I and Practicum II competency levels. Credits required depend on individual student competency as evaluated by EEFS instructors. To be considered from practicum, students must 1) be enrolled in the Oregon Child Care Division, Criminal History Registry; 2) submit verification of measles immunization; and 3) complete a Food Handlers Certificate.

CRIMINAL BACKGROUND CHECK

All PCC students enrolled in a health care or child care program, including Early Childhood Education, with requirements for practical experience of field training may have to pass a Criminal History Check (CHC) as a condition of their acceptance into a medical or other facility for training.

Students who do not pass the CHC may not be eligible to complete training at affiliated practicum sites, to sit for licensure or certification exams, or be hired for some professional positions. If you believe that your past history may interfere with your ability to complete the program of study or to obtaining licensure, or certification in your chosen field, you should contact the appropriate state board or program director.

COURSE OF STUDY

The Early Education and Family Studies Program is planned as a career lattice to accommodate the part-time as well as the full-time student. An early childhood certificate provides entry level child care skills and meets the minimum requirements for a child care teacher in an Oregon licensed child care facility. The associate of applied science degree qualifies a student to become a head teacher in a child care facility licensed by the Oregon Child Care Division. The National Association for the Education of Young Children's (NAEYC) minimum suggested training for teachers in early childhood programs is also an AAS degree in ECE. All required courses and competencies mastered for the certificate apply to the AAS degree.

Certificate classes may apply toward a CDA credential. CDA and Oregon Registry credentials may articulate into certificate level coursework.

EARLY EDUCATION AND FAMILY STUDIES AAS DEGREE

Minimum 90 credit hours which includes 74 credit hours of required program courses (including completion of all coursework required for the Certificate) plus General Education credit hours and electives. Students must also meet Associate Degree Comprehensive Requirements and Associate of Applied Science Requirements.

Required Core Courses

HEC 226	Child Development	4
ECE 200	The Professional in ECE	3
ECE 221	Observation and Guidance II	3
ECE 224	Multicultural Practices: Curriculum & Implementation	3
ECE 234	Children with Special Needs in Early Childhood Education	3
ECE 236	Language and Literacy Development in ECE	3

Additional required courses

ECE 260	Advanced Practicum Seminar [1]	6
ECE 264	Advanced Practicum Lab [2]	8
Electives - ECE related		6-10

Specified General Education [3]		20

[1] *Seminar (three credits) is taken each term with advanced practicum lab*

[2] *Advanced practicum lab is taken each term for two terms. A minimum of eight credits is required, although a student may take a maximum of 12 lab credits to achieve competence. Competence is evaluated by EEFS instructors. To be considered from practicum, students must 1) be enrolled in the Oregon Child Care Division, Criminal History Registry; 2) submit verification of measles immunization; and 3) complete a Food Handlers Certificate.*

[3] *These credits include WR 121 plus 16 credit hours of college required General Education courses.*

PCC requires math competency for the AAS degree.

ECE electives

ECE 170	Coaching and Mentoring in Early Education and Family Studies	1
ECE 173	Children and Loss: The Effects of Death and Divorce	1
ECE 174	Head Start Past and Present	1
ECE 175A	Infant/Toddler Caregiving: Growth & Development	1
ECE 175B	Infant/Toddler Caregiving: Group Care	1
ECE 175C	Infant/Toddler Caregiving: Social/Emotional Growth	1
ECE 175D	Infant/Toddler Caregiving: Family Provider Relationships	1
ECE 177	Tiny to Tall: Making Mixed Age Groupings Work	1
ECE 179	The Power of Portfolios in Early Education	1
ECE 184	Children's Puppetry & Theater	1
ECE 185	Planning Fun and Meaningful Field Trips for Young Children	1
ECE 186	Nature and Gardening with Young Children	1
ECE 187	Cooking with Kids	1
ECE 188	Block Play and Woodworking for Young Children	1
ECE 189	Building Relationships with Infants, Toddlers, and Families	1
ECE 190-192	Reading and Conference in Child Development	1-3
ECE 191	Interest-Based Planning for Infants	1
ECE 193	Advocacy in the Field of Early Education and Family Studies	1
ECE 194	Surviving and Thriving: Managing Stress in Early Education	1
ECE 197	Career Exploration in Early Education and Family Studies	1
ECE 198	Building Effective Outdoor Environments	1
ECE 199	Special Topics in ECE	2-5
ECE 235	Music and Movement in ECE	3
ECE 237	Science and Math in ECE	3
ECE 238	Administration of Early Childhood Programs	3
ECE 239	Helping Children & Families Copewith Stress	3
ECE 273	Team Building and Supervision	3
ECE 274	Expanded Curriculum Pre K, Kindergarten and Mixed Age Classrooms	3
ECE 299	Special Topics in ECE	3

For a list of approved, out-of-department EEFS electives, please contact the EEFS Department.

EARLY EDUCATION AND FAMILY STUDIES CERTIFICATE

33-34 credits. Early childhood certificate requires WR 115 or its equivalent.

Required Core Courses

ECE 120	Introduction to Early Education and Family Studies	3
ECE 121	Observation & Guidance I	3
ECE 122	Environments and Curriculum in Early Care and Ed I	4
ECE 123	Environments and Curriculum in Early Care and Ed II	4
ECE 124	Multicultural Practice: Exploring Our Views	3
ECE 201	Family Partnerships in Education	3
HEC 262	Children's Health, Safety, and Nutrition	3
HE 112	First Aid and Infant/Child CPR [1]	1

Additional Required Courses

ECE 130	Practicum Seminar [2]	4
ECE 133	Practicum I Lab	3
ECE 134	Practicum II Lab	3

A minimum of five credits and a maximum of 10 practicum lab credits are required to meet Practicum I and Practicum II competency levels. Credits required depend on individual student competence as evaluated by ECE instructors.

[1] *Or current Infant/Child First Aid and CPR cards.*

[2] *Students must enroll in practicum seminar each term they take practicum.*

ECONOMICS

Cascade Campus
Student Center, (SC) Room 211
503-978-5251

Southeast Center
Mt. Scott Hall, (MSH) Room 103
503-788-6146

Rock Creek Campus
Building 3, Room 201
503-614-7327

Sylvania Campus
Social Science Building, (SS) Room 215
503-977-4289

DESCRIPTION

Economics is the study of how societies allocate their scarce resources. It examines individual and social action related to the use of limited resources toward the production, distribution and consumption of goods and services. Economics students will be completing two-year education programs as well as transferring to four-year colleges and universities. Students will advance toward careers in both public and private sectors, and will actively engage in a wide range of economic, social and political processes.

Courses at PCC introduce students to economics and prepare students for transfer into upper division courses. The transfer sequence consists of EC 201 Microeconomics and EC 202 Macroeconomics. Students are recommended to take EC 201 first. PCC also offers other economics courses, see the Course Description (EC prefix) section of this catalog for individual courses and course prerequisites.

EDUCATION

Cascade Campus
Technology Education Building (TEB) Room 209
503-978-5191, 503-978-5229 or 503-978-5317

www.pcc.edu/pcc/pro/progs/ed/

CAREER AND PROGRAM DESCRIPTION

PCC's Education Department offers a Paraeducator Degree and Certificate, Library Media Assistant Certificate, in addition to Teacher Relicensing and Elementary Education Transfer courses. These programs are designed to prepare students who wish to work in a variety of educational and library settings.

The Paraeducator degree and certificate are designed for those who would like to work as Instructional Assistants in educational settings. They prepare students to resolve everyday challenges and to professionally support teachers in planning, presenting and evaluating instruction and learning. The paraeducator's responsibilities may include assisting small group instruction in reading, math, spelling, assisting individual students in the above academic areas and self-help skills, daily living skills, following behavior programs as directed by the teacher, and preparing and assembling materials. The particular responsibilities assigned to a paraeducator (instructional assistant) depend on the program and personnel in each school. Employment opportunities exist in Portland and in surrounding areas as a result of the present legislative support for equal education for students with special needs .The program is designed for persons of all ages, races, cultures and economic backgrounds. The program values and encourages diversity in the field of education.

The Library Media Assistant Certificate prepares graduates to qualify for jobs in school libraries, public libraries and corporate libraries. Employment opportunities exist throughout the greater metropolitan area. The library/media assistant works in all aspects of library and media center operations including technical processing, circulation procedures and reference materials, literature and literature promotion, computer applications and operations such as multimedia, publishing, database and spreadsheet development and maintenance, and communication with the public.

Teacher relicensing candidates may use PCC education courses to meet state requirements. Contact Oregon Teacher Standards and Practices Commission at 503-378-3586 or www.tspc.state.or.us for specific requirements. Interested students should also contact an Education Department advisor. Education Courses numbered 101 or higher may generally be used for relicensing. See Course Description section for a complete listing of ED courses

Elementary Education transfer students are allowed to take up to 9 credit hours from the Education Department as general electives without being admitted into the program. Students will still be expected to meet the same prerequisite in writing and be in good academic standing. Students interested in elementary education may wish to pursue an Associate of Arts Oregon Transfer Degree, transferable to four-year public universities and colleges in Oregon. Contact an Education Department advisor for more information: The following classes are recommended, but any of the classes in the program may be acceptable: ED 251, ED 136, ED 112, and ED 224. Students should check with the institution to which they will be transferring.

Education courses may also be applied to the 90 credit hours required for an Associate of General Studies Degree. See a program advisor for information about transferring to a four-year institution. Many classes will be available via distance learning during the year. Please refer to the quarterly schedule or contact education faculty for details.

In addition, PCC's Education Department works in conjunction with Northwest Regional Educational Service District (NWRESD) and Multnomah Educational Service District (MESD) Outdoor School to offer students the opportunity to gain experience while working with sixth-grade students in an outdoor school setting. For more information contact the Education Department or the NWRESD or MESD Outdoor School Departments.

Total required credit may vary due to three to four credit conversion. PCC comprehensive degree and certificate minimum requirements must be met.

DEGREES AND CERTIFICATES OFFERED

Associate of Applied Science Degree
- Paraeducator

One-Year Certificate
- Paraeducator

One-Year Certificate
- Library/Media Assistant

PREREQUISITES AND REQUIREMENTS

Admission to the Paraeducator or Library Media Programs requires an interview and application. Please contact an education advisor to pick up application materials and to set an appointment for the initial interview. When completing the application process, please bring photocopies of transcripts and the completed application form to the education department for review.

Students are required to demonstrate competencies in writing, reading, mathematics and computer literacy (students must complete CAS 121 and CAS 133 or pass competencies).

Check individual courses for prerequisite or basic competencies required. Many courses require placement test scores high enough to qualify students for enrollment in WR 121 and/or MTH 60. Students may have to be fingerprinted and submit a criminal background check prior to practicum experiences in public schools.

PARAEDUCATOR AAS DEGREE

Students may enter the program at any point during the year. It is recommended that students take ED 100 near the start of their studies and take ED 263 as a capstone course at the end. Students must take course work required for the Paraeducator Certificate, plus General Education Requirements outlined below, and a minimum of 6 credits in Education electives for a total of 90 credit hours. Students must also meet Associate Degree Comprehensive Requirements and Associate of Applied Science Requirements.

GENERAL EDUCATION REQUIREMENTS

Eight credits from the Arts and Letters General Education list (recommended: 8 credit hours in foreign language)

Eight credits from the social sciences General Education list

(recommended: PSY 101)

Eight credits from the math and science General Education list (recommended: MTH 211, 212, 213 - requires MTH 95 as a prerequisite) or ESR 171, 172, 173 (Environmental Science)

Additional courses to bring total credits to 90.

PARAEDUCATOR CERTIFICATE

Minimum of 51 credits. Students may elect a one-year certificate focusing on either special education or English for Second Language Learners or a two-year program culminating in an Associate of Applied Science Degree. Students complete a 42-credit hour core and add either the emphasis in English for Second Language Learners (9 credits) or in special education (9 credits) to complete the 51 credit hours for the certificate.

COURSE OF STUDY

Fall Term

ED 131	Applied Learning Theory	3
ED 136	Computers in Education	3
ED 100	Introduction to Education	3
ED 251	Overview of Exceptional Learners	3
ED 258	Multicultural Education	3
PSY 215	Human Development	4

Winter Term

ED 123	Instructional Methods: Reading	3
ED 270	Practicum I	3
ED 217	Classroom Management	3
	or	
ED 252	Behavior Management	3
ED 259	Multicultural Education II	3
	or	
ED 269	Introduction to Teaching the Learning Disabled	3
ED 290	Introduction to English Language Learners Strategies	3

Spring Term

ED 102	Displays & Graphics for Educators	3
ED 124	Instructional Methods: Math and Science	3
ED 271	Practicum II	3
ED 224	Foundations in Education	3
ED 263	Portfolio Development	2
ED 268	Introduction to Developmental Disabilities	3
	or	
ED 291	Advanced English Language Learner Methods	3

Note: A statewide Paraeducator certificate is under review at the Oregon Department of Education in order to grant NCLB "highly qualified" status throughout the state of Oregon to paraeducators who earn it.

LIBRARY/MEDIA ASSISTANT CERTIFICATE

Minimum of 44 credit hours.

Students can select from two options:

1. A one-year certificate program that develops skills used in school, public and corporate libraries and media centers. Two terms of practicum are included.
2. An Associate of General Studies Degree. Students take a combination of 45-60 credit hours from option one, plus 16 credit hours of General Education in order to complete the 90 credit hours necessary to receive an associate degree. Students completing the two-year option have varied experiences in the field of libraries, media centers, and audio-visual departments. Each student's program must be approved by the Education Dept.

COURSE OF STUDY

Fall Term

ED 102	Displays and Graphics for Educators	3
ED 109	Library Procedures	3
ED 112	Introduction to Children's Literature	3
ED 136	Computers in Education	3
ED 270	Practicum I [1]	3
ED 224	Foundations of Education	3

Winter Term

ED 103	Desktop Publishing for Educators	3
ED 114	Reference Materials	3
ED 171	Computers in Education II	3
ED 271	Practicum II [1]	3
ED 260	Multicultural Literature for Children and Young Adults	3

Spring Term

ED 104	Multimedia for Educators	3
ED 111	Selection of Library Materials	3
ED 115	Storytelling	2
ED 206	Seminar: Advanced Education Technologies	3
ED 272	Practicum III [1]	3

[1]*Only two of the three practicums are required.*

ELECTRICAL TRADES

See Apprenticeship

ELECTRONIC ENGINEERING TECHNOLOGY

Sylvania Campus
Science Technology Building, (ST) Room 208
503-977-4163

Email: engineering@pcc.edu

www.pcc.edu/programs/electronic-engineering/

CAREER AND PROGRAM DESCRIPTION

Electronic engineering technology (EET) is concerned with the theory and practice of applied electronics engineering. Emphasis is placed on the practical application of engineering knowledge.

To apply electronics engineering knowledge requires a thorough background in mathematics and science. EET graduates possess a combination of theoretical and practical understanding and require minimal on-the-job training to become productive.

Graduates of an associate degree program in EET are called electronic engineering technicians and find employment in circuits and systems testing, product development, prototype construction and testing, circuit and systems medication, systems operation and manufacturing. Associate EET graduates are expected to have good communication skills and be capable of creative problem solving, working independently and in teams. They should have extensive knowledge of both the hardware and software of electronic systems.

Employers of EET engineering technicians include research and development laboratories, electronic equipment manufacturers, public utilities, colleges and universities, government agencies, medical laboratories and hospitals, electronic equipment distributors, semiconductor manufacturers and manufacturing and processing industries that use electronic control equipment.

Total required credit may vary due to three to four credit conversion. PCC comprehensive degree and certificate minimum requirements must be met.

DEGREES AND CERTIFICATES OFFERED

Associate of Applied Science Degree

Electronic Engineering Technology:

Electronic Engineering Technology: Biomedical Engineering Technology

Electronic Engineering Technology: Wireless and Data Communications Engineering Technology (Pending PCC and State Approval)

One-Year Certificate

Electronic Engineering Technology

PREREQUISITES AND REQUIREMENTS

All students must have an advising interview with an EET advisor. Placement in WR 115 is required. Placement into MTH 95 is the minimum prerequisite. Completion of MTH 95 is recommended. Basic computer skills in the Windows operating system, word processing and spreadsheets are required.

Full-time and Part-Time EET students: EET is a limited enrollment program for students seeking a degree. A day program starts in the fall and a late afternoon/evening program starts in the winter. Qualified students are accepted in the order in which the application process is completed.

Job-upgrade Students: Students who only want to upgrade their job skills must meet individual course prerequisites and complete an advising interview with an EET advisor prior to enrollment. Admission is granted on a space available basis after the needs of the full-time and part-time of the EET degree and its options seeking students are met.

ELECTRONIC ENGINEERING AAS DEGREE

Minimum 104 credit hours which includes 88 credit hours of required program courses plus General Education credit hours and electives. Students must also meet Associate Degree Comprehensive Requirements and Associate of Applied Science Requirements.

First Term

EET 111	Electrical Circuit Analysis I	5
EET 121	Digital Systems I	3
MTH 111C	College Algebra for Math, Science and Engineering	5
WR 121	English Composition	4

Second Term

EET 112	Electrical Circuit Analysis II	5
EET 122	Digital Systems II	3
EET 188	Industrial Safety	1
MTH 112	Elementary Functions	5
Social Science Electives		4

Third Term

EET 113	Electrical Circuit Analysis III	5
EET 123	Digital Systems III	5
EET 178	PC Architecture for Technicians	4
CS 133U	Introduction to C	4

Fourth Term

EET 221	Semiconductor Devices & Circuits	5
EET 241	Microcomputer Systems	4
MTH 243	Statistics I [4]	4
PHY 201	General Physics [1]	4

Fifth Term

EET 222	Operational Amplifier Circuits	5
EET 242	Microcontroller Systems	4
PHY 202	General Physics [2]	4
Arts and Letters Electives		4

Sixth Term

EET 223	RF Communications Circuits	5
EET 254	EET Seminar I	1
EET 255	Industrial Control Systems	4
EET 256	Project Lab	2
PHY 203	General Physics [3]	4

Oregon Institute of Technology transfer option: Students can transfer classes from the EET degree into any BSEET. Oregon Institute of Technology (OIT) has two programs of particular interest to our EET students: Electronics Engineering Technology (EET) (Full transferability) and Renewable Energy Systems (RES) (Partial transferability). Please check with the department for details.

16 credit hours of General Education are required for the Associate of Applied Science (AAS) Degree. Eight credits of General Education are satisfied by the Math and Physics courses listed above. Eight additional credit hours must be taken in the Social Science area and Arts and Letters area, with at least one course from each area. Courses must be chosen from the "General Education Course List" in the PCC catalog.

Speech (SP 111) is required by OIT (from Arts and Letters).

[1] *PHY 211 may be substituted*

[2] *PHY 212 may be substituted*

[3] *PHY 213 may be substituted*

[4] *MTH 251 may be substituted*

[5] *CS 161 may be substituted (required by OIT)*

BIOMEDICAL ENGINEERING TECHNOLOGY-EET OPTION AAS DEGREE

Biomedical Engineering Technology is an option of the Electronics Engineering Technology (EET) program. Please check with the department or our website for more information: **www.pcc.edu/programs/electronic-engineering/biomed.**

Students must meet college graduation requirements including General Education, Math and English competencies.

CAREER DESCRIPTION

Biomedical engineering technicians are responsible for servicing and maintaining medical equipment and technology for hospitals and other health care facilities, manufacturers, and third-party service organization. Some Biomedical Engineering Technicians are self-employed.

CERTIFICATION AND LICENSING:

The Biomedical equipment technician (CBET) certification is available from the Association for the Advancement of Medical Instrumentation (AAMI). For more information please check their website at: www.aami.org

PROGRAM PREREQUISITES:

Placement into WR 115 and MTH 95 required. MP 111 and (BI 121/122) or (BI 231/232/233).

Note: BI 231/122 is also acceptable.

Please check with the department or our website at: **www.pcc.edu/programs/electronic-engineering/biomed**, for curriculum.

Full-time and Part-Time EET students: Biomedical Engineering Technology is a limited enrollment program for

students seeking a degree. Qualified students are accepted in the order in which the application process is completed.

Note: Placement for the Co-op EET 280C-BMETPracticum (unpaid) required course is based on department approval and availability. This course is offered mainly as 8 hours/day for 8 weeks-11 credits (330 hours). The Co-op hours for evening students are very limited. Please check with the department for placement. Possible practicum sites: hospitals, medical equipment manufacturers, and laboratories.

Winter starting students (planning to take evening classes) please be advised that only some EET classes are offered during the evening. Please call for details.

Job-upgrade Students: Students who only want to upgrade their job skills must meet individual course prerequisites and complete an advising interview with an EET faculty advisor prior to enrollment. Admission is granted on a space available basis after the needs of the full-time and part-time of the EET degree and its options seeking students are met.

Biomed Curriculum:

First Term

EET 111	Electric Circuit Analysis I	5
EET 1121	Digital Systems I	3
MTH 111C	College Algebra	5
WR 121	Writing Composition	3-4

Second Term

EET 112	Electric Circuit Analysis II	5
EET 122	Digital Systems II	3
MTH 112	Elementary Functions	5
EET 188	Industrial Safety	1
CIS 179	Data Comm Concepts I	4

Third Term

EET 113	Electric Circuit Analysis III	5
EET 123	Digital Systems III	5
CS 133U	Introduction to C [1]	4
EET 178	PC Architecture for Techs	4

Fourth Term

EET 221	Semiconductor Devices & Circuits	5
EET 241	Microcomputer Systems	4
EET 260	Biomedical Equipment I	4
Social Science Electives		4

Fifth Term

EET 222	OP-Amp Circuits	5
EET 242	Microcontroller Systems	4
EET 261	Biomedical Equipment II	4
EET 280C	CE: BMET Practicum	4-11

Sixth Term

EET 223	RF Communications Circuits	5
EET 255	Industrial Control Systems	4
EET 254	Seminar I	1
EET 280C	CE: BMET Practicum	4-11
Arts and Letters Electives		4

(Recommended PHL 205-Biomedical Ethics)

[1] *CS 161 may be substituted (required by OIT)*

Speech (SP 111) is required by OIT (from Arts and Letters).

WIRELESS AND DATA COMMUNICATIONS ENGINEERING TECHNOLOGY-EET OPTION AAS DEGREE *(Pending PCC and State Approval)*

EET 111	Electric Circuit Analysis I	5
EET 121	Digital Systems I	3
MTH 111C	College Algebra	5
WR 121	English Composition	4

EET 112	Electric Circuit Analysis II	5
EET 122	Digital Systems II	3
EET 188	Industrial Safety	1
MTH 112	Elementary Functions	5
Arts and Letters Electives		4
EET 113	Electric Circuit Analysis III	5
EET 123	Digital Systems III	5
EET 178	PC Architecture for Tech	4
CS 133U	Introduction to C [1]	4
EET 221	Semiconductor Devices And Circuits	5
EET 241	Microcomputer Systems	4
MTH 243	Statistics [2]	4
Social Science Electives		4
EET 222	Op-Amp Circuits	5
EET 242	Microcontroller Systems	4
CIS 188	Introduction to Wireless Network	4
EET 254	Seminar	1
CIS 179	Data Comm Concepts I	4
EET 223	RF Communications Circuits	5
EET 255	Industrial Control Systems	4
EET 256	Project Lab	2
CIS 189	Wireless Security	4
CIS 278	Data Comm Concepts II	4

[1] *CS 161 may be substituted (required by OIT)*

[2] *MTH 251 may be substituted*

Speech (SP 111) is required by OIT (from Arts and Letters).

ELECTRONIC ENGINEERING CERTIFICATE

Complete the first three terms of the Electronic Engineering Technology associate program listed below.

First Term

EET 111	Electrical Circuit Analysis I	5
EET 121	Digital Systems I	3
MTH 111C	College Algebra for Math, Science and Engineering	5
WR 121	English Composition	3-4

Second Term

EET 112	Electrical Circuit Analysis II	5
EET 122	Digital Systems II	3
EET 188	Industrial Safety	1
MTH 112	Elementary Functions	5
Social Science Electives		3-4

Third Term

EET 113	Electrical Circuit Analysis III	5
EET 123	Digital Systems III	5
EET 178	PC Architecture for Technicians	4
CS 133U	Introduction to C [1]	4

[1] *CS 161 may be substituted (required by OIT)*

EMERGENCY MANAGEMENT

Cascade Campus
Public Safety Education Building, (PSEB) Room 133

503-978-5530

CAREER AND PROGRAM DESCRIPTION

Emergency Managers are expected to have a broad range of knowledge as they face the varied threats to our modern society and our personal safety. Today's threats include natural disasters, technological threats and terrorism in its many forms. Expertise in Emergency Management is needed in every level of government and in the private sector. This broad range of knowledge comes from education and on the job experiences. Emergency Managers must have a knowledge base of hazards, disasters, planning, science, history and research methods, communications and management. The profession requires diverse skills including a focused education in the areas of – history of hazards and mitigation, emergency planning, disaster and recovery operations, technology – and effective critical thinking, communications, problem solving and leadership. On the job, an emergency manager is responsible for coordinating disaster response or crisis management activities. They must provide disaster preparedness training, create and design emergency plans and procedures and direct emergency response operations.

Total required credit may vary due to three to four credit conversion. PCC comprehensive degree and certificate minimum requirements must be met.

DEGREES AND CERTIFICATES OFFERED

Associate of Applied Science Degree

Emergency Management (Pending State Approval)

Less than One-Year Certificate: Career Pathways

Career Pathways Certificates are short-term credentials (12-44 credits) which prepare individuals for entry-level employment. Career Pathways certificates may be the first certificate a student earns en route to a certificate of greater length or an Associate of Applied Science (AAS) degree. Contact the department for information.

EMERGENCY MANAGEMENT *(Pending State Approval)*

PROGRAM PREREQUISITES

Students must pass all prerequisites with a grade of "C" or higher in order to enroll in any EM courses with a "200" or higher designator

96 credit hours including 68 credit hours of Emergency Management and other required courses, 12 credit hours of electives from the EM recommended electives list, and 16 credit hours of elective General Education courses. Students must choose two but not more than three from Other Required Course list; must choose two but not more than three from Gen Ed List 16. Students should consult a program advisor for help in planning course work and scheduling.

Emergency Management required courses and credits: All 68 credits required.

EM 101	Introduction to Emergency Services	4
CJA 101	Cultural Diversity in Criminal Justice Professions	3
EM 103	Introduction to Radio Communications	3

ETC 105	Crisis Intervention & CISM	3
EM 110	Theory of Emergency Management	3
EM 114	History of US Hazards, Disasters & Emergency Mgmt	4
EM 202	Principles & Practices of Hazard Mitigation	3
EM 203	Principles & Practices of Emergency/Disaster Response I	4
EM 204	Principles & Practices of Emergency/Disaster Response II	4
EM 205	Disaster Recovery Operations	3
EM 210	Emergency Management Planning: Hazards & Disasters	4
EM 211	Public Policy & Law in Emergency Management	3
EM 221	Business Continuity/Resumption	3
EM 222	Disaster Exercise Design & Evaluation	3
EM 223	Terrorism	3

Other required courses:

FP 123	Haz Mat Awareness/Operation	3
HUM 121	Leadership Training I	3
PHL191	Critical Thinking: Language & Layout of Argument	4
PS 203	State & Local Government	4
WR 227	Technical Writing	4

Emergency Management Electives – 12 credits required – select classes from the list below

FP 9070	Major Emergency Tactics & Strategy	3
G 201	Physical Geology	4
G 208	Volcanoes & Their Activity	3
G 209	Earthquakes	3
GEO 105	Introduction to Human Geography	4
GEO 106	Geography of the Developed World	4
GEO 209	Physical Geography: Weather & Climate	4
GEO 210	The Natural Environment	4
GS109	Physical Science (Meteorology)	4
MSD 121	Leadership Skill Development	3

Any Pre-Approved CJA, EMT, ETC or FP courses may be used to fill the Elective requirement.

General Education Requirement

PSY 101	Psychology & Human Relations	4
SP 111	Public Speaking	4

Plus 8 additional credits from the General Education Course List for a total of 16 credits.

EMERGENCY MANAGEMENT CERTIFICATE: CAREER PATHWAYS *(Pending State Approval)*

Successful completion of 44 hours of course work; including 28 hour of required EM courses and 16 hours of prescribed electives.

EM 101	Introduction to Emergency Services	4
ETC 105	Crisis Intervention & CISM	3
EM 110	Theory of Emergency Management	3
EM 114	History of US Hazards, Disasters & EM	4
EM 202	Principles & Practices of Hazard Mitigation	3
EM 203	Principles & Practices of Disaster Response I	4
EM 204	Principles & Practices of Disaster Response II	4
EM 205	Disaster Recovery Operations	3

Select 16 additional hours of prescribed electives.

EMERGENCY MEDICAL TECHNICIAN – PARAMEDIC

Cascade Campus
Public Services Education Building, (PSEB) Room 133
503-978-5530; Fax 503-978-5535

www.pcc.edu/programs/emt

CAREER AND PROGRAM DESCRIPTION

The Emergency Medical Services Department offers career training for entry-level positions in emergency medical settings. Ambulance companies, fire departments, police departments, and various other industries requiring emergency medical services may employ emergency medical technicians. After successful completion of all requirements for EMT-Basic, Intermediate, or Paramedic training, the student is eligible to apply to take the respective state certification exams. Other emergency medical training offered includes First Responder, first aid, CPR and EMT continuing education.

The Emergency Medical Services Department trains and educates EMS professionals to excel in meeting the needs of the community. EMTs respond to medical emergencies by providing immediate care and transportation to the ill and injured. This department combines classroom lectures, hands-on skill labs and appropriate cooperative clinical and field experience to provide students with cognitive, psychomotor and affective competence to function as effective EMTs.

Total required credit may vary due to three to four credit conversion. PCC comprehensive degree and certificate minimum requirements must be met.

DEGREES AND CERTIFICATES OFFERED

Associate of Applied Science Degree

Emergency Medical Technician-Paramedic

One-Year Certificate

Emergency Medical Technician

PREREQUISITES AND REQUIREMENTS

1. Placement test scores less than three years old or transcript with course completion. Place into WR 121 or complete WR 115 with a grade of “C” or better. Place into MTH 60, or complete MTH 20 with a grade of “C” or better. Place into RD 115, or complete RD 90 with a grade of “C” or better.
2. Must have completed high school or GED.
3. Must be a minimum of 18 years of age.
4. Must have documented results of: TB exam (within 6 months), MMR (measles immunity) if born after 12-31-56, Tetanus (within past 10 years), Hepatitis B immunization series started, Varicella (chicken pox immunity), influenza (one dose each fall/winter for students receiving placements during the flu season).

Applicants for the Basic and Intermediate levels must meet all prerequisite requirements prior to acceptance into the program. Satisfactory Criminal History Background checks will be mandatory to qualify for clinical rotations and state certification. The cost for Criminal History Background checks is the responsibility of the applicant/student. Bring photocopies of transcripts, immunization documentation and completed application to the EMS Department for review. Incomplete applications will not be accepted. Applicants for the paramedic level must complete a departmental selection process. Attendance at the first class is mandatory. No exceptions. Students missing the first class will be dropped from the roster by the department.

Applicants should be aware that the following questions are asked on the National Registry EMT and/or the Oregon EMT Application:

1. Do you currently have any mental or physical impairment(s)? If the answer to this question is yes you must attach a complete explanation as to whether your impairment is controlled by medication or other treatment and how your impairment, treated or untreated, affects your ability to perform all the essential duties of the certification level for which you are applying.
2. Have you engaged in the use of any chemical substance for other than legitimate medical purposes or been treated for addiction or dependency?
3. Have you engaged in the habitual use of alcohol or received treatment for alcoholism?
4. Have you EVER been convicted of any misdemeanor or felony? Felony or misdemeanor traffic crimes and any involving driving while impaired, intoxicated, or under the influence of any drug or alcohol (DUI, DUII, etc.) MUST be reported. (Minor traffic violations need not be reported.) The fact that a conviction has been pardoned, expunged, or dismissed or that your civil rights have been restored does not mean that you answer this question no.
5. Have you been disciplined by your employer or supervising physician? (Discipline would Include any of the following: limitation or restriction of scope of practice; suspension, letter of reprimand, or dismissal for cause.)
6. Have you been named in a lawsuit alleging medical malpractice or misconduct?
7. Have you been disciplined, denied or revoked by the National Registry of EMTs, or any certifying/licensing agency?
8. Have you ever surrendered or resigned a professional license or certificate?

EMERGENCY MEDICAL TECHNICIAN – PARAMEDIC AAS DEGREE

Students must complete required program courses, general education credits, and electives. Students must also meet Associate Degree Comprehensive Requirements and Associate of Applied Science Requirements.

COURSE OF STUDY

Term 1

HPE 295	Health and Fitness	3
EMT 100	Introduction to Emergency Medical Services	3
WR 121	English Composition	3-4
General Education elective		3-4

Term 2

MTH 65	Introduction Algebra	4
BI 231	Human Anatomy & Physiology I	4
EMT 105	EMT Basic - Part I	4
SP 111	Fundamentals of Speech	3-4

General Education elective - Social Science

(PSY 101, 201A; SOC 232) 3-4

Term 3

BI 232	Human Anatomy and Physiology II	4
EMT 106	EMT Basic - Part II	5
EMT 280B	CE: EMT Seminar 1	
EMT 116	EMT Rescue	3
CIS 120	Computer Concepts I	4
	or	
CAS 133	Basic Computer Skills/MS Office	4

Term 4

BI 233	Human Anatomy and Physiology III	4
EMT 115	Crisis Intervention	3
EMT 117	Emergency Response Communication/Patient Transportation	3
EMT 118	MET Medical Terminology	3
General Education elective		3-4

Term 5

EMT 240	Paramedic I	13

Term 6

EMT 242	Paramedic II	9
EMT 244	Paramedic Clinical Internship I	3

Term 7

EMT 246	Paramedic Clinical Internship II	4
EMT 248	Paramedic Field Internship I	2

Term 8

EMT 250	Paramedic Field Internship II	6
EMT 252	Paramedic III	2

EMERGENCY MEDICAL TECHNICIAN CERTIFICATE

A one-year certificate denoting completion of the paramedic program prerequisites is available. See program advisor for more information. 60 credits

EMERGENCY TELECOMMUNICATOR/911 DISPATCHER

Cascade Campus
Public Services Education Building, (PSEB) Room 129
503 978-5424

www.pcc.edu/programs/emergency-911/

CAREER AND PROGRAM DESCRIPTION

An Emergency TeleCommunicator (9-1-1 dispatcher) receives information from the public and from emergency services personnel (police, fire and medical), at a public safety answering point (PSAP), commonly referred to as a "9-1-1 Center." The job involves the operation of complex communication equipment; including two-way radio, multi-line telephone systems and computers.

Both emergency and non-emergency calls are handled and field personnel dispatched to a variety of calls. The dispatcher must have a thorough knowledge of local geography, an understanding of manpower needs and equipment, and be able to work within the constraints of departmental policy and procedures. Problem solving and decision making skills, with minimum supervision, are also required. TeleCommunicators must keep accurate records of communications received and transmitted, maintain a constant status of all field operations and be able to perform simultaneous functions.

TeleCommunicators must respect the individual's right to privacy and maintain strict confidentiality of sensitive information.

The PCC Emergency TeleCommunicator 9-1-1 Program is located at the Cascade Campus. This Certificate has 46 credit hours of intensive training program for students interested in a career in emergency telecommunications. The curriculum includes skills, knowledge and abilities that have been identified as critical for career entry by 9-1-1 center directors, the PCC 9-1-1 advisory committee and professional emergency telecommunications organizations. The 46 credit hour Certificate follows the 40 hour Basic TeleCommunicator Training Program developed by the National Academies of Emergency Dispatch (NAED). A hand on simulator training is an integral part of the program. The Introduction to Emergency Services class is open to all students wishing to explore the various careers in public safety emergency services.

The Emergency TeleCommunicator Program is supported by local 9-1-1 centers and private agencies. This three-term certificate is designed to teach the technical skills needed to perform successfully in emergency telecommunications. The PCC certificate program has been developed cooperatively with the 9-1-1 dispatch centers in the Portland metropolitan area and has served as a model for new programs throughout the United States. The program is supported by an advisory committee made up of emergency services managers, supervisors, trainers and dispatchers.

Additional state approved certifications may be obtained through the program, such as, inquiry level Law Enforcement Data System (LEDS) training, National Academies of Emergency Dispatch (NAED) Basic TeleCommunicator certification, and an overview of Critical Incident Stress Management (CISM).

Some course work within the Emergency TeleCommunicator 9-1-1 Program can be applied toward an associate of general studies degree. Students wishing to apply for a general studies associate degree should consult an academic advisor

Classes are taught by professionals in the field of emergency services and public safety communications. Students observe 9-1-1 center operations during the training and work with professional telecommunicators in the labs.

Total required credit may vary due to three to four credit conversion. PCC comprehensive degree and certificate minimum requirements must be met.

DEGREES AND CERTIFICATES OFFERED

One-Year Certificate

Emergency TeleCommunicator/911 Dispatcher

PROGRAM PREREQUISITES AND REQUIREMENTS

Placement into WR 115 and basic keyboarding skill equivalent to 25 WPM.

APPLICATION AND ACCEPTANCE

The Emergency TeleCommunicator (ETC) Program is open to all high school graduates or equivalent, who meet the standards for employment in the 9-1-1 field, including good physical condition and high moral standards. Reading and writing skills are important.

Students planning to apply for the Emergency TeleCommunicator Program should contact the program coordinator or program advisor for specific eligibility requirements and an application. Advising appointments will be scheduled upon request and are required prior to registering for classes. Because of the unique responsibilities involved in public safety emergency communications, the Emergency TeleCommunicator Program reserves the right to require that a student, who appears to the department, unsuited for emergency communications employment be counseled into another area of study.

THE SELECTION PROCESS

Selection into the ETC Program requires the following steps be successfully completed:

1. Application – An application form is available in the Emergency Services Department Office, Public Services Education Building, Room 133 at Cascade Campus. Application forms are also available by mail upon request. Returned application forms will be processed upon receipt of all documentation listed in the application packet. Application for admission may be made any term, new students may be accepted any term, if space is available. Students wishing to complete the program in one year must begin fall term.
2. Placement test scores or transcript with course completion are required.

- Placement into WR 115.
- Keyboarding certificate showing a minimum typing speed of 25 WPM, either three or five minute timing.

3. Advising appointment – an appointment with the program advisor to discuss curriculum and course schedule prior to registering for classes.

4. Acceptance into the program is conditional upon receipt of a satisfactory Criminal History Background check. Applicants will be asked to submit a fingerprint card and letter requesting criminal history information to the Oregon State Police. The cost of this background check is paid by the applicant. Limited fingerprinting services are available through the college, by appointment.

EMERGENCY TELECOMMUNICATOR CERTIFICATE

The following courses are required of all students enrolled in the Emergency TeleCommunicator Program and are open to dispatchers and other professionals working in fields related to 9-1-1 dispatch. Enrollment is subject to course availability, class size, lab restrictions and department permission. In addition, public sector organizations, such as local 9-1-1 centers, may contact the department for professional in-service courses and seminars for their professional staff. 46 credits

The following course sequence is recommended. EM 101, ETC 105 and ETC 108 may be taken out of the order listed below.

COURSE OF STUDY

Term 1

EM 101	Introduction to Emergency Services	4
ETC 103	Introduction to Emergency Telecommunications	4
ETC 110	Communication Center Operations – Basic Skills	3
ETC 106	Introduction to Criminal Law	3
ETC 108	Transcription	2

Term 2

EM 103	Introduction to Radio Communication	3
ETC 104	Emergency Telecommunications – Call-Taking	4
ETC 111	Communication Center Operations – Intermediate Skills	3
CAS 122	Keyboarding	3
CJA 101	Cultural Diversity in Public Safety	3

Term 3

EMT 120	Fire Responder	3
ETC 112	Communication Cen Ops-Adv	3
ETC 202	EMD Overview	2
ETC 105	Crisis Intervention	3
ETC 115	ETC: Capstone	3

Recommended Courses

The following courses are recommended to enhance student skills but are not required for the certificate.

CAS 133	Basic Computer Skills	3
ETC 201	Law Enforcement Data System (LEDS)	1
WR 121	English Composition	4

EMPLOYMENT SKILLS TRAINING

CAREER AND PROGRAM DESCRIPTION

This certificate program is designed to provide maximum flexibility for short-term educational opportunities to meet individual student needs targeted at specific occupational goals. The purpose of this program is to enable students to upgrade current skills, maintain employment, and increase employability. Contact the department of interest.

CERTIFICATE OFFERED

Requiring a minimum of 12 credits and a maximum of 44 credits.

PROGRAM REQUIREMENTS

An interview with an advisor or a faculty member in the career technical department is required to determine the student's career goals as they relate to employability and program content. All PCC college-level courses are eligible to be included in the certificate. Developmental or basic education courses may not be included as part of the certificate. "Next steps" for continuing the educational process will be discussed and reviewed by the student, and the college advisor, the department, and possibly the employer. Prerequisite requirements for each employment skills training certificate are determined by the department.

ENGINEERING

Sylvania Campus
Science Technology Building, (ST) Room 208
503-977-4163

www.pcc.edu/programs/engineering-transfer

Email: engineering@pcc.edu

CAREER AND PROGRAM DESCRIPTION

Engineering is a profession in which knowledge of mathematics and natural sciences gained through study and experience is applied for the benefit of society. Engineers solve technical problems as members of project teams or as individual specialists. Work may involve research, development, planning, design, construction, manufacturing, supervision and management. Engineering is a licensed profession in all states.

PCC offers curricula equivalent to the first two years of study in chemical, civil, computer, electrical, environmental, industrial, manufacturing and mechanical engineering and construction engineering management at Oregon State University (OSU), Portland State University (PSU), the University of Portland (UP), Washington State University-Vancouver (WSUV) and Oregon Institute of Technology (OIT). Equivalent first and second year courses are also available for students interested in other majors or universities. (Note: not all majors listed are available at all the institutions listed.)

Advising guides outlining which engineering, mathematics, science and General Education courses to take for the disciplines listed above have been prepared in cooperation with OSU, PSU, UP, WSUV and OIT. Following these advising guides will prepare students to transfer for their upper division studies. It is recom-

mended that students prepare for transfer by selecting courses that meet lower division university requirements rather than by seeking a degree. Students interested in a degree should refer to the Comprehensive Degree Requirements section of this catalog for information concerning the granting of degrees.

PREREQUISITES AND REQUIREMENTS

All students must have an advising interview with an engineering faculty advisor. Students must place in WR 115 and MTH 251. High school courses in chemistry, physics and microcomputer literacy are highly recommended. Students lacking these courses are encouraged to take CH 100, PHY 101 and/or CIS 120 as appropriate, prior to beginning the program.

Students lacking the necessary prerequisites may upgrade their skills by taking writing, mathematics, science and microcomputer literacy courses or by completing the first year of one of PCC's two-year engineering technology programs (civil, electronic, or mechanical). See a program advisor for information.

The use of a scientific, programmable, graphing calculator is required for the program.

See the Course Description (ENGR prefix) section of this catalog for individual engineering courses and course prerequisites.

ENGLISH FOR SPEAKERS OF OTHER LANGUAGES (ESOL)

Cascade Campus
Terrell Hall, (TH) Room 220
503-978-5251

Southeast Center
Mt. Tabor Hall, (MTH) Room 128
503-788-6255

Rock Creek Campus
Building 3, Room 226
503-614-7425

Sylvania Campus
Communication Tech Building, (CT) Room 205
503-977-4565

www.pcc.edu/prepare/esol/

CAREER AND PROGRAM DESCRIPTION

The ESOL Program offers classes for persons whose native language is not English. Reading, writing, communication, and American culture are stressed.

PREREQUISITES AND REQUIREMENTS

ESOL classes are open to U.S. citizens, immigrants and refugees who desire to improve their basic English language proficiency. Visa students are also welcome to enroll in Level 4 and above but must pay international tuition. Students with F-1 visas should contact the Office of International Education at PCC. Testing and orientation are required before entering the program.

COURSE OF STUDY

The ESOL Department offers eight levels of English, from level 1, for students with no or very little English, through level 8, after which students can continue on with their college classes. ESOL levels 1 - 8 serve the needs of adult refugees, immigrants, permanent residents, and U.S. citizens. Levels 4 - 8 also serve the needs of professional personnel working or training in the U.S., international students, and international visitors. ESOL offers both credit and non-credit classes. Levels 1-3 are non-credit classes. Levels 4 and 5 can be taken either as non-credit or college credit classes. Students should take Levels 4 and 5 for noncredit unless they are obligated to take them for credit because of visa or other requirements. Levels 6 - 8 are college credit classes. Twenty-four credits of ESOL courses may be applied to the Associates Degree or the Oregon Transfer Degree. The cost of ESOL classes ranges from a moderate fee to full college tuition. Tuition for visa students is considerably higher. Each class in levels 1 - 3 is designed to be taken in one to three terms. Each class in levels 4 - 8 is designed to be completed in one term. All new students must be tested prior to enrollment. Contact the Testing Office at the campus where you want to attend to find out about placement testing.

ENVIRONMENTAL STUDIES

Cascade Campus
Jackson Hall, (JT) Room 210
503-978-5209

Sylvania Campus
Health Technology Building, (HT) Room 305
503-977-4225

Rock Creek Campus
Building 7, Room 202
503-614-7257

DESCRIPTION

Environmental studies is the interdisciplinary field that incorporates social sciences, mathematics, chemistry, biology, and geology in order to examine the interactions between human beings and the natural world. Environmental studies allows scientists and laypersons to understand the complex interaction between various organisms while also equipping policy-makers with important data to make critical decisions. Environmental studies is important to a broad array of disciplines, including architecture to law to public health. Recent estimates show a growing demand in governmental, commercial, and industrial employment for professionals whose qualifications include environmental analytical skills.

Students explore environmental studies by enrolling in foundation classes in mathematics and the natural and social sciences. PCC offers students the opportunity to earn the Associate of Arts Oregon Transfer (AAOT) degree to complete courses in preparation for a bachelor's degree in environmental studies or environmental science (if transferred to a four-year program at a college or university). Students must check with the specific requirements of the bachelor's program to which they intend to transfer. The

opportunity to learn interdisciplinary skills allows students to customize their educational career goals while providing a solid foundation for future learning. See the Course Description (ESR prefix) section of this catalog for individual environmental science courses and their prerequisites.

FACILITIES MAINTENANCE TECHNOLOGY

Cascade Campus
Technology Education Building, (TEB) Room 101
503-978-5650, 503-978-5651

www.pcc.edu/programs/facilities-maintencance/

CAREER PROGRAM AND DESCRIPTION

The Facilities Maintenance Technician (FMT) installs, maintains, and repairs HVAC/R and other equipment and systems where environmental quality is essential. FMTs work in the semi-conductor industry, large health care facilities, heavy industry organizations, commercial facilities, or for HVAC/R companies.

Total required credit may vary due to three to four credit conversion. PCC comprehensive degree and certificate minimum requirements must be met.

DEGREES AND CERTIFICATES OFFERED

Associate of Applied Science Degree

Facilities Maintenance Technology

One-Year Certificate

Facilities Maintenance Technology

Less than One-Year Certificates: Career Pathways

Career Pathways Certificates are short-term credentials (12-44 credits) which prepare individuals for entry-level employment. Career Pathways certificates may be the first certificate a student earns en route to a certificate of greater length or an Associate of Applied Science (AAS) degree. Contact the department for information.

HVAC/R Installer - 14 credits

Oregon State Bureau of Labor and Industries Approved Pre-Apprenticeship Training

PREREQUISITES AND REQUIREMENTS

It is required that students test into MTH 20, into WR 90 or higher and RD 90 or higher. Individual course prerequisites are listed in the Course Description section of this catalog.

COURSE OF STUDY

This program will provide the student with the skills to enhance a career in facilities maintenance. It was designed by the advisory committee to meet industry requirements. Students learn the skills and concepts necessary to install, operate, maintain and repair control, piping and mechanical systems in large commercial, medical, institutional and industrial buildings. Students also learn trouble shooting skills, problem solving methods and electrical concepts. Continuous improvement techniques and effective written, verbal and electronic communications skills are stressed across the curriculum. Classes are designed in lecture and lecture/lab format to give the student a solid foundation in general maintenance skills including HVAC/R. Print reading and troubleshooting skills are emphasized.

FACILITIES MAINTENANCE AAS DEGREE

Minimum 90 credit hours which includes 59 credit hours of required program courses plus General Education credit hours and electives. Students must also meet Associate Degree Comprehensive Requirements and Associate of Applied Science Requirements. AAS Degree coursework is certificate course requirements and the following:

ELT 126	Intermediate Programmable Controllers (PC Based)	2
ELT 225	Advanced Program Controllers, PC Based	2
ELT 201	Electrical Motor Controls	2
ELT 204	Adjustable Speed Drives	2
FMT 207	Pneumatic Controls	2
PSY 101	Psychology and Human Relations	4
PHY 101	Fundamentals of Physics	4
FMT 280A	Cooperative Work Experience	8
Electives		12
General Education		8

Certificate Courses

FMT 100	Introduction to Facilities Maintenance Systems	2
ELT 125	Basic Programmable Controllers (PC Based)	2
FMT 201	Introduction to Chiller Systems	3
FMT 119	Water Treatment & Distribution	2
FMT 122	Introduction to Boilers	3
FMT 111	Refrigeration Electrical I	2
FMT 112	Refrigeration Electrical II	2
FMT 113	Refrigeration Electrical III	2
FMT 101	Refrigeration I	2
FMT 102	Refrigeration II	2
FMT 103	Refrigeration III	2
FMT 125	Natural Gas Equipment I	2
ELT 220	OSHA 30 Hour Safety Training	3
ARCH 162	Blueprint Reading-Part II	2
BA 131	Computers in Business	4
FMT 202	Direct Digital Control AdvancedTechnology	3
FMT 222	Intermediate Boilers	3
Electives		3

Approved Electives

Choose 15 credit hours of program electives from the following. Other electives may be chosen with department approval.

ART 292	Sculpture: Mixed Media	3
BA 101	Introduction to Business	4
BA 206	Management Fundamentals	3
MSD 101	Principles of Management & Supervision	3
BCT 100	Introduction to the Construction Industry	3
BCT 102	Residential Printreading	3
BCT 106	Hand Tool/Power Tool Use and Safety	3
BCT 213	Advanced Blueprint Reading	3
CIS 120	Computer Concepts I	4
CIS 121	Computer Concepts II	4

ELT 150	Fiber Optics I	4
ELT 151	Fiber Optics II	4
ELT 152	Fiber Optics: Inside Plant/Outside Plant	4
MSD 117	Customer Relations	3
MTH 111C	College Algebra for Math, Science & Engineering	5
PHY 102	Fundamentals of Physics II	4
PHY 103	Fundamentals of Physics III	4
ELT 110	Electricity for the Non-Electrician	2
ELT 210	Electricity for the Non-Electrician II	2
ELT 226	Basic Human Machine Interface (HMI) Program	2
FMT 131	Lock Service and Repair	4
FMT 128	Oil Furnace Service	2
FMT 216	Commercial Systems Design	2
FMT 219	Residential Systems Design	2
FMT 213	Commercial Refrigeration Shop	2
FMT 204	Heat Pumps	2
FMT 210	Basic HVAC/R Install	2
WR 227	Technical Writing I	3-4
WLD 111	Shielded Metal Arc and Oxy-Acetylene Welding	3

HVAC/R INSTALLER CERTIFICATES: CAREER PATHWAYS 14 CREDITS

FMT 111	Refrigeration Electrical I	2
FMT 112	Refrigeration Electrical II	2
FMT 113	Refrigeration Electrical III	2
FMT 101	Refrigeration I	2
FMT 102	Refrigeration II	2
FMT 103	Refrigeration III	2
FMT 210	Basic HVAC/R Installation	2

FIRE PROTECTION TECHNOLOGY

Cascade Campus
Public Services Education Building, (PSEB) Room 132
503-978-5580; Fax 503-978-5535

www.pcc.edu/programs/fire-protection/

CAREER AND PROGRAM DESCRIPTION

Those training in the Fire Protection Technology Program are preparing for occupations and advancement in fire suppression, investigation, prevention, public safety education, emergency management, emergency medical and rescue services, hazardous materials technology, college transfer and other educational programs.

The PCC program is designed to correlate classroom, laboratory and field experience in public and private sector fire organizations. The program that follows is designed for students wishing to enter the fire service (pre-service) and professional fire fighters who wish to obtain an AAS degree or meet specific Oregon Department of Public Safety Standards and Training accreditation requirements or meet entry requirements for BA/BS programs in fire administration at Eastern or Western Oregon universities.

Total required credit may vary due to three to four credit conversion. PCC comprehensive degree and certificate minimum requirements must be met.

DEGREES AND CERTIFICATES OFFERED

Associate of Applied Science Degree
Fire Protection Technology

PROGRAM AWARDS

Program awards are available in the following courses of study. Contact the Fire Protection Department for course requirements.

1. NFPA Fire Inspection I 45 credits
2. NFPA Fire and Life Safety Education: 45 credits
3. NFPA Fire Officer I 30-33 credits
4. NFPA Fire Officer II 50-53 credits
5. NFPA Fire Fighter I 36 credits
6. NFPA Fire Fighter II 62 credits
7. NFPA Emergency Service Rescue 30 credits

All candidates for a degree must demonstrate competency in basic math and writing skills: See Comprehensive Degree Requirements.

PREREQUISITES AND REQUIREMENTS

1. High school completion or GED test scores of 50 or above in all five subject areas.

2. Completion of Fire Protection application package and criminal background check.

3. Completion of Fire Protection Program Fitness Abilities Assessment.

APPLICATION AND ACCEPTANCE

Applications are accepted year round for Firefighting Skills I class. The academy's two-term sequence starts in fall and spring terms of each year. Program prerequisites one through three must be completed prior to placement into the Firefighting Skills I class.

Due to the unique responsibilities involved in the practical application of fire protection and emergency response during lab periods and cooperative education assignments, the Fire Protection Technology Department reserves the right to counsel students who demonstrate unsuitable characteristics (unsafe, unethical or immoral behavior or that physically are unable to perform standard job duties) into another area of study.

Students enrolled in fire protection courses will be required to use equipment designed to protect the respiratory system from the products of combustion and hazardous chemicals. This equipment includes, but is not limited to: self contained breathing apparatus (SCBA), respirators and filter mask. Students who have a health, physical, or psychological problem which may affect or be affected by the use of protective breathing equipment should contact the department prior to entering the program.

FIRE PROTECTION TECHNOLOGY AAS DEGREE

Minimum 103 credit hours; includes 80 credit hours of required

Fire Protection courses, 16 credit hours of General Education and 7 credit hours of approved electives. Students should contact a program advisor for help in planning a course of study. Students must meet college graduation requirements including General Education, Math and English competencies Students must also meet Associate Degree Comprehensive Requirements and Associate of Applied Science Requirements.

COURSE OF STUDY

First Term

FP 101	Introduction to Fire Protection	3
FP 111	Firefighter I Skills Academy	10
FP 121	Fire Behavior and Combustion	3
FP 122	Fundamentals of Fire Prevention	3

Second Term

PSY 101	Psychology and Human Relations	4
FP 112	Firefighter II Skills Academy	7
FP 123	Haz Mat Awareness/Operation	3
FP 133	Natural Cover/Forest Firefighting	3
FP Elective		1

Third Term

SP 111	Fundamentals of Speech	4
EMT 105	EMT Basic Part I	4
FP 200	Fire Serv Hyd and Water Supply	3
FP 201	Emergency Service Rescue	4
FP 232	Pump Const & Hydraulics II	2
FP 280A	CE: Fire Science	3

Fourth Term

EMT 106	EMT Basic Part II	5
FP 202	Fixed Systems and Extinguishers	3
FP 203A	Introduction to Firefighting Tactics & Strategy	3
FP 280A	CE: Fire Science	3

Fifth Term

FP 211	Building Construction for Firefighters	3
FP 214	OCC Safety & Health for Fire	3
FP 280A	CE: Fire Science	3
FP Elective		3
General Education		4

Sixth Term

FP 212	Fire Investigation (Cause Deter)	3
HPE 295	Health and Fitness for Life	3
FP 280A	CE: Fire Science	3
FP Elective		3
General Education		4

General Education courses must be taken from the college General Education course list and meet Comprehensive Degree Requirements.

Courses requiring a prerequisite are identified in the Course Description section of this catalog and in the term schedule of classes.

Fire protection and emergency medical technician, criminal justice and emergency telecommunications courses not currently required for the AAS degree in fire protection technology are approved for use as electives. General Education courses may also meet the requirements. Approval for electives must be granted by a Fire Protection Department advisor.

FITNESS TECHNOLOGY

Sylvania Campus
Health Technology Building, (HT) Room 215
503-977-4210

www.pcc.edu/programs/fittech

CAREER AND PROGRAM DESCRIPTION

The Fitness Technologist is a professional member of the preventive health care team and will find employment in health and fitness clubs, wellness centers, public and private recreation facilities, hospitals and corporate fitness programs. The Fitness Technologist performs a variety of instructional and administrative duties. Instructional duties include directing safe and effective exercise programs, conducting fitness testing and instructing clients in appropriate sport and fitness activities. Administrative duties include sales, club business operations and member retention efforts. Fitness Technologists have a background in basic anatomy and physiology, applied kinesiology and fitness assessment and programming, along with training in interpersonal skills, customer relations, and fitness promotion.

Total required credit may vary due to three to four credit conversion. PCC comprehensive degree and certificate minimum requirements must be met.

DEGREES AND CERTIFICATES OFFERED

Associate of Applied Science Degree
- Fitness Technology

One-Year Certificate
- Fitness Technology

PREREQUISITES AND REQUIREMENTS

High school diploma or equivalent

Attend Fitness Technology orientation. Contact administrative assistant in HT 215 or call 503-977-4210 for dates and times

Must have successfully completed MTH 65 and WR 121 with a grade of “C” or better

APPLY TO FITNESS TECHNOLOGY PROGRAM

Interview with program director

Applicants with disabilities are encouraged to contact the Office for Students with Disabilities 503-977-4341

COURSE OF STUDY

Students are prepared for job entry as a Fitness Technologist or specialist with opportunities for developing additional skills as a personal trainer or group exercise instructor. The program is designed to correlate classroom and laboratory experience with practical experience in fitness facilities in the community. During the

course of study students are eligible to take the national personal trainer certifying examination given by the American College of Sports Medicine (ACSM), the National Strength and Conditioning Association (NSCA) or the American Council on Exercise (ACE). In addition, AAS graduates, at program completion, are eligible to take the Health and Fitness Instructor certifying examination given by ACSM.

Students requesting advanced placement or transfer credit must submit a written request to the Fitness Department. Transcripts and course descriptions for all coursework should be submitted with the request.

FITNESS TECHNOLOGY AAS DEGREE

Minimum 91 credit hours which includes 72 credit hours of required program courses plus General Education credit hours and electives. Students must also meet Associate Degree Comprehensive Requirements and Associate of Applied Science Requirements.

First Term

FT 101	Fitness Technology Seminar	2
FT 102	Injury Prevention and Management	2
FT 131	Structure and Function of the Human Body	4
HPE 295	Health and Fitness for Life	3
PE 181A	Beginning Weight Training	1
*PE 282A	Group Fitness: Pro-Act option	1
Co-requisite: Aerobic class		1

Second Term

FT 103	Nutrition for Fitness Instructors	2
FT 104	Fitness Assessment & Programming I	3
FT 106	Analysis of Movement	3
*PE 281	Professional Activities: Weight Training	2
*PE 283	Mind/Body: Pro Act options	1
Co-requisite: Yoga or Tai Chi		1

Third Term

FT 105	Fitness Assessment and Programming II	3
FT 107	Exercise Science I	3
FT 280 CE:	Fitness Technology	4
*PE 287	Aquatics: Pro Act option	1
Co-requisite: Aquatics class		1

Fourth Term

FT 203	Fitness Promotion	3
FT 204	Exercise Science II	2
FN 225	Nutrition	4
CG 280C	PE Cooperative Education	1

Fifth Term

FT 201	Fitness Assessment and Programming III	3
FT 202	Fitness and Aging	3
CG 280D	FT Cooperative Education	1

Sixth Term

FT 280	CE: Fitness Technology Practicum-Internship	4
*PE 282B	Special Populations: Pro Act Option	2

**Degree requirement: Pro-Act WT Training (PE 281) +3 other Pro-Act options.*

Required and may be taken any term:

***General Education minimum 16*

**PSY 101	Psychology and Human Relations	4
**CAS 133	Introduction to Computers	4
**SP 111	Public Speaking	4
**Biology/Chemistry course student choice		4-5

***Degree Requirement: Two required courses may count toward General Education. One course from each distribution area, no more than two in one area. (Arts & Letters, Social Science, Mathematics, Science, and Computer Science).*

If the two required courses are taken as a General Education credits, then eight additional credits of General Education must be taken.

FITNESS TECHNOLOGY CERTIFICATE

Certificate 48 credit hours of required fitness technology courses and related core courses.

First Term

FT 101	Fitness Technology Seminar	2
FT 102	Injury Prevention	2
FT 131	Structure and Function of the Human Body	4
HPE 295	Health and Fitness for Life	3
PE 181A	Beginning Weight Training	1
*PE 282A	Group Fitness: Pro-Act option	1
Co-requisite: Aerobic class		1

Second Term

FT 103	Nutrition for Fitness Instructors	2
FT 104	Fitness Assessment & Programming I	3
FT 106	Analysis of Movement	3
*PE 281	Professional Activities: Weight Training	2
*PE 283	Mind/Body: Pro Act options	1
Co-requisite: Yoga or Tai Chi		1

Third Term

FT 105	Fitness Assessment and Programming II	3
FT 107	Exercise Science I	3
FT 280 CE:	Fitness Technology	4
*PE 287	Aquatics: Pro Act option	1
Co-requisite: Aquatics class		1

Required and may be taken any term:

PSY 101	Psychology and Human Relations	4
CAS 133	Introduction to Computers	4
SP 111	Public Speaking	4

*Certificate requirement: Pro-Act WT Training (PE 281) +2 other Pro-Act options.

FRENCH

Sylvania Campus
Communication Technology Building, (CT) Room 219
503-977-4851

DESCRIPTON

All PCC French courses are taught using an immersion method. The objective of all French courses at PCC is to help students to develop communicative competence and proficiency in comprehension, speaking, reading and writing French as well as cultural awareness. Assessment is based on consistent attendance, active student participation, and daily written and oral assignments.

There are no requirements or prerequisites for entry into the first term of first year French. However, the student should read the French course descriptions for other French courses. Students who have studied a language before and are unsure of their placement are encouraged to consult with a world language teacher since they will not be admitted to a course if their skill level is too advanced for that course.

All students who enroll in world language classes (including those on the waiting list) are expected to attend class the first day when material essential for successful completion of the course will be presented. Students who do not attend the first class session may be replaced by those who do attend.

See the Course Description (FR prefix) section of this catalog for individual environmental science courses and their prerequisites.

GENERAL SCIENCE

Cascade Campus
Jackson Hall (JH) Room 210
503-978-5209

Rock Creek Campus
Building 7, Room 202
503-614-7500

Southeast Center
Mt. Scott Hall (MTH) Room 103
503-788-6146

Sylvania Campus
Science Technology Building, (ST) Room 312
503-977-4174

DESCRIPTION

General science courses introduce students to their physical environment and its scientific exploration; specific topics examined in these courses include geology, astronomy, oceanography and meteorology. These courses are designed to: provide an interdisciplinary overview, introduce fundamental scientific concepts, demonstrate scientific inquiry, illustrate how hazards and resources related to these topics impact society, and increase the student's appreciation of their world. These courses are appropriate for students with a limited science and math background. Work in the general sciences is an important part of many college programs.

All general science courses include a lab component and are on the PCC General Education Course List. General science courses can be taken individually or in any sequence and have no course specific prerequisites.

See the Course Description (GS prefix) section of this catalog for individual environmental science courses and their prerequisites.

GEOGRAPHY

Cascade Campus
Liberal Arts & Mathematics Division
Terrell Hall, (TH) Room 220
503-978-5251

Southeast Center
Mt. Scott Hall, (MSH) Room 103
503-788-6147

Rock Creek Campus
Building 3, Room 201
503-614-7327

Sylvania Campus
Social Science Building, (SS) Room 215
503-977-4289

DESCRIPTION

Geography is concerned with the uniqueness of places. What makes one place unique and different from another? What are the factors and processes, both human and physical, which account for this uniqueness? Geography is not concerned with memorization of place names (capitals, rivers etc,) lists of imports and exports or other statistical information.

See the Course Description (GEO prefix) section of this catalog for individual geography courses and course prerequisites.

GEOLOGY

Cascade Campus
Jackson Hall (JH) Room 210
503-978-5209

Rock Creek Campus
Building 7, Room 202
503-614-7500

Sylvania Campus
Science Technology Building, (ST) Room 312
503-977-4174

DESCRIPTION

Geology is the study of the Earth: its composition, structure, history and the processes which shape the Earth. Geologists investigate landscapes and rocks to discover the story of how the Earth formed and developed over geologic time. Geologists examine problems related to earth hazards, resources and environmental quality and then work toward developing corrective measures. Work in geology is an important part of many college programs.

The G201, G202, G203 courses introduce students to the study of geology while preparing them for further study in the earth science field and include a lab component. The G207, G208, G209 courses introduce students to specific topics within geology and do not include a lab component. The G160, G161, G200 field experience courses use fieldtrips to introduce students to the regional geology of the Pacific Northwest. Geology courses can be taken individually or in any sequence and have no course specific prerequisites. See the Course Description (G prefix) sec-

tion of this catalog for individual environmental science courses and their prerequisites.

GERMAN

Sylvania Campus
Communication Technology Building, (CT) Room 219
503-977-4851

www.pcc.edu/programs/german/

DESCRIPTION

All PCC German courses are taught using an immersion method. The objective of all German courses at PCC is to help students to develop communicative competence and proficiency in comprehension, speaking, reading and writing German as well as cultural awareness. Assessment is based on consistent attendance, active student participation, and daily written and oral assignments.

There are no requirements or prerequisites for entry into the first term of first year German. However, the student should read the German course descriptions for other German courses. Students who have studied a language before and are unsure of their placement are encouraged to consult with a world language teacher since they will not be admitted to a course if their skill level is too advanced for that course.

All students who enroll in world language classes (including those on the waiting list) are expected to attend class the first day when material essential for successful completion of the course will be presented. Students who do not attend the first class session may be replaced by those who do attend. See the Course Description (GER prefix) section of this catalog for individual environmental science courses and their prerequisites.

GERONTOLOGY

Sylvania Campus
Social Science Building, (SS) Room 1
503-977-8254 or 503-977-4077

ger@pcc.edu

www.pcc.edu/ger/

CAREER AND PROGRAM DESCRIPTION

Careers in gerontology are among the next big things in the 21st century workplace, and PCC's gerontology program is on the cutting edge of this opportunity. This program is designed for individuals who wish to develop careers in the field of aging, those already employed or active in gerontology or related fields who wish to enhance their career paths, and those seeking challenging and meaningful career changes in response to new opportunities created by an aging society. Graduates of this program will develop problem-solving and research skills through interdisciplinary core courses and electives tailored toward their career goals. Internships, mentorships and career coaching will prepare students to create individualized career paths in service industries responding to a longer living and healthier population. Exponential growth is expected in all service-providing industries related to aging, particularly in the health care services continuum, financial and legal services, leisure, life-long learning, hospitality, fitness and wellness areas.

Total required credit may vary due to three to four credit conversion. PCC comprehensive degree and certificate minimum requirements must be met.

DEGREES AND CERTIFICATES OFFERED

Associate of Applied Science Degree

Gerontology

One-Year Certificate

Gerontology

Less than One-Year Certificates: Career Pathways

Career Pathways Certificates are short-term credentials (12-44 credits) which prepare individuals for entry-level employment. Career Pathways certificates may be the first certificate a student earns en route to a certificate of greater length or an Associate of Applied Science (AAS) degree. Contact the department for information.

Gerontology Activity Assistant 23 credits

Gerontology Activity Director 35 credits

Gerontology Activity Consultant 20 credits

Gerontology Advanced Behavioral & Cognitive Care-23-26 credits (Pending State Approval)

PREREQUISITES AND REQUIREMENTS

Candidates should be ready to enter WR 121 and MTH 20 for the Certificate and MTH 65 for the Degree (demonstrated through placement tests or documented previous college level work.) Those candidates with insufficient background to enter at this level may need to extend the time it takes to complete the program. Faculty advisors will provide information regarding preparatory course work options.

COURSE OF STUDY

Students may earn a one-year certificate in Gerontology or an Associate of Applied Science degree in Gerontology at PCC. Students may also earn the degree or certificate in conjunction with a certificate or degree in other PCC programs such as fitness technology, the allied health field, nursing, business, management, or alcohol and drug counseling. The Division of Social Science has signed an articulation agreement with Portland State University to allow graduates of our two-year program in Gerontology to transfer to Portland State University as juniors. Certificates and the Degree can be completed through an online option.

GERONTOLOGY AAS DEGREE

Minimum 90 credit hours, which includes 73 credit hours of required program courses plus General Education credit hours and electives. Students must also meet Associate Degree Comprehensive Requirements and Associate of Applied Science Requirements. Two of the social sciences courses required for the Gerontology degree may also be used to meet the General Education requirements.

Students completing the one-year Gerontology Certificate will

have also completed the first year's work toward the Associate degree in Gerontology. Students must meet college graduation requirements including General Education, Math and English competencies.

Core Courses: 28 credits

GRN 181	Exploring the Field of Aging	2
GRN 282	Gerontology Professional Seminar	1
PSY 215	Human Development	3-4
SOC 223	Sociology of Aging	3-4
SOC 230	Introduction to Gerontology	3-4
SOC 231	Sociology of Health and Aging	3-4
SOC 232	Death & Dying: Culture & Issues	3-4
GRN 280A	CE: Gerontology Internship	4
GRN 280B	Gerontology Internship Seminar	1

Required Degree Courses - 21 credits

AD 101	Alcohol Use & Addiction	3
PHL 207	Ethical Issues in Aging	4
SOC 204	General Sociology: Sociology in Everyday Life	3-4
SOC 213	Diversity in the United States	3-4
GRN 280A	CE: Gerontology Internship (Worksite Placement)	6

Basic Competencies

WR 121	English Composition	3-4*
MTH 65	Introductory Algebra	3-4**

** Or passing a writing course for which WR 121 is a prerequisite.*

*** Or higher, or passing the PCC competency exam for MTH 65.*

Restricted Electives - Choose eight credits from below and eight from the certificate electives.

AD 102	Drug Use & Addiction	3
AD 105	Aging & Addictions	3
AD 154	Client Record Mgmt & Addiction	3
AD 156	Ethical & Professional Issues	3
FT 102	Injury Prevention & Management	2
FT 106	Analysis of Movement	3
FT 131	Structure & Function of the Human Body	4
FT 202	Fitness and Aging	3
GRN 265	Activity Professional Training I	3
GRN 266	Activity Professional Training II	3
HE 252	First Aid Basics and Beyond	1
HE 212	Women's Health	4
HE 213	Men's Health	4
HE 242	Stress & Human Health	4
HE 251	Comm/Public Health Issues	4
PSY 201	Introduction to Psychology	4
PSY 202	Introduction to Psychology	4
PSY 214	Introduction to Personality	4
PSY 222	Family & Intimate Relations	4
PSY 231	Human Sexuality	4
PSY 232	Human Sexuality	4
SOC 206	General Sociology: Social Problems	3-4
SOC 218	Sociology of Gender	4

Choose one course from the following Restricted Electives[1]

CAS 216	Beginning Word: WIN[1]	3
CAS 217	Advanced Word: WIN[1]	3
CAS 133	Basic Computer Skills/MS Office[1]	4
CAS 170	Excel[1]	3
CAS 140	Access[1]	3
CAS 231	Publisher[1]	3

[1] *This requirement can be met through proof of comparable, work-based computer skills training.*

GERONTOLOGY CERTIFICATE

Minimum 47 credit hours as outlined in the suggested sequence of courses.

The core courses provide basic knowledge about aging in several important domains. Students should take GRN 181 Exploring the Field of Aging II in their first or second term in the program. The worksite placement (internship) will provide a unique opportunity for the students to work directly with older adults in different settings. Certificate candidates who are currently working in the field with aging adults and have accumulated at least 200 hours of work experience may petition to receive credit up to 90 hours (three credits) toward the required hours for worksite placement. Students must complete the program with a grade of "C" or better. All required courses and many electives are available online.

Core Courses - 28 credits

GRN 181	Exploring the Field of Aging	2
GRN 282	Gerontology Professional Seminar	1
PSY 215	Human Development	3-4
SOC 223	Sociology of Aging	3-4
SOC 230	Introduction to Gerontology	3-4
SOC 231	Sociology of Health and Aging	3-4
SOC 232	Death & Dying: Culture & Issues	3-4
GRN 280A	CE: Gerontology Internship	4
GRN 280B	Gerontology Internship Seminar	1

Basic Competencies

WR 121	English Composition [1]	3-4
MTH 20	Basic Math [2]	4

[1] *Or passing a writing course for which WR 121 is a prerequisite.*

[2] *Or higher, or passing the PCC competency exam for MTH 20.*

Electives - At least eight credits from the following courses:

AD 101	Alcohol Use & Addiction [2]	3
GRN 165	Basic Activity Director Training	2
GRN 235	Advanced Care Issues	2
GRN 236	Advanced Care Practices	2
SOC 204	Sociology in Everyday Life [2]	4
SOC 205	Social Change & Social Institutions	4
SOC 213	Diversity in the United States [2]	4
PHL 207	Ethical Issues in Aging [2]	4
PSY 101	Psychology & Human Relations	4
PSY 214	Introduction to Personality	4
PSY 222	Family & Intimate Relations	4
MP 111	Medical Terminology	4
HPE 295	Health & Physical Fitness for Life [1]	3
HE 250	Personal Health	3
BA 101	Introduction to Business	4

[1] *HPE 295 requires on-campus initial, midterm and final assessments for Lab. Online students should check with the instructor to make alternative arrange-*

ments.
[2] *These courses are required for the AAS Degree.*

Choose one course from the following Restricted Electives

CAS 216	Beginning Word: WIN	3
CAS 217	Advanced Word: WIN	3
CAS 133	Basic Computer Skills/MS Office	4
CAS 170	Excel	3
CAS 140	Access	3
CAS 231	Publisher	3

[1] *This requirement can be met through proof of comparable, work-based computer skills training.*

Note: Students must take Health Education 110 - Cardiopulmonary Resuscitation (1 credit) or acquire training and receive a certificate of completion in the same area from a licensed public or private organization in order to complete the requirements for this certificate.

GERONTOLOGY ACTIVITY ASSISTANT CERTIFICATE: CAREER PATHWAYS

23 Credits-requires HS Diploma or GED

GRN 181	Exploring the Field of Aging	2
WR 121	English Composition	4
SOC 223	Sociology of Aging	4
HE 250	Personal Health	3
	or	
HPE 295	Health & Fitness for Life	3
GRN 165	Basic Activity Director Training	2
GRN 265	Activity Professional Training I	3
GRN 280A	CE: Gerontology Internship	4
GRN 280B	Gerontology Internship Seminar	1

GERONTOLOGY ACTIVITY DIRECTOR CERTIFICATE: CAREER PATHWAYS

35 credits- requires HS Diploma or GED

GRN 181	Exploring the Field of Aging	2
WR 121	English Composition	4
SOC 223	Sociology of Aging	4
SOC 231	Sociology of Health & Aging	4
SOC 232	Death & Dying	4
HE 250	Personal Health	3
	or	
HPE 295	Health & Fitness for Life	3
GRN 165	Basic Activity Director Training	2
GRN 265	Activity Professional Training I	3
GRN 266	Activity Professional Training II	3
GRN 280A	CE: Gerontology Internship	5
GRN 280B	Gerontology Internship Seminar	1

GERONTOLOGY ACTIVITY CONSULTANT CERTIFICATE: CAREER PATHWAYS

20 credits-requires a BA or an MA Degree

SOC 223	Sociology of Aging	4
SOC 230	Introduction to Gerontology	4
GRN 165	Basic Activity Director Training	2
GRN 265	Activity Professional Training I	3
GRN 266	Activity Professional Training II	3
GRN 280A	CE: Gerontology Internship	4

GERONTOLOGY ADVANCED BEHAVIORAL & COGNITIVE CARE CERTIFICATE: CAREER PATHWAYS 23-26 credits *(Pending State Approval)*

GRN 181	Exploring the Field of Aging	2
SOC 223	Sociology of Aging	4
SOC 231	Health and Aging	4
SOC 232	Death and Dying	4
AD 105	Aging and Addiction	3
GRN 280A	Internship	4*
GRN 280B	Internship Seminar	1
GRN 235	Advanced Care Issues	2
GRN 236	Advanced Care Practice	2

** Up to 3 hours can be waived with documentation of 200 hours of related employment. Students applying for the Certificate should present evidence of prior experience and training to the Gerontology Program Advisor on application for the Certificate to determine eligibility for the waiver.*

GRAPHIC DESIGN

Sylvania Campus
Communications Technology Building, (CT) Room 102
503-977-4790, 503-977-4834, 503-977-4264

www.pcc.edu/gd

CAREER AND PROGRAM DESCRIPTION

Graphic design is the art, discipline and profession of visual communication. By combining images, words and ideas graphic designers focus information toward an audience to achieve a desired goal. Graphic designers blend artistic talent, typography and computer knowledge to create advertisements, brochures, logos and identity systems, newsletters, catalogs, signage systems, web pages, magazines and books. The two-year program at PCC prepares the student for entry-level work in the highly competitive and deadline-oriented field of graphic design. Class work is designed to simulate industry situations and standards.

Total required credit may vary due to three to four credit conversion. PCC comprehensive degree and certificate minimum requirements must be met.

DEGREE AND CERTIFICATE OFFERED

Associate of Applied Science Degree
Graphic Design

PREREQUISITES AND REQUIREMENTS

Students are strongly encouraged to attend the Graphic Design Orientation meeting held the first Thursday in June at 7 p.m. in room CT 101 on the Sylvania campus. Students starting the program are required to test into WR 121 or above on the English placement test, and MTH 65 or above on the math placement test as minimum entry requirements.

The program begins fall term when students must successfully complete GD 120, GD 114 and GD 101 with a "B" grade or better before taking other first-year graphic design courses. Please note that some courses are only offered once during the year and enrollment is limited. Beginning 2008-2009, enrollment in second year is limited and acceptance will be determined through a portfolio and grad review process.

COURSE OF STUDY

First term design courses are taught in a hands-on, non-computer format. Beginning second term, design study is integrated with computer technology. In all classes, students study the principles and practices used to carry an idea from thumbnail sketches through layout and completed design. Both two- and three-dimensional design concepts in print and digital format are explored. At the completion of the first year, student work is assessed prior to enrollment in the second year. All second year work is directed at building a professional level portfolio.

Full-time day students can complete the program in six terms. However, many students elect to take a part-time course load and take longer than six terms to complete the program.

GRAPHIC DESIGN AAS DEGREE

Minimum 104 credit hours which includes 80 credit hours of required program courses plus General Education credit hours and electives. Students must also meet Associate Degree Comprehensive Requirements and Associate of Applied Science Requirements.

First Year Program

Fall Term

GD 120	Graphic Design I	3
ART 131	Drawing (prerequisite for GD 139)	3
GD 101	Macintosh for Graphic Designers	1
GD 114	Introductory Typography	3
WR 121	English Composition	3-4

Winter Term

GD 122	Graphic Design II	3
ART 231	Drawing	3
GD 140	Digital Page Design I	3
GD 116	Intermediate Typography	3
GD 150	Digital Illustration I	3

Spring Term

GD 124	Graphic Design III	3
GD 151	Digital Illustration II	3
ART 103	Introduction to Art	4
GD 141	Digital Page Design II	3
GD 241	Digital Imaging I	3

Second Year Program

Note: All first year graphic design and art courses must be completed before admission to second year courses.

Fall Term

GD 243	Digital Imaging I	3
GD 244	Preparing Files for Print	3
GD 221	Graphic Design IV	3
GD 249	Graphic Design Studio (or co-op Ed internship)	3
BA 223	Principles of Marketing (or BA 239 Advertising)	3

Winter Term

GD 222	Graphic Design V	3
GD 139	Illustration for Graphic Designers	3
GD 242	Comb. Graphic Programs	3
CAS 111D	Beginning Web Site Creation: Dreamweaver	3
GD 228	Professional Graphic Design Practices	3

Spring Term

All General Education courses must be completed by end of this term.

GD 229	Portfolio Preparation	3
Elective (Program Related Suggested)		3-4
ART 237	Life Drawing	3

To be taken at any time prior to graduation: MTH 65

Cooperative work experience and internship placements are available. These are highly recommended to prepare student for graphic design industry.

Recommended Electives

ART 101	Introduction to Art	3
ART 102	Introduction to Art	3
ART 142	Introduction to Photography (darkroom)	3
ART 181	Introduction to Painting	3
ART 284	Watercolor I	3
SP 111	Fundamentals of Speech	4

HEALTH

Cascade Campus
Jackson Hall, (JH) Room 220
503-978-5251

Southeast Center
Mt. Scott Hall, (MSH) Room 103
503-788-6146

Rock Creek Campus
Building 7, Room 202
503-614-7257

Sylvania Campus
Health Technology Building, (HT) Room 305
503-977-42225

www.pcc.edu/programs/health/

DESCRIPTION

Health is that condition of the individual that makes possible the highest enjoyment of life, the greatest constructive work, and that shows itself in the best service to the world. Health explores and examines the well-being of the individual and community from a multi-dimensional perspective.

At PCC, Health Course offerings range from general health over-

view courses in Personal Health, Community Health, and Health and Fitness to specialty courses in Stress, Children's, Men's, and Women's Health, and First Aid. In addition to individual courses, a Health Studies Award is available. Additional information on the Health Studies Award may be found in the Focus Awards area of the catalog.

For complete listing of Health (HE prefix) courses, see Course Descriptions at the end of the catalog

HEALTH INFORMATION MANAGEMENT

Cascade Campus
Jackson Hall, (JH) Room 210A
503-978-5667

www.pcc.edu/programs/health-info-mgmt/

CAREER AND PROGRAM DESCRIPTION

Health information management (HIM) professionals manage health care data and information resources. The profession encompasses planning, collecting, aggregating, analyzing and disseminating individual patient and aggregate clinical data. HIM professionals serve the health care industry wherever health information is collected, organized, and analyzed. HIM professionals work in a variety of health care settings, payer organizations, research and policy agencies and accounting and legal firms.

HIM professionals bring unique skills to the health care industry such as managing health records and health information systems, summarizing data into useful information, protecting the privacy and security of patient health information and assisting providers in understanding data flow and reporting requirements within the context of dynamic rules, regulations and guidelines.

The PCC program is accredited by the Commission on Accreditation for Health Informatics and Information Management Education (CAHIM), in cooperation with the Council on Accreditation of the American Health Information Management Association. Graduates are eligible to take the national certification examination given through the American Health Information Management Association.

The program begins fall term only. Students must receive a "C" or better in all program required courses. The program is designed to correlate classroom and lab experience with practical experience in health care facilities. The lecture and lab portion of the program is offered entirely through distance learning.

Total required credit may vary due to three to four credit conversion. PCC comprehensive degree and certificate minimum requirements must be met.

DEGREES AND CERTIFICATES OFFERED

Associate of Applied Science Degree
Health Information Management

PREREQUISITES AND REQUIREMENTS

1. Compass scores to show readiness to enter WR 121, RD 115 and MTH 60.

2. Four credits of computer courses including windows, word processing, spreadsheet and database must be completed prior to taking any HIM courses.

3. Four credit medical terminology course must be completed prior to taking any HIM courses.

4. Evidence of immunity to measles.

5. Program advising with a Health Information Management program advisor.

6. Transportation to clinical facilities.

7. Criminal Background Check. Please contact the department office for information.

HEALTH INFORMATION MANAGEMENT AAS DEGREE

Minimum of 90 credit hours which includes required program courses plus General Education credit hours and electives. Students must also meet Associate Degree Comprehensive Requirements and Associate of Applied Science Requirements.

COURSE OF STUDY

Fall 2008

HIM 101	Service Learning	2
HIM 110	Health Information Technology I	3
HIM 120	Health Information Technology I Lab	1
HIM 182	Health Care Delivery Systems	3
BI 121	Introduction to Anatomy and Physiology I	4
WR 121	English Composition	3-4

Winter 2009

HIM 105	Ancillary Information Analysis	3
HIM 107	Ancillary Information Analysis Lab	1
HIM 121	Legal & Ethical Aspects of Healthcare	3
BI 122	Introduction to Anatomy and Physiology II	4
General Education		4

Spring 2009

HIM 131	Medical Science	5
HIM 136	Medications	3
SP 100	Introduction to Speech Communication	4
General Education		4

Fall 2009

HIM 141	Health Information Technology II	3
HIM 275	Classification Systems III	3
HIM 281	Data Management and Analysis I	3
HIM 286	Data Management and Analysis I Lab	2
HIM 283	Health Information Systems	3
HIM 292	Health Information Directed Practice I	1

Winter 2010

HIM 270	Classification Systems I	4
HIM 285	Healthcare Financing/Compliance	3

HIM 271	Quality Improvement in Healthcare	3
HIM 274	Quality Improvement in Healthcare Lab	1
HIM 282	Data Management & Analysis II	3

SPRING 2010

HIM 273	Classification Systems II	4
HIM 276	Classifications Systems Lab	2
HIM 290	Health Information Technology III	3
HIM 272	Health Information Management	3
HIM 277	Health Information Management Lab	2
HIM 293	Health Information Directed Practice II	1

Subject to change

HISTORY

Cascade Campus
Terrell Hall, (TH) Room 220
503-978-5251

Southeast Center
Mt. Scott Hall, (MSH) Room 103
503-788-6146

Rock Creek Campus
Building 3, Room 201

Sylvania Campus
Social Science Building, (SS) Room 215
503-977-4289

www.pcc.edu/programs/history/

DESCRIPTION

History is one of the most important subjects that you can study because it touches every academic subject. The study of history enables individuals to think historically and to analyze cause and affect relationships in human affairs. Through the analysis and interpretation of past events, historians provide insights on current events as well as on the broader human condition. The more that people understand about their past, the greater their perspective becomes and the more likely the present is to make sense. Historians occupy positions in a wide variety of fields: for example, high school and college instructors, researchers in business and industry, government positions, journalism, law, librarians, professional writers and a host of other occupations that require critical thinking, research and writing skills.

The PCC History Program includes survey classes in American History, European History, and Eastern Civilization as well as specialty classes. These include: African American, Women's History, American Indian, Holocaust and several others. Not all classes are offered every term. All classes are transferable to four-year universities. See the Course Description (HST prefix) section of this catalog for individual history courses and course prerequisites.

HUMANITIES

Cascade Campus
Terrell Hall, (TH) Room 220
503-978-5251

Rock Creek Campus
Building 3, Room 201
503-614-7235

DESCRIPTION

Studying the humanities provides individuals with opportunities to explore the human experience through a variety of windows such as art and architecture, philosophy, literature, music, history and languages. Humanities students examine and interpret works from the viewpoint of several disciplines to better understand the influence of cultural values and world views, forms of political and social order, basis and impact of gender roles and effect of historic and environmental events on how individuals and societies perceive and project themselves. Humanities students could find jobs in three broad categories: academics, media and writing. Some specifics include teaching, business theorists, archaeologists; literary critics, cinematography, television and radio personalities, writers, journalists and talent agents; essentially any field that requires an understanding of the "human condition."

At PCC, the Humanities Program includes a broad-based introductory course, sequences in Technology, African Cultures and Leadership. See the Course Description (HUM prefix) section of this catalog for individual humanities courses and course prerequisites.

INTERIOR DESIGN

Sylvania Campus
Science & Technology Building, (ST) Room 208
503-977-4166, 503-977-4030

www.pcc.edu/programs/interior-design

CAREER AND PROGRAM DESCRIPTION

Interior designers specialize in creating uniquely defined environments that cater to the spatial needs and functional requirements of its user, drawing from a diverse set of skills. Students in this program learn to apply design principles and techniques to professional planning, equipping, and furnishing of residential interior spaces. Specializations within the program of study also include Kitchen & Bath Design and Sustainable Building Design.

Total required credit may vary due to three to four credit conversion. PCC comprehensive degree and certificate minimum requirements must be met.

DEGREE AND CERTIFICATES OFFERED

Associate of Applied Science Degree
- Interior Design

One-Year Certificates
- Kitchen and Bath Certificate *(Pending State Approval)*
- Sustainable Building Certificate

Less than One-Year Certificate
- Interior Furnishings Certificate

PREREQUISITES AND REQUIREMENTS

College level reading and writing skills and basic math skills are required. Individual courses may have prerequisites which are included in the course description. A "C" grade or better is required in all coursework in this major. Pass/No Pass grades are not accepted for interior design coursework.

COURSE OF STUDY

PCC's Interior Design program is the only two-year degree program in residential interior design available in Oregon and Southern Washington. Our graduates are sought by employers for their unique abilities: adept design problem solving, ability to draw from historical traditions, and effective communication skills. The curriculum includes a range of courses from Interior Design, Architecture, Art and Business. Students gain hands-on experience through an Internship Program. Articulation agreements are in place with several local colleges for those wanting to pursue related Bachelor degrees.

INTERIOR DESIGN AAS DEGREE

Minimum of 95 credit hours including 79 within the major, plus General Education credit hours and enough electives to equal the degree required minimum. Students must also meet Associate Degree Comprehensive Requirements and Associate of Applied Science Requirements.

The degree program prepares students for an entry-level position as an interior designer, or for more advanced placement in the wholesale or retail sales business. Emphasis is placed on a broad scope of courses which are application-oriented. Students must finish the Interior Furnishings Certificate before or concurrently with this option.

REQUIRED COURSES

Core classes plus Advanced Requirements

ID 125	Computer Drafting for Interior Designers	3
ID 138	Introduction to Kitchen and Bath Planning	3
ARCH 200	Introduction to Architecture	4
ARCH 121	Structural Systems I	2
ARCH 132	Building Codes	2
ART 215	History of American Residential Architecture	3
ARCH 101	Architecture Graphics I	3
ARCH 111	Working Drawings I	3
ID 234	Advanced Interiors	3
ID 236	Lighting Design	3
ID 240	Interior Design Internship	3
SP 130	Business & Professional Speech Communication	3-4
	or	
SP 111	Fundamentals of Speech	3-4
BA 250	Small Business Management	3
General Education		16

Plus college requirements for Math and Writing :

MTH 65	Introductory Algebra (or competency)	4
WR 121	English Composition	3-4

Note: General Education requirements and a list of courses approved to satisfy those requirements will be found in the Comprehensive Degree Requirements section of this catalog. The A.A.S. degree in Interior Design also requires ART 115 and 116, which may be taken as part of the General Educations requirements.

KITCHEN AND BATH CERTIFICATE *(Pending State Approval)*

Minimum of 54 credits within the program plus the college requirements for Communication, Computation and Human Relations. This program prepares students for an entry-level position as a kitchen and bath designer. The Kitchen and Bath Certificate includes course work from architecture and interior design and prepares students to take the National Kitchen and Bath Association exams to become a Certified Kitchen and/or Bath Designer. The Certificate earned Supported status by the National Kitchen and Bath Association.

Required Courses

ARCH 100	Graphic Communication for Designers	3
ARCH 110	Introduction to Architectural Drawing	2
ID 131	Introduction to Interiors	3
ID 132	Planning Interiors	3
ID 121	Sustainable Materials for Residential Interiors	3
ARCH 111	Working Drawings I	3
ARCH 124	Introduction to Building Systems	3
ARCH 121	Structural Systems I	2
ARCH 132	Residential Building Code	2
ART 215	History of American Residential Architecture	3
ID 125	Computer Drafting for Interior Designers	3
ID 138	Introduction to Kitchen and Bath Planning	3
ID 133	Space Planning	3
ID 135	Professional Practice for Designers	3
ID 225	CAD for Kitchen and Bath	1
ID 236	Lighting Design	3
BCT 244	Kitchen and Bath Cabinet Installation	2
ID 238	Advanced Kitchen and Bath Planning	3
ID 280	CE: Kitchen and Bath	6

Plus college requirements for communication, computation and human relations.

WR 121	English Composition (or higher)	3-4
MTH 65	Introductory Algebra (or higher)	4
BA 238	Sales	3

SUSTAINABLE BUILDING CERTIFICATE

Includes course work from architecture, interior design, building construction, social sciences and science as it relates to sustainable or "green" building issues. This program focuses on creating buildings that are sited, designed, constructed, operated, and maintained for the health and well being of the occupants while minimizing impact on the environment. See an advisor for current list of required courses.

INTERIOR FURNISHINGS CERTIFICATE

Minimum of 41 credit hours. Classes prepare students for an entry-level position in an occupation involved with wholesale and retail sales of interior furnishings. Emphasis is on the planning of aesthetic interiors, products/materials and professional practice. Not all courses are offered every term.

Core Required courses

ARCH 100	Graphic Communication for Designers	3
ARCH 110	Introduction to Architectural Drawing	2
ART 131	Introduction to Drawing	3

ID 131	Introduction to Interiors	3
ID 132	Planning Interiors	3
ID 120	Interior Products and Materials I	3
ID 121	Sustainable Materials for Residential Interiors	3
ID 122	History of Furniture-Ancient to 1800	3
ID 123	History of Furniture-1800 to Present	3
ARCH 124	Introduction to Building Systems	3
ID 133	Space Planning	3
ID 135	Professional Practices for Designers	3
ID 230	Textiles for Interiors	3
BA 238	Sales	3

JAPANESE

Sylvania Campus
Communications Technology Building, (CT) Room 219
503-977-4841

DESCRIPTION

All PCC Japanese courses are taught using an immersion method. The objective of all Japanese courses at PCC is to help students to develop communicative competence and proficiency in comprehension, speaking, reading and writing Japanese as well as cultural awareness. Assessment is based on consistent attendance, active student participation, and daily written and oral assignments.

There are no prerequisites and requirements for entry into the first term of first year Japanese. However, the student should read the Japanese course descriptions for other Japanese courses. Students who have studied a language before and are unsure of their placement are encouraged to consult with a world language teacher since they will not be admitted to a course if their skill level is too advanced for that course.

All students who enroll in world language classes (including those on the waiting list) are expected to attend class the first day when material essential for successful completion of the course will be presented. Students who do not attend the first class session may be replaced by those who do attend. See the Course Description (JPN prefix) section of this catalog for individual environmental science courses and their prerequisites.

JOURNALISM

Sylvania Campus
Communications Technology Building, (CT) Room 216
503-977-4264

DESCRIPTION

Journalism is inquiry: the struggle to understand and respond effectively to public issues. While it is the collection and transmission of news through media such as newspapers, periodicals, television, radio, and the Internet, it is more than simply a commodity that can be mined from public events and repackaged as “news.” It is fundamentally a democratic art, a way a free society engages in conversation with itself. In part, the study of journalism allows students to analyze the media and their impact on the world.

PCC offers courses in Journalism that introduce the student to the media and to media literacy through the study of the history of mass media, developing research and writing techniques, and examining visual communication. Students who take journalism courses find it helps them develop and hone their judgments in making public and personal choices. PCC Journalism courses are transferable to any Oregon college or university, fulfill requirements for the AAOT degrees, and will prepare students to apply to the University of Oregon School of Journalism and Communication. PCC also offers students a Journalism Focus Award.

Additional information on the Focus Award in Journalism may be found in the Focus Award section of the catalog. See the Course Description (J prefix) section of this catalog for individual environmental science courses and their prerequisites.

LANDSCAPE TECHNOLOGY

Rock Creek Campus
Building 7, Room 202
503-614-7257

www.pcc.edu/landscape

CAREER AND PROGRAM DESCRIPTION

Prepare for entry level and supervisory work in landscape construction, design, landscape management, or nursery production. In the construction area, students work with landscape contractors installing landscapes. Those specializing in management work primarily in maintaining existing landscapes both private and public. Upon application to the Landscape Contractors Board and presentation of transcripts and diploma, students completing the Associate of Applied Science Degree in Landscape Technology or one of the two-year certificates with a minimum 2.5 GPA will be eligible to sit for the Landscape Contractors licensing exam.

With proper licensing and experience, many students establish their own business in construction, maintenance or design. Employment can include work with wholesale and retail nurseries, landscape contractors, designers and positions in landscape maintenance and gardening. In addition, positions are available at retail nurseries, garden centers and at landscape and horticultural suppliers.

PCC classes are designed to develop knowledge and skills in plant care, plant identification, soils, irrigation, landscape business operations, estimating and bidding, basic landscape design and construction practices. Following the listed sequence of classes and entry into the program in the fall is recommended although not required by the program

Total required credit may vary due to three to four credit conversion. PCC comprehensive degree and certificate minimum requirements must be met.

DEGREE AND CERTIFICATES OFFERED

Associate of Applied Science Degree
- Landscape Technology

Two-Year Certificates

Landscape Construction
Landscape Management
Landscape Design
One-Year Certificate
Landscape Service Technician

PREREQUISITES AND REQUIREMENTS

All degree-seeking landscape students will be required to place into WR 115 and Reading 115 or completion of Upper Advanced English for Speakers of Other Languages (ESOL). Check the appropriate course descriptions for individual course requirements.

LANDSCAPE TECHNOLOGY AAS DEGREE

Minimum of 96 credit hours which includes 62 credit hours of required landscape technology courses and 6 credit hours of co-operative work experience; 12 credit hours of approved landscape technology electives and 16 credit hours of General Education. Students must also meet Associate Degree Comprehensive Requirements and Associate of Applied Science Requirements.

COURSE OF STUDY

First Term

HOR 226	Plant Materials - Deciduous	4
LAT 106	Basic Horticulture	4
LAT 111	Landscape Construction Practices	3
LAT 236	Landscape Math	3

Second Term

HOR 227	Plant Materials - Evergreen	4
HOR 290	Introduction to Landscape Design	3
CSS 200	Soils and Plant Nutrition	3
LAT 109	Plant Propagation	3

Third Term

HOR 228	Plant Materials - Flowering	4
LAT 110	Grounds Maintenance	4
LAT 108	Landscape Irrigation I	3
LAT 104	Pesticides	3
General Education		4

Fourth Term

LAT 217	Landscape Drafting	3
LAT 223	Site Surveying and Analysis	3
General Education		4

Fifth Term

LAT 243	Landscape Business Operations	3
MSD 101	Management and Supervisory Development	3
LAT 264	Landscape Estimating and Bidding	3
General Education		4

Sixth Term

HOR 255	Spring Annuals and Perennials	3
	or	
HOR 272	Summer Annuals and Perennials	3
LAT 241	Turfgrass Cultural Practices	3
General Education		4

LANDSCAPE ELECTIVES

Students are required to complete 12 credit hours of landscape electives from those listed. With department permission, specific applicable classes from business, art, applied computer courses, and/or management and supervision may be used. Check with a landscape advisor and the current term's schedule for specific offerings.

HOR 255	Spring Annuals and Perennials	3
	or	
HOR 272	Summer Annuals and Perennials	3
HOR 291	Landscape Design Process	3
LAT 214	Plant Composition	3
LAT 219	Landscape Illustration	3
LAT 225	Water Gardens	2
LAT 232	Landscape Irrigation II	4
LAT 235	Tree Care - Fall	3
LAT 240	Tree Care - Spring	3
LAT 250	Plant Diseases, Insects and Weed Identification	3
LAT 262	Native Plants of Oregon	3
LAT 271	Computer Aided Landscape Design	3
LAT 272	Sustainable Landscapes	3

Note: Students with one year documented work experience may take an additional 6 credit hours of General Education or landscape electives in place of cooperative work experience.

LANDSCAPE CONSTRUCTION CERTIFICATE

Classes are designed to develop knowledge and skills in plant identification, soils, irrigation, landscape business operations, estimating and bidding, and construction practices. Students successfully completing this curriculum may seek field supervisory positions in landscape construction. Upon application and presentation of transcripts and certificate to the State of Oregon Landscape Contractors Board, students completing this certificate will be eligible to sit for the Landscape Contractors licensing exam.

Minimum 78 credit hours which includes 66 credit hours of required landscape courses; 6 credit hours of approved landscape electives.

Students are prepared for work in landscape construction installing landscapes, hardscapes (outdoor construction features) and irrigation systems.

All landscape students will be required to place into WR 115 and Reading 115 or completion of Upper Advanced English for Speakers of Other Languages (ESOL). Check the appropriate course descriptions for individual course requirements.

Exit Requirement: All certificate applicants must have completed MTH 60; transferred a math level equivalent to, or higher than, MTH 60 from a prior degree, or placement into MTH 65.

COURSE OF STUDY

First Term

HOR 226	Plant Materials - Deciduous	4
LAT 106	Basic Horticulture	4
LAT 111	Landscape Construction Practices	3

LAT 236	Landscape Math	3

Second Term

HOR 227	Plant Materials - Evergreen	4
HOR 290	Introduction to Landscape Design	3
CSS 200	Soils and Plant Nutrition	3

Third Term

HOR 228	Plant Materials - Flowering	4
LAT 110	Grounds Maintenance	4
LAT 108	Landscape Irrigation I	3
LAT 104	Pesticides	3

Second Year: Required

LAT 217	Landscape Drafting	3
LAT 223	Site Surveying and Analysis	3
LAT 241	Turfgrass Cultural Practices	3
LAT 243	Landscape Business Operations	3
LAT 264	Landscape Estimating and Bidding	3
LAT 232	Landscape Irrigation II	4
MSD 101	Management and Supervisory Development	3
LAT 280A	Cooperative Work Experience*	6

**Note: Students with one year documented work experience in landscape construction may take an additional 6 credit hours of elective courses in lieu of cooperative work experience. Arrange with a landscape advisor.*

ELECTIVES

Landscape: Select 6 credit hours from other landscape certificates or from the requirements and/or electives listed for the AAS degree in landscape technology.

General Education: See a landscape advisor to select 6 credit hours of General Education, business, art, applied computer courses and/or management and supervision.

LANDSCAPE MANAGEMENT CERTIFICATE

Classes are designed to develop knowledge and skills in plant identification, soils, irrigation, landscape business operations, grounds maintenance, tree care, turfgrass culture and pest management. Students successfully completing this curriculum may seek field level supervisory positions in the landscape management industry.

Minimum 86 credit hours which includes 74 credit hours of required landscape courses; 6 credit hours of approved landscape electives and 6 credit hours of approved General Education, business, art, management and supervision and/or applied computer courses.

Students are prepared for work in the landscape management field maintaining residential, estate, commercial and public properties, golf courses, private and public gardens, and parks.

All landscape students will be required to place into WR 115 and Reading 115 or completion of Upper Advanced English for Speakers of Other Languages (ESOL). Check the appropriate course descriptions for individual course requirements.

Exit Requirement: All certificate applicants must have completed MTH 60; transferred a math level equivalent to, or higher than, MTH 60 from a prior degree, or placement into MTH 65.

COURSE OF STUDY

First Term

HOR 226	Plant Materials - Deciduous	4
LAT 106	Basic Horticulture	4
LAT 111	Landscape Construction Practices	3
LAT 236	Landscape Math	3

Second Term

HOR 227	Plant Materials - Evergreen	4
HOR 290	Introduction to Landscape Design	3
CSS 200	Soils and Plant Nutrition	3
LAT 109	Plant Propagation	3

Third Term

HOR 228	Plant Materials - Flowering	4
LAT 110	Grounds Maintenance	4
LAT 108	Landscape Irrigation I	3
LAT 104	Pesticides	3

Second Year

LAT 223	Site Surveying and Analysis	3
LAT 241	Turfgrass Cultural Practices	3
LAT 235	Tree Care - Fall	3
LAT 243	Landscape Business Operations	3
LAT 264	Landscape Estimating and Bidding	3
LAT 250	Plant Disease, Weed and Insect Identification	3
LAT 240	Tree Care - Spring	3
HOR 255	Spring Annuals and Perennials or	3
HOR 272	Summer Annuals and Perennials	3
MSD 101	Management and Supervisory Development	3
LAT 280A	Cooperative Work Experience*	6

**Note: Students with one year documented work experience in landscape management may take an additional 6 credit hours of elective courses in lieu of cooperative work experience. Arrange with landscape advisor.*

ELECTIVES

Landscape: Select 6 credit hours from other landscape certificates or from the requirements and/or electives listed for the AAS degree in landscape technology.

General Education: See a landscape advisor to select 6 credit hours of General Education, business, art, applied computer courses and/or management and supervision.

LANDSCAPE DESIGN CERTIFICATE

Classes are developed to build knowledge and skills in plant identification, soils, irrigation, site measurement and analysis, landscape design history, and design. Students completing the curriculum will have the skill needed to produce landscape designs. The 72 credit hours of required landscape design courses meet the educational requirement for certification with the Association of Professional Landscape Designers.

Minimum 84 credit hours which includes 72 credit hours of required landscape courses; 6 credit hours of approved landscape electives and 6 credit hours of approved General Education, business, art, management and supervision and/or applied computer courses.

Students are prepared to work in landscape design and construction field, performing services for residential and small commercial projects. They may work for garden centers, landscape contractors, landscape designers, or be self employed.

All landscape students will be required to place into WR 115 and Reading 115 or completion of Upper Advanced English for Speakers of Other Languages (ESOL). Check the appropriate course descriptions for individual course requirements.

Exit Requirement: All certificate applicants must have completed MTH 60; transferred a math level equivalent to, or higher than, MTH 60 from a prior degree, or placement into MTH 65.

COURSE OF STUDY

First Term

HOR 226	Plant Materials - Deciduous	4
LAT 106	Basic Horticulture	4
LAT 111	Landscape Construction Practices	3
LAT 236	Landscape Math	3

Second Term

HOR 227	Plant Materials - Evergreen	4
HOR 290	Introduction to Landscape Design	3
CSS 200	Soils and Plant Nutrition	3
LAT 109	Plant Propagation	3

Third Term

HOR 228	Plant Materials - Flowering	4
LAT 110	Grounds Maintenance	4
LAT 108	Landscape Irrigation I	3

Second Year

LAT 217	Landscape Drafting	3
LAT 223	Site Surveying and Analysis	3
LAT 243	Landscape Business Operations	3
LAT 264	Landscape Estimating and Bidding	3
HOR 291	Landscape Design Process	3
LAT 214	Plant Composition	3
LAT 219	Landscape Illustration	3
LAT 232	Landscape Irrigation II	4
LAT 271	Computer Aided Landscape Design	3
HOR 255	Spring Annuals and Perennials	3
	or	
HOR 272	Summer Annuals and Perennials	3
LAT 280C	Cooperative Work Experience – Landscape Design*	3

**Note: Students with one year documented work experience in landscape design may take an additional 3 credit hours of elective courses in lieu of cooperative work experience. Arrange with landscape advisor.*

ELECTIVES

Landscape: Select 6 credit hrs from other landscape certificates or from the requirements and/or electives listed for the AAS degree in Landscape Technology.

General Education: See a landscape advisor to select 6 credit hours of General Education, business, art, applied computer courses and/or management and supervision.

LANDSCAPE SERVICES TECHNICIAN CERTIFICATE

The first year core of classes is designed to develop knowledge and skills in plant care, plant identification, soils, irrigation, basic landscape design and construction practices. Students successfully completing this curriculum may seek entry level positions with landscape companies and will have completed the educational requirement for applying a combination of education and work experience as qualifying to sit for the State of Oregon Landscape Contractors licensing exam.

Minimum 41 credit hours of required Landscape Technology courses. Within the certificate curriculum, students will develop skills in communications, human relations, computation and industry specific technical areas.

Students are prepared for entry level positions in sales, construction or maintenance at wholesale and retail nurseries, landscape installation companies, or landscape maintenance companies.

All one-year certificate landscape students will be required to place at or above the following placement: Writing 41, Reading 41 or completion of Upper Advanced ESOL and Numerical 42. Check the appropriate course descriptions for individual course requirements.

COURSE OF STUDY

First Term

HOR 226	Plant Materials - Deciduous	4
LAT 106	Basic Horticulture	4
LAT 111	Landscape Construction Practices	3
LAT 236	Landscape Math	3

Second Term

HOR 227	Plant Materials - Evergreen	4
HOR 290	Introduction to Landscape Design	3
CSS 200	Soils and Plant Nutrition	3
LAT 109	Plant Propagation	3

Third Term

HOR 228	Plant Materials - Flowering	4
LAT 110	Grounds Maintenance	4
LAT 108	Landscape Irrigation I	3
LAT 104	Pesticides	3

LITERATURE

Cascade Campus
Terrell Hall, (TH) Room 220
503-978-5251

Southeast Center
Mt. Scott Hall, (MSH) Room 103
503-788-6146

Rock Creek Campus
Building 3, Room 201
503-614-7235

Sylvania Campus
Communications Technology Building, (CT) Room 219
503-977-4266

www.pcc.edu/programs/literature/

DESCRIPTION

The Literature Program seeks to teach and promote an understanding of the significance and history of various literatures and to foster an appreciation for the richness and variety of literary texts. Literature classes help students better read and consider the complexities of and responsibilities to cultures. Through improving their comprehension and appreciations of written language, students will be more likely to engage actively and effectively in their many communities, as they transfer to universities and/or pursue career/technical education. Acknowledging others' voices, evaluating authority, recognizing subtle biases and prejudices, integrating the ideas of others with one's own are all skills essential to active citizenship.

The prerequisite for PCC literature courses is placement into WR 121 or placement scores in reading and writing for placement into WR 121.

All PCC literature courses are transferable to four-year institutions and fulfill the block transfer agreement for the humanities in the general educational requirement for an associate degree. See the Course Description (ENG prefix) section of this catalog for individual literature courses and course prerequisites.

MACHINE MANUFACTURING TECHNOLOGY

Sylvania Campus
Automotive Metals Building, (AM) Room 113
503-977-4155, 503-977-8170

www.pcc.edu/programs/machine-manufacturing/

CAREER AND PROGRAM DESCRIPTION

Machinists operate various types of material processing equipment such as lathes, drill presses, milling machines, grinders, computer numerical control (CNC) machines, rapid prototyping, and computer assisted machining (CAM) systems. Machinists may specialize in the operation of one type of machine or work in a shop where they are required to perform equally well on several different machines.

The Machine Manufacturing Technology Program has been developed specifically as Open Entry and Open Exit (OEOE.) The program is designed to fit the needs of a student (take as few or as many modules as desired), and have the following characteristics: Open entry (enter any time during the term); Self-paced (learn at your own pace); Flexible (select your own attendance schedule); Individualized (a program can be tailor-made to fit specific needs); and, open exit (leave the program when you have met your training goals/needs)

Consult a program advisor through the department to help plan a course of study that will allow you to achieve your educational goals. Many of the machine manufacturing courses are now available in a distance learning format.

Total required credit may vary due to three to four credit conversion. PCC comprehensive degree and certificate minimum requirements must be met.

DEGREE AND CERTIFICATES OFFERED

Associate of Applied Science Degree

- Machine Manufacturing Technology

One-Year Certificates

- CNC Turning, 45.5 credit hours of required MCH courses (Pending State Approval)
- CNC Milling, 46 credit hours of required MCH courses (Pending State Approval)

Less than One-Year Certificates: Career Pathways

Career Pathways Certificates are short-term credentials (12-44 credits) which prepare individuals for entry-level employment. Career Pathways certificates may be the first certificate a student earns en route to a certificate of greater length or an Associate of Applied Science (AAS) degree. Contact the department for information.

Manufacturing Technician, 25.5 credit hours of required MCH courses

PREREQUISITES AND REQUIREMENTS

It is recommended that degree seeking students entering the MMT program have a score of 21 or higher (MTH 20) in the math portion; 42 or higher (WR90) on the writing portion; and 66 or higher (RD90) on the reading portion of the COMPASS test. Students whose first language is not English should take the English test through the English for Speakers of Other Languages (ESOL) Department. Students who place into advanced writing and advanced reading are ready to begin machining courses.

ASSOCIATE OF APPLIED SCIENCE DEGREE

Associate of Applied Science Degree in Machine Manufacturing Technology - 106 credit hours; satisfactory completion of 90 credit hours of MCH courses, 62 required core course credits, 28 technical electives credits and 16 credit hours of general education classes. Students must also meet Associate Degree comprehensive requirements and Associate of Applied Science Degree requirements.

COURSE OF STUDY

Required Core Courses (62 credit hours)

MCH 100	Machine Tool Basics	1
MCH 105	Blueprint Reading I	1.5
MCH 110	Blueprint Reading II	1.5
MCH 115	Geometric Dimensioning & Tolerancing	3.5
MCH 120	Machine Shop Math	2
MCH 125	Speeds and Feeds	1
MCH 130	Machine Shop Trigonometry	2.5
MCH 135	Basic Measuring Tools	1.5
MCH 145	Layout Tools	1.5
MCH 150	Precision Measuring Tools	1.5
MCH 160	Drilling Machines & Operations	2
MCH 175	Band Saws	1
MCH 180	Turning Machines & Operations	4
MCH 190	Boring on the Lathe	1
MCH 195	Threading on the Lathe	3

MCH 205	Vertical Milling Machines & Operations	3.5
MCH 225	Surface Grinding Machines & Operations	2
MCH 259	CNC Programming-Lathe	5
MCH 268	CNC Programming-Mill	5
MCH 272	Mastercam Level I	5
MCH 273	Mastercam Level II	5
MCH 278	CNC Operation-Mill	4
MCH 279	CNC Operation-Lathe	4

Technical Electives

MCH 101	Occupational Health & Safety	3
MCH 102	Introduction to Manufacturing	3
MCH 121	Manufacturing Processes I	4
MCH 123	Sheet Metal Fabrication	4
MCH 151	Metrology	2
MCH 157	Shop Project Machine Technology I	1.5
MCH 158	Shop Project Machine Technology II	3
MCH 159	Shop Project Machine Tech. III	4.5
MCH 210	Shop Project Machine Tech. IV	6
MCH 211	Shop Project Machine Tech. V	7.5
MCH 212	Shop Project Machine Tech. VI	9
MCH 213	Shop Project Machine Tech. VII	10.5
MCH 214	Shop Project Machine Tech. VIII	12
MCH 215	Horizontal Milling Machines & Operations	2.5
MCH 216	Mechanical Inspector	4
MCH 217	Quality Technician	4
MCH 220	Manufacturing Processes II	4
MCH 221	Gears	2
MCH 222	Coordinate Measuring Machine Operation	2
MCH 227	CNC Grinder Operation	2.5
MCH 228	Abrasives	1.5
MCH 229	Rapid Prototyping	5
MCH 235	Tool Sharpening	2
MCH 240	Cutting Tool Technology	2
MCH 245	Metallurgy	2.5
MCH 246	Metallurgy II	4
MCH 247	Manufacturing Processes III	3
MCH 248	Metallurgy III	4
MCH 262	CNC Conversational Controls	2
MCH 263	CNC Cycle Time Reduction	1.5
MCH 266	Advanced CNC Programming	3.5
MCH 276	Mastercam Solids	3
MCH 277	Mastercam CNC/CAM Project	3
MCH 280	Cooperative Education	1-8
MCH 282	CNC Router Operation	3
MCH 283	Mastercam Router	3
MCH 284	Computer Aided Manufacturing	3
MCH 285	Computer Integrated Manufacturing	3
MCH 288	Manufacturing Technologist Certification Review	4
MCH 289	Manufacturing Engineer Certification Review	4

CNC TURNING – ONE-YEAR CERTIFICATE

45.5 credit hours *(Pending State Approval)*

MCH 100	Machine Tool Basics	1
MCH 105	Blueprint Reading I	1.5
MCH 110	Blueprint Reading II	1.5
MCH 115	Geometric Dimensioning & Tolerancing	3.5
MCH 120	Machine Shop Math	2
MCH 121	Manufacturing Processes I	4
MCH 125	Speeds and Feeds	1
MCH 130	Machine Shop Trigonometry	2.5
MCH 135	Basic Measuring Tools	1.5
MCH 145	Layout Tools	1.5
MCH 150	Precision Measuring Tools	1.5
MCH 158	Shop Project Machine Technology II	3
MCH 180	Turning Machines & Operations	4
MCH 190	Boring on the Lathe	1
MCH 195	Threading on the Lathe	3
MCH 259	CNC Programming-Lathe	5
MCH 279	CNC Operation-Lathe	4
MCH 280	Cooperative Education	4

CNC MILLING – ONE-YEAR CERTIFICATE

46 credit hours *(Pending State Approval)*

MCH 100	Machine Tool Basics	1
MCH 105	Blueprint Reading I	1.5
MCH 110	Blueprint Reading II	1.5
MCH 115	Geometric Dimensioning & Tolerancing	3.5
MCH 120	Machine Shop Math	2
MCH 121	Manufacturing Processes I	4
MCH 125	Speeds and Feeds	1
MCH 130	Machine Shop Trigonometry	2.5
MCH 135	Basic Measuring Tools	1.5
MCH 145	Layout Tools	1.5
MCH 150	Precision Measuring Tools	1.5
MCH 158	Shop Project Machine Technology II	3
MCH 205	Vertical Milling Machines & Operations	3.5
MCH 268	CNC Programming-Mill	5
MCH 272	Mastercam Level I	5
MCH 278	CNC Operation-Mill	4
MCH 280	Cooperative Education	4

LESS THAN ONE-YEAR CERTIFICATES: CAREER PATHWAYS MANUFACTURING TECHNICIAN

25.5 credit hours

MCH 100	Machine Tool Basics	1
MCH 105	Blueprint Reading I	1.5
MCH 110	Blueprint Reading II	1.5
MCH 115	Geometric Dimensioning & Tolerancing	3.5
MCH 120	Machine Shop Math	2
MCH 121	Manufacturing Processes I	4
MCH 125	Speeds and Feeds	1
MCH 130	Machine Shop Trigonometry	2.5

MCH 135	Basic Measuring Tools	1.5
MCH 145	Layout Tools	1.5
MCH 150	Precision Measuring Tools	1.5
MCH 280	Cooperative Education	4

MANAGEMENT/SUPERVISORY DEVELOPMENT

Southeast Center
Mt. Scott Hall, (MSH) Room 103
503-788-6146, 503-788-6147

Washington County Workforce Training Center
Room 1506
503-533-2955

www.pcc.edu/programs/management-training

CAREER AND PROGRAM DESCRIPTION

The Management/Supervisory Development Department offers a comprehensive program designed for adults desiring to increase their personal and professional skills and knowledge and/or to continue private or public sector managerial/supervisory careers. By interacting with instructors who are currently practicing managers or consultants, participants develop a practical knowledge of cutting-edge professional skills that will prepare them for future success. To accommodate most employees' schedules, most courses are offered in the evenings, on Saturdays and over the Internet.

This program is not intended primarily as a transfer program; however, bachelor degree articulation agreements are in place with Marylhurst and Warner Pacific as well as other area colleges and universities. For more information about transfer programs, contact the four-year universities as early as possible to ensure a smooth transition.

Total required credit may vary due to three to four credit conversion. PCC comprehensive degree and certificate minimum requirements must be met.

DEGREES AND CERTIFICATE OFFERED

Associate of Applied Science Degree
- Management/Supervisory Development

One-Year Certificate
- Management/ Supervisory Development

Program Awards
- Management / Supervisory Development Program Award
- Change/Innovation Management Program Award
- Conflict Management Program Award
- Leadership Program Award
- Project Management Program Award
- Customer Service Management Program Award
- Human Resource Management Program Award

PREREQUISITES AND REQUIREMENTS

College placement test administered through assessment centers is recommended but not required.

COURSE OF STUDY

Management/Supervisory Development courses are offered throughout the PCC District both on campus and through distance learning. The entire degree is available online. Credit may be obtained for projects or other learning experiences at work. Contact the department for specific information on transferability or program information.

MANAGEMENT/SUPERVISORY DEVELOPMENT AAS DEGREE

Minimum of 90 credit hours including General Education credit hours and electives. Students must also meet Associate Degree Comprehensive Requirements and Associate of Applied Science Requirements. Of the 90 credit hours, 45 credit hours of management/supervisory development courses must be taken, including MSD 101, MSD 105, MSD 111, MSD 115, and/or MSD 222, and MSD 216. Also, 29 credit hours must be taken from the restricted elective course list, including BA 211 Principles of Accounting I and CIS 120 Computer Concepts I, and 16 credit hours from the General Education list. In addition, WR 121 and either MTH 63 or MTH 65 must be completed with a "C" grade or better.

RESTRICTED ELECTIVES

For the completion of the associate of applied science degree in management/supervisory development, students must complete 29 credit hours of restricted electives. These elective courses are restricted to the business, computer, and/or professional areas. Mandatory courses include BA 211 and CIS 120. The remainder of the 29 credits may be chosen from the above mentioned areas as well as economics courses, HPE 295, HE 125 and MTH 30.

See **www.pcc.edu/resources/academic/degree-outcome/msd.html** for AAS Degree and Certificate Outcomes.

MANAGEMENT/SUPERVISORY DEVELOPMENT CERTIFICATE

Minimum of 45 credit hours required. Of this total, 36 credit hours from the management/supervisory development course areas including MSD 101, MSD 105, MSD 111, MSD 115, and/or MSD 222 and MSD 216. In addition to these 36 credit hours, 9 credit hours must be selected from the restricted elective course list. This must include BA 211 and CIS 120.

PROGRAM AWARDS

Management/Supervisory Development program award

Minimum of 18 credit hours of management/supervisory development courses are required: 6 credit hours of core courses, MSD 101, and MSD 111, MSD 105 and MSD 206 and 6 credit hours from other MSD offerings.

Change/Innovation Management program award

Minimum of 18 credit hours to include MSD 101, MSD 121, MSD 130, MSD 116, MSD 133 and 7 other MSD credits.

Conflict Management program award

Minimum of 18 credit hours to include MSD 105, MSD 130, MSD 206, and MSD 157 and 8 additional MSD credits.

Leadership program award

Minimum of 18 credit hours to include MSD 101, MSD 105, MSD 107, MSD 121 and 6 additional MSD credits.

Project Management program award

Minimum of 18 credit hours to include MSD 101, MSD 121, MSD 174, MSD 177, MSD 279, and 7 additional MSD credits.

Customer Service Management program award

Minimum of 18 credit hours to include MSD 105, MSD 115, MSD 116, MSD 117, MSD 151 and 7 additional MSD credits.

Human Resource Management program award

Minimum of 18 credit hours to include MSD 105, MSD 222, MSD 223, MSD 115, and 6 additional MSD credits.

Note: A maximum of 9 1-credit workshops may be used toward a program award, certificate, or degree.

COURSE LIST

MSD 101	Principles of Management and Supervision	3
MSD 111	Corresponding Effectively At Work	3

Human Behavior Courses

MSD 105	Interpersonal Communication	3
MSD 107	Organizations & People	3
MSD 115	Improving Work Relations	3
MSD 117	Customer Relations	3
MSD 121	Leadership Skill Development	3
MSD 130	Creative Problem Solving	3
MSD 200	Organizations and Social Responsibility	3

Specialty Courses

MSD 295A	Management Effectiveness	3
MSD 295B	Management Effectiveness	2
MSD 201	Productivity Management	3
MSD 202	Training the Employee	3
MSD 204	Labor - Management Relations	3
MSD 206	The Troubled Employee	3
MSD 210	Public Relations	3
MSD 212	Work Analysis and Improvement	3
MSD 214	Safety and Security Management	3
MSD 216	Budgeting for Managers	3
MSD 222	Human Resource Management: Personnel	3
MSD 223	HR Management: Performance and Compensation	3
MSD 240	Strategic Planning	3
MSD 279	Project Management	3
MSD 280A	CE: Management/ Supervisory Development	3
MSD 280B	CE: Management/Supervisory Development - Seminar	1
MSD 285A	Fundamentals of Total Quality Management	3
MSD 287	Data Analysis for Quality Improvement	3
MSD 298	Trends in Management and Supervision	variable

MANAGEMENT WORKSHOPS

The Management/Supervisory Development Department offers various special interest one credit workshops. The following is a list of commonly offered workshops:

MSD 148	Asserting Yourself in the Workplace	1
MSD 160A	Communication Styles	1
MSD 157	Conflict Management	1
MSD 162	Coping with Angry Feelings and Angry People	1
MSD 161	Customer Relations	1
MSD 151	Dealing with Difficult People	1
MSD 198B	Exploring 7 Habits of Highly Effective People	1
MSD 180A	Goal Setting and Productivity	1
MSD 187	Humor in the Workplace	1
MSD 193A	Leadership Skill Development	1
MSD 198A	Male/Female Communication Style Difference	1
MSD 192A	Project Management	1
MSD 193	Self Esteem the Key to Success	1
MSD 159	Stress Control	1
MSD 174	Time Management	1

Note: A maximum of nine workshops may be used toward a program award, certificate, or degree.

MATHEMATICS

Cascade Campus
Liberal Arts & Mathematics Division
Terrell Hall (TH) Room 220
503-978-5251

Southeast Center
Mt. Scott Hall, (MSH) Room 103
503-788-6146

Rock Creek Campus
Building 2, Room 230
503-614-7606

Sylvania Campus
Science Technology Building, (ST) Room 104
503-977-4172

CAPITAL Center
WCWTC Room 1507
503-533-2797

DESCRIPTION

Mathematics includes the study of numbers, patterns, graphs, and abstract models using analytic reasoning and systematic problem solving skills. Mathematics and mathematical reasoning are used in situations as diverse as household budgeting and space shuttle design, subjects as different as art and law, and occupations as varied as nursing and computer programming. Mathematics can be used by everyone to enhance their understanding of the world.

PCC offers pre-college math courses (numbered below 100) that focus on algebraic skills and prepare students for certificate pro-

grams, 2-year degree programs, and college level coursework. Math courses at PCC numbered 100 and above are equivalent and transferable to the similarly numbered courses at Oregon's public universities. All math classes at PCC are designed to challenge students to improve their analytic reasoning, problem solving, and communication skills.

MECHANICAL ENGINEERING TECHNOLOGY

Sylvania Campus
Science Technology Building, (ST) Room 208
503-977-4163

www.pcc.edu/programs/mechanical-engineering

Email: engineering@pcc.edu

CAREER AND PROGRAM DESCRIPTION

Mechanical engineering technicians work as part of a team involved in the planning, design, and fabrication of mechanical systems. They work for manufacturing, energy, facilities management, consulting and construction firms.

Total required credit may vary due to three to four credit conversion. PCC comprehensive degree and certificate minimum requirements must be met.

DEGREE AND CERTIFICATE OFFERED:

Associate of Applied Science Degree
- Mechanical Engineering Technology

One-Year Certificate
- Mechanical Engineering Technology

PREREQUISITES AND REQUIREMENTS

All students must have an advising interview with a MET faculty advisor. Students must place in WR 115 and have completed MTH 60 or equivalent. High school courses in chemistry and physics are helpful but not required. Skill in keyboarding is highly recommended. A specific calculator is required.

COURSE OF STUDY

Full-time students: MET is a limited enrollment program for students seeking a certificate or degree. Qualified applicants are accepted in the order in which the application process is completed. Program starts in fall and winter terms. See a program advisor for other term starts.

Job-upgrade students: non-program students seeking to upgrade job skills are welcome to enroll in individual courses. Students must meet individual course prerequisites and complete an advising interview with a MET faculty advisor prior enrollment. Admission is granted on a space-available basis after the needs of the full-time students have been met.

Continuing Education: students may transfer to Oregon Institute of Technology to pursue a bachelor degree in mechanical or manufacturing engineering technology. Faculty advisors will provide assistance in the selection of additional course work appropriate for each student's goals.

MECHANICAL ENGINEERING TECHNOLOGY AAS DEGREE

Minimum of 100 credit hours which includes 92 credit hours of required program courses plus General Education credit hours and electives. Students must also meet Associate Degree Comprehensive Requirements and Associate of Applied Science Requirements.

First Term

CMET 110	Statics	4
CMET 111	Engineering Technology Orientation	4
CMET 112	Technical Algebra and Trigonometry	4
CMET 113	Engineering Technology Graphics	3

Second Term

CMET 121	Strength of Materials	4
CMET 122	Technical Engineering Physics	4
CMET 123	Technical Algebra with Analytic Geometry	4
CH 104	General Chemistry [1]	5

Third Term

CMET 131	Applied Calculus	8
CMET 227	Applied Electricity Fundamentals	2
WR 121	English Composition [2]	3-4
General Education [1]		3-4

CMET 280A Cooperative Education, available any term after completing term three (optional)

Fourth Term

CMET 226	Dynamics	3
CMET 133	Materials Technology	3
CMET 221	Environmental Systems	4
CMET 213	Fluid Mechanics	3
SP 100/111	Speech Communication [1]	3-4

Fifth Term

CMET 215	Manufacturing Processes	3
CMET 212	Thermodynamics I	4
CMET 211	Environmental Quality	4
CMET 241	Structural Steel Drafting	3
CMET 254	CMET Seminar	1
General Education [1]		3-4

Sixth Term

CMET 235	Machine Design	3
CMET 237	MET Applied Computer Aided Design	3
CMET 222	Thermodynamics II	4
CMET 223	Project Management	3
CMET 236	Structural Design	3

1 General Education: 16 credits are required for the AAS degree, including the speech and chemistry classes listed above. See AAS degree requirements elsewhere in this catalog.

[2]Writing: WR 121 is a basic competency requirement, but is not on PCC's General

Education course list. (WR 115 is a prerequisite for WR 121). WR 227 is highly recommended to all students.

MECHANICAL ENGINEERING TECHNOLOGY CERTIFICATE

First Term

CMET 110	Statics	4
CMET 111	Engineering Technology Orientation	4
CMET 112	Technical Algebra and Trigonometry	4
CMET 113	Engineering Technology Graphics	3

Second Term

CMET 121	Strength of Materials	4
CMET 122	Technical Engineering Physics	4
CMET 123	Technical Algebra with Analytic Geometry	4
CH 104	General Chemistry [1]	5

Third Term

CMET 131	Applied Calculus	8
CMET 227	Applied Electricity Fundamentals	2
WR 121	English Composition [2]	3-4
General Education [1]		3-4

CMET 280A Cooperative Education, available any term after completing term three (optional)

Fourth Term

CMET 226	Dynamics	3
CMET 133	Materials Technology	3
CMET 221	Environmental Systems	4
CMET 213	Fluid Mechanics	3
SP 100/111	Speech Communication [1]	3-4

MEDICAL ASSISTING

Cascade Campus
Jackson Hall, (JH) Room 210A
503-978-5667

www.pcc.edu/programs/medical-asst/

CAREER AND PROGRAM DESCRIPTION

Those training in the Medical Assisting Program will find occupations involved with administrative and clinical aspects of health care in clinics and physicians' offices. The medical assistant performs a variety of clinical and administrative duties. Clinical duties may include: assisting physician and preparing patients for examinations and treatment; taking and recording vital signs and medical histories; performing certain diagnostic tests; preparing, administering and documenting medications; collecting and processing specimens. Administrative duties may include: scheduling and receiving patients; maintaining medical records; handling telephone calls; correspondence and reports; insurance matters; office accounts; fees and collections.

Students are prepared to function under the supervision of a licensed physician. The program is accredited by the Commission on Accreditation of Allied Health Educational Programs (CAAHEP), on recommendation of the Committee on Accreditation for Medical Assistants Education. Graduates are eligible to take the national certifying examination given through the American Association of Medical Assistants. Individuals who have been found guilty of a felony or pleaded guilty to a felony, are not eligible to take the Certified Medical Assistance Examination (CMA). However, the certifying board may grant a waiver based on mitigating circumstances. See the American Association of Medical Assistance (AAMA) CMA Examination Application for specifics.

Students may enter the Medical Assistant program either in the fall or spring terms. Students must receive a grade of "C" or better in all program required courses. The program is designed to correlate classroom and laboratory experience with practical experience in health care facilities.

Total required credit may vary due to three to four credit conversion. PCC comprehensive degree and certificate minimum requirements must be met.

DEGREES AND CERTIFICATES OFFERED

One-Year Certificate

Medical Assisting

PREREQUISITES AND REQUIREMENTS

1. High school completion or GED.
2. Compass scores to show readiness for WR 121, RD 115 and MTH 60.
3. Students must demonstrate a working knowledge and/or background of basic computer skills including windows, keyboarding, internet and email. Students not able to demonstrate a working knowledge and/or background will be required to take a course(s) prior to admission.
4. MA 134 requires a keyboarding speed of 35/wpm with no more than three errors.
5. Program advising with a Medical Assisting Program advisor.
6. Students must have transportation to clinical facilities throughout the Portland Metropolitan area and surrounding communities.
7. Two statements of recommendation from a recent employer, instructor or counselor.
8. A criminal background check and drug screen. Contact the department office for more information.

Acceptance into the medical assisting program requires that students meet the Compass placement scores and demonstrate satisfactory English language ability through a written and oral interview assessment. Students also must have documentation of the following prior to the beginning of winter term: satisfactory physical examination, current immunizations, Mantoux Test, evidence of immunity to measles and evidence of initiating the immunization series to Hepatitis B or sign a waiver. Qualified applicants are accepted in the order in which the application process is completed. For more information call the department office.

MEDICAL ASSISTING CERTIFICATE

Minimum of 43 credit hours of required medical assisting courses. For requirements for an Associate of General Studies Degree, refer to Comprehensive Degree Requirements within this catalog.

COURSE OF STUDY

First Term

MTH 22	Measurements	1
BI 55	Human Biology	4
MA 111	Medical Terminology	3
MA 117	Medical Office Administration Procedures	4
MA 118	Medical Office Administration Procedures Lab	2
MA 112	Seminar I	1

Second Term

MA 180	Coding & Reimbursement	1
MA 123	Medical Office Clinical Procedures	3
MA 124	Medical Office Clinical Procedures Lab	2
MLT 100	Medical Office Lab Orientation	3
MA 122	Seminar II	1
MA 125	Administrative Directed Practice	2
HE 112	First Aid & Emergency Care	1

Third Term

MA 131	Introduction to Medical Science	5
MA 132	Seminar III	1
MA 133	Clinical Directed Practice	2
MA 136	Medications	2
MA 121	Legal & Ethical Aspects of Health Care	2
MA 134	Medical Record Transcription Lab I	1
MA 147	Specialty Directed Practice	2

MEDICAL LABORATORY TECHNOLOGY

Cascade Campus
Health Professions Admissions
Jackson Hall, (JH) Room 210
503-978-5209

www.pcc.edu/programs/medical-lab/

CAREER AND PROGRAM DESCRIPTION

A medical laboratory technician performs routine clinical laboratory testing procedures to provide scientific information needed in diagnosis, prognosis and treatment of disease. Technicians use sophisticated instrumentation for these evaluations, which encompass quantitative and qualitative chemical and biological analyses of body specimens. Technicians function under the supervision of a qualified practitioner. The local metropolitan area offers very good employment opportunities and jobs are readily available in smaller communities throughout the country. Opportunities are available in hospitals, independent laboratories, research and industry for graduates of the program.

To successfully participate in the MLT Program and become employable, the student must be able to perform essential functions expected of the profession. Examples of essential functions for the MLT are communication, vision, manual dexterity, physical activity, analytical skills and technical aptitude.

Because of limited laboratory space and clinical facilities as well as the delicate balance of job opportunities in medical laboratory science, the MLT Program has a limited enrollment. Admission to the first year of the program is based on Compass scores in algebra and English, and achievement examinations in chemistry and biology, or equivalent courses.

It is strongly recommended that applicants have completed high school chemistry, biology, algebra and English or their equivalents. Students should not interpret acceptance into the first year of the program as automatic eligibility for entrance to the second year of the program. Continuation into the second year is contingent upon performance during the first year. Each student entering into the second year is required to complete the health physical examination form provided by the MLT Department. Contact the department for any additional requirements.

The Medical Laboratory Technology Program is accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS), 8410 West Bryn Mawr Avenue, Suite 670, Chicago, Il 60631, telephone 773-714-8880.

Total required credit may vary due to three to four credit conversion. PCC comprehensive degree and certificate minimum requirements must be met.

DEGREES AND CERTIFICATES OFFERED

Associate of Applied Science Degree
Medical Laboratory Technology

PREREQUISITES AND REQUIREMENTS

During the first term of the MLT Program students must show evidence of beginning the Hepatitis B immunization series or sign a waiver acknowledging the risk factors involved without the immunization. The second year of the MLT Program has additional health and immunization requirements. Please contact the department for more information.

Students are required to pass a criminal background check and urine drug screen. Contact the department office for more information.

Students planning to enroll in the MLT Program should contact the Health Professions Admissions Office for specific eligibility requirements and an appointment for a program advising session. Because of the unique responsibilities involved in the practice of clinical laboratory science, the MLT Department reserves the right to require that a student who appears to the department unsuited for clinical laboratory science be counseled into another area of study.

COURSE OF STUDY

Students are prepared to perform routine clinical laboratory tests under the supervision of a pathologist, medical technologist or physician. The course combines on-campus instruction in fundamental principles with clinical experiences gained through rotation in clinical laboratories. The clinical laboratories affiliated with the MLT Program include Kaiser Permanente, Legacy Health System, St. Charles Medical Center, Oregon Health and Sciences University,

Oregon Medical Laboratories, Sisters of Providence Health System, SW Washington Medical Center, Tuality Health Care Hospital and Willamette Falls Hospital and Asante Health System.

Students enrolled in the MLT Program will be required to use medical devices and follow safety precautions of the clinical laboratory. Students who have a health, physical or psychological problem which may affect or be affected by the use of the devices or precautions should contact the department prior to entering the program. The graduates are eligible to sit for national examinations for certification given by several agencies.

Only those students who have been officially accepted into the first year of the MLT Program may enroll in MLT 111, MLT 112 and MLT 213.

MEDICAL LABORATORY TECHNOLOGY AAS DEGREE

Minimum of 105 credit hours which includes 93 credit hours of required MLT courses plus General Education credit hours and electives. Students must also meet Associate Degree Comprehensive Requirements and Associate of Applied Science Requirements.

COURSE LIST

First Term

CH 104	General Chemistry	5
MLT 111	Medical Technology I	4
WR 121	English Composition	3-4

Second Term

BI 121	Introduction to Human Anatomy & Physiology I	4
CH 105	General Chemistry	5
MLT 112	Medical Technology II	4
General Education		4

Third Term

BI 122	Introduction to Human Anatomy & Physiology II	4
CH 106	General Chemistry	5
MLT 213	Intro to Medical Microbiology	4
General Education		4

Only those students who have completed the first year requirements and have been officially accepted into the second year of the MLT Program may enroll in the courses listed below.

Fourth Term

MLT 221	Clinical Chemistry I	3
MLT 250	Hematology	4
MLT 261	Bacteriology I	4
MLT 241	Immunohematology I	3
MLT 271	Clinical Laboratory Practice I	3

Fifth Term

MLT 222	Clinical Chemistry II	4
MLT 262	Bacteriology II	3
MLT 242	Immunohematology II	4
MLT 272	Clinical Laboratory Practice II	3

Sixth Term

MLT 223	Clinical Chemistry III	3
MLT 263	Medical Parasitology	3
MLT 264	Medical Mycology	3
MLT 230	Body Fluids	3
MLT 273	Clinical Laboratory Practice III	3

Seventh Term

MLT 281	Clinical Seminar	4
MLT 274	Clinical Laboratory Practice IV	8

MICROELECTRONICS TECHNOLOGY

Rock Creek Campus
Science & Technology Division Office
Building 7, Room 202
503-614-7255

www.pcc.edu/mt.

CAREER AND PROGRAM DESCRIPTION

Semiconductor manufacturing technicians work in clean room environments to process wafers, maintain equipment, and monitor manufacturing processes. Technicians must wear clean room suits and follow strict procedures in order to reduce particle count in the manufacturing environment. They must also follow safety procedures when handling process chemicals and gases. Technicians for this fast moving industry must have a broad range of skills and knowledge including strong backgrounds in mathematics, chemistry and physics. Good communications skills in the English language are required to function in team-oriented organizations that are becoming standard in the industry.

Potential employers of program graduates include Intel Corporation, Oregon's largest high-tech employer, Cascade Microtech, Integrated Device Technologies, Inc. and other wafer and integrated circuit manufacturers.

For students continuing their education beyond the Associate of Applied Science Degree in Microelectronics Technology, up to 58 credit hours can apply toward a four-year baccalaureate degree.

Graduates of the Microelectronics Technology Program may also transfer to Oregon Institute of Technology to pursue a bachelor degree in manufacturing engineering technology or electrical engineering technology. Upper division OIT courses are offered at OIT's Metro Campus in Portland. (See notes following the course listing.)

Total required credit may vary due to three to four credit conversion. PCC comprehensive degree and certificate minimum requirements must be met.

DEGREES AND CERTIFICATES OFFERED

Associate of Applied Science Degree

Microelectronics Technology

Solar Voltaic Manufacturing Technology Option *(Pending State Approval)*

PREREQUISITES AND REQUIREMENTS

Students new to the program must take the college's placement examinations for mathematics and English prior to program advising and registration. Students must meet the prerequisites as stated in the course descriptions of the current catalog before registering for first term microelectronics, electronics and chemistry courses. Students intending to pursue the MT degree must place into MTH 95 and WR 121. New students are encouraged to meet with a department representative for advising prior to signing up for classes.

Qualified applicants are accepted in the order in which they complete the application process.

COURSE OF STUDY

Study begins by laying a solid foundation in mathematics, chemistry, physics, and electronics before introducing topics in semiconductor manufacturing, process equipment, and vacuum/plasma technology. Instructional time is divided between classroom presentations and lab exercises to develop equipment analysis, maintenance, and troubleshooting skills. Students will also develop oral and written communication skills in the English language. The ability to communicate is needed to be able to function effectively in teams in the factory.

Day courses are scheduled so that one section of a course meets on Monday and Tuesday and another section meets on Thursday and Friday, enabling those students working compressed-work-week schedules to take courses. Evening courses follow a traditional Monday-Wednesday or Tuesday-Thursday schedule.

Full-time day students can complete the program in six to eight terms. However, many students elect to take a part-time course load and take longer to complete the program. The core MT classes only require two full academic years (six terms) in order to be completed.

Full-time day students must begin the program fall or winter Term. Part-time students may begin during any term of the academic year.

MICROELECTRONICS TECHNOLOGY AAS DEGREE

Minimum of 101 credit hours which includes General Education credit hours and electives. Students must also meet Associate Degree Comprehensive Requirements and Associate of Applied Science Requirements.

COURSE LIST

First Term

MT 101	Introduction to Semiconductor Mfg	1
MT 102	Introduction to Semiconductor Devices	1
MT103	Introduction to Micro and Nano Proc	1
MT 111	Electronic Circuits and Devices I	4
MTH 95	Intermediate Algebra	4
WR 121	English Composition	3-4

Second Term

MT 112	Electronic Circuits and Devices II	4
MT 121	Digital Systems I	3
MTH 111C	College Algebra for Math, Science and Engineering	5
CH 221	General Chemistry	5

Third Term

MT 113	Electronic Circuits & Devices III	4
MT 122	Digital Systems II	3
MTH 243	Statistics I	4
WR 227	Technical Writing I	3-4
CH 222	General Chemistry	5

Fourth Term

MT 223	Vacuum Technology	3
MT 224	Process Equipment I	3
PHY 201	General Physics	4
SP 130	Business and Professional Speech Communication	3-4
General Education		3-4

Fifth Term

MT 240	RF Plasma Systems	3
PHY 202	General Physics	4
SP 215	Small Group Communication	4
MT 227	Process Equipment II	3

Sixth Term

MT 200	Semiconductor Processing	3
MT 222	Quality Control Methods in Manufacturing	3
MT 228	Process Equipment III	4
PHY 203	General Physics	4
General Education		4

Note: Students intending to transfer to OIT should:

1. Complete both MTH 243 & MTH 244 at PCC.
2. General Education: Select one course from PCC's General Education course list for social sciences and one course from PCC's General Education course list for Arts and Letters, except: ESOL courses, first year languages, speech, writing courses and PHL 197. MTH 95, a pre-college course, does not apply toward the OIT bachelor degree. SP 130 will substitute for OIT's SPE 111 general education requirement for the Microelectronics

Program only, per approval of OIT's Academic Council.

SOLAR VOLTAIC MANUFACTURING TECHNOLOGY AAS DEGREE *(Pending State Approval)*

Entrance Prerequisites: Placement into MTH 95 and WR 121

COURSE OF STUDY

First Term

WR 121	English Composition	4
MTH 95	Intermediate Algebra	4

MT 101	Introduction to Semi Mfg	1
MT102	Introduction to Semi Devices	1
MT 104	Introduction Solar Cell Processing	1
MT111	Electric Circuits and Devices I	4

Second Term

CH 104	General Chemistry	5
MTH 111C	Algebra	5
MT 121	Digital circuits I	3
MT 112	Electric Circuits and Devices II	4

Third Term

MTH 243	Statistics I	4
MT 122	Digital circuits II	3
MT 113	Electric Circuits and Devices III	4
SP 130	Business & Prof. Speech	4

(Summer Term, Recommended)

WR 227	Technical Writing	4
SP 215	Small Group Communication	4

Fourth Term

PHY 201	General Physics	4
MT 222	Q. Control SMT	3
MT 223	Vacuum Tech.	3
MT 224	Process Equipment I	3

Fifth Term

PHY 202	General Physics	4
MT 240	RF Plasma	3
MT 227	Process Equipment II	3
General Education Electives		4

Sixth Term

PHY 203	General Physics	4
MT 200	Semiconductor Processing	3
MT 228	Process Equipment III	4
General Education Electives		4

MULTIMEDIA

Cascade Campus
Moriarty Arts and Humanities Building (MAHB) Room 218
503-978-5398 or 503-978-5672

www.pcc.edu/programs/multimedia/

CAREER AND PROGRAM DESCRIPTION

This program is designed to provide individuals with the entry level skills and experience needed for employment in a wide variety of professional opportunities such as a multimedia associate producer, web designer, web content creation specialist, interface designer, multimedia programmer/authoring specialist, multimedia graphic production artist, digital video specialist, interactive/technical writer, multimedia project manager and more.

The program also provides ongoing skill development to members of the interdisciplinary multimedia team entering from related professions, such as graphic design, film/video, publishing, art and more. A variety of advanced courses are available for those wishing to expand and move their skills into the "digital world."

Multimedia specialists are employed by companies that produce multimedia destined for the World Wide Web, CD-ROM, kiosks, and computer-based delivery. Multimedia projects include those focused on business, marketing, education, training, presentations and entertainment applications.

Total required credit may vary due to three to four credit conversion. PCC comprehensive degree and certificate minimum requirements must be met.

DEGREES AND CERTIFICATES OFFERED:

Associate of Applied Science Degree Multimedia

One-Year Certificate Multimedia

Less than One-Year Certificate

Video Production *(Pending State Approval)*

PREREQUISITES AND REQUIREMENTS

Students entering the program must possess strong Macintosh or Windows computer management skills and be familiar with essential software such as word processing and draw/paint programs. Recommended prerequisites: ART 115, 116, 117 and CAS 111D.

COURSE OF STUDY

The program is located at the Cascade campus. The 100 level multimedia courses are generally offered each term and students may begin taking classes during any term. A variety of advanced, 200 level courses are also offered. Certificate students must receive a "C" or better in all required multimedia courses.

MULTIMEDIA AAS DEGREE

Minimum of 105 credit hours which includes General Education credit hours and electives. Students must also meet Associate Degree Comprehensive Requirements and Associate of Applied Science Requirements.

MULTIMEDIA CERTIFICATE

Minimum of 60 credit hours which includes 33 required Multimedia credits (1) and an additional 12 credits from the course list and 15 credit hours of electives from the approved electives list.

COURSE LIST

MM 110	Introduction to Multimedia 1	1
MM 120	Multimedia Design [1]	2
MM 130	Multimedia Graphics, Video & Audio Production [1]	3
MM 140	Multimedia Authoring I [1]	3
MM 141	Incorporating Multimedia Elements In Presentation Software	2
MM 150	Multimedia Project Review, Testing and Delivery [1]	1
MM 160	Marketing Yourself as a Multimedia Professional [1]	2
MM 230	Graphics for Multimedia [1]	4
MM 231	Vector Graphics and Animations for the World Wide Web [1]	3
MM 232	Multimedia 3D Modeling and Animation	3
MM 220	Multimedia Design II	3
MM233	3D Character Model & Animation	3
MM 234	3D for the World Wide Web	3

MM 235	Digital Video Editing and Production [1]	3
MM 236	Internet Delivery of Digital Video and Audio Files	3
MM 237	Video Compositing and Effects	4
MM 238	Creating Professional DVD-Video	4
MM 240	Multimedia Authoring II - Scripting [1]	4
MM 241	Multimedia Authoring III - Scripting [1]	4
MM 244	Creating Interactive Web Pages	3
MM 245	Internet Delivery of Interactive Multimedia	3
MM 250	Advanced Multimedia Project Development I	3
MM 251	Advanced Multimedia Project Development II	3
MM 252	Advanced Multimedia Project Development III	3
MM 260	Video Production I	4
MM 261	Video Production II	4
MM 262	Video Production III	4
MM 270	Writing for Multimedia [1]	3
MM 280	CE: Work Experience in Multimedia	1-3

[1] *Required course credit for multimedia certificate*

APPROVED ELECTIVE LIST

Choose 15 elective credit hours from the following list:

ART 115, 116, 117 Basic Design		3
ART 131	Introduction to Drawing	3
ART 140	Digital Photography	3
ART 221	Computer Graphics in Arts I	4
ART 221A	Computer Graphics in Arts I	2
ART 224	Computer Graphics in Arts II	4
ART 293	Figure Sculpture	3
BA 101	Introduction to Business	4
BA 205	Solving Communication Problems with Technology	4
BA 207	Introduction to E-Commerce	4
CAS 106	Introduction to HTML	1
CAS 109	Beginning PowerPoint	1
CAS 110	Introduction to Web Graphics	1
CAS 111D	Beginning Web Site Creation: Dreamweaver	3
CAS 112	Intermediate Web Site Creation	3
CAS 113	Enhancing Web Pages with JavaScript	3
CAS 175	Introduction to Flash	3
CAS 206	Principles of HTML/XHTML	4
CAS 208	Beginning Photoshop for the Web	3
CAS 232	Desktop Publishing: InDesign	3
CIS 122	Software Design	4
CIS 133/233/234 any CIS 133, 233, or 234 series classes		12
CIS 178	Introduction to the Internet	4
CS 133G	Introduction to Computer Games	4
CS 140U	Introduction to UNIX	4
CS 233G	Game Programming	4
DRF 122	Isometric Illustration	3
DRF 124	Exploded Isometric Illustration	3
DRF 126	Introduction to AutoCAD	3
DRF 136	Intermediate AutoCAD	3
DRF 246	AutoCAD 3-D and Solid Modeling	3
DRF 256	Advanced AutoCAD	3
ED 103	Desktop Publishing for Educators	3
ED 104	Multimedia for Educators	3
ED 171	Computers in Education II - Introduction to the Internet	3
GD 114	Introductory Typography	3

Any nine credits from the following list:

GD 120	Graphic Design I	3
GD 122	Graphic Design II	3
GD 124	Graphic Design III	3
GD 221	Graphic Design IV	3
GD 222	Graphic Design V	3
GD 228	Professional Graphic DesignPractices	3
GD 229	Portfolio Preparation	3
GD 241	Digital Imaging I	3
GD 242	Combined Graphic Programs	3
GD 249	Design Studio	3
IVP any Video Production Internship Courses		9
MUC 123	Electronic Media I	2
MUC 124	Electronic Media II	2
MUC 125	Electronic Media III	2
MUC 222	Introduction to Studio Recording	2
MUC 223	Studio Recording Technology I	3
MUC 224	Studio Recording Technology II	3
MUC 225	Studio Recording Technology III	3
MUC 226	Digital Recording I	3
MUC 227	Digital Recording II	3
MUC 228	Digital Recording III	3
WR 227	Technical Writing I	3-4
WR 9599	Professional Editing	3
WR 9600	Technical & Professional Writing II	3
WR 9601	Graphics for Technical & Professional Writers	3

VIDEO PRODUCTION CERTIFICATE

COURSE OF STUDY

General Education		9
MM 120	Multimedia Design	2
MM 130	Multimedia Graphics & Elements Production	3
MM 260	Multimedia Video Production	4
MM 235	Digital Video Editing & Prod	3
MM 230	Graphics for Multimedia	4
MM 237	Video Comp & Effects	4
MM 261	Multimedia Video Prod II	4
MM 238	Creating Professional DVDs	4
MM 262	Multimedia Video Prod III	4
Choice of 9 credits in MM courses		9
MM Co-Op Co-operative Work Experience In Multimedia		3

MUSIC

Sylvania Campus
Communications Technology Building, (CT) Room 216
503-977-4264 or 503-977-4279

www.pcc.edu/programs/music

DESCRIPTION

Music is a universal art form practiced and appreciated by every culture of the world. From live music performance as a soloist, ensemble member or accompanist, to working as a studio musician, from composing or arranging music, to teaching music, musicians fulfill a critical, dynamic and often collaborative role within the arts. Formal music education includes the study of music theory, music history and literature, performance practice, music technology and music pedagogy.

Our music program offers courses that cater to both musicians and non-musicians alike. We offer a variety of introductory courses while also preparing those who wish to transfer to a four-year music program. With proper music study and training, students may become professional performers, conductors, composers, music theorists, music historians, or music educators.

MUSIC (PROFESSIONAL)

See Professional Music

NURSING

Sylvania Campus
Health Technology Building, (HT) Room 120
503-977-4466

Health Admissions
Health Technology Building, (HT) Room 205
503-977-4795

www.pcc.edu/programs/nursing

CAREER AND PROGRAM DESCRIPTION

This program is designed to prepare students with entry level skills needed to assume the role of a registered nurse and qualifies the graduate to take the RN licensure exam. Registered nurses deliver nursing care in a variety of health care settings.

The application period varies year to year. Contact the Health Admission Office for information and admission instructions.

Students requesting transfer from another Nursing Program or advanced placement must submit a written request to the department. Transcripts and course syllabi for all nursing coursework and letter of reference from current school of nursing should accompany the request. Letters of recommendation may be required. Following completion of entrance criteria, transfer students are accepted at the appropriate course level on a space available basis.

LPNs must take a comprehensive exam to determine their placement in the program on a space available basis.

LEGAL LIMITATIONS FOR RN LICENSURE

Applicants should be aware that the following questions are asked on the registered nurse licensure exam application by the Oregon State Board of Nursing:

1. Do you have a physical, mental or emotional condition which in any way impairs your ability to practice nursing with reasonable skill and safety?

2. Have you ever been arrested, charged with, entered a plea of guilty, nolo contendere, convicted of or been sentenced for any criminal offense, including driving under the influence, in any state?

Individuals who may have a past history of chemical abuse, felonies, or believe that past history circumstances may interfere with their ability to sit for the licensure examination should contact the OSBN at 503-731-4745 for recommendations prior to applying to the PCC Nursing Program. Applicants may also confer with the program director regarding concerns with any of these questions.

Be aware of PCC's upcoming changes due to OCNE.

In 2010, PCC will join the Oregon Consortium for Nursing Education (OCNE). This will provide students not only the option to graduate with their ADN, but also completion of a BSN with OHSU. This change impacts those applying to in fall 2010. Prerequisite/preparatory courses will be changed to include: WR 121 & 122, BI 231, 232, 233, MTH 95 or higher, FN 225, PSY 215, and 13 credit hours of General Education courses. Students are eligible to apply to the nursing program by the February* deadline after completion of 30 quarter credits from the above list of Nursing prerequisites/preparatory credits to a total of 45 credits by the end of Spring term prior to entering the nursing program. All prerequisite course work must be completed with a "C" or better and with a minimum cumulative GPA of 3.0. For PCC's 2010 nursing application, a point system will be established to evaluate nursing applicants. In addition, a proctored essay and possible interview will be required for the top 100-200 applicants. Student's overall GPA and grades in prerequisite courses will have a notable impact on their admission eligibility.* For information about OCNE, visit **www.ocne.org**.

**For additional information and specific dates regarding the 2010 nursing admission process, please refer to www.pcc.edu/nursing or contact the Health Admissions Office (Sylvania Campus, HT 205) to schedule an appointment with an advisor.*

Phone: 503 977-4795, email: healthsy@pcc.edu, fax: 503 977-4837

PREREQUISITES/PREPARATORY COURSES:

BI 231	Human Anatomy & Physiology I	4
BI 232	Human Anatomy & Physiology II	4
BI 233	Human Anatomy & Physiology III	4
WR 121	English Composition	4
WR 122	English Composition	4
PSY 215	Human Development	4
MTH 95	Intermediate Algebra or higher	4
FN 225	Nutrition	4
General Education Minimum		13

PCC Nursing Program Accreditation
Oregon State Board of Nursing
17938 SW Upper Boones Ferry Rd
Portland OR 97224
503-731-4745

National League for Nursing Accrediting
Commission (NLNAC)

61 Broadway-33rd Floor
New York City, NY 10006
800-669-1656 ext. 153

Total required credit may vary due to three to four credit conversion. PCC comprehensive degree and certificate minimum requirements must be met.

DEGREES AND CERTIFICATES OFFERED

Associate of Applied Science Degree
Nursing

PREREQUISITES AND REQUIREMENTS

Persons applying to the program must have:

1. A high school diploma or equivalent US High School
2. Completed with a grade of "C" or higher: MTH 65 Introductory Algebra or equivalent and WR 121 English Composition or equivalent. There are no time limits for MTH 65 or WR 121 to apply to the program. See Associate of Applied Science Degree requirements for graduation time limits.
3. Satisfactory completion of the following prerequisites with a minimum cumulative GPA of 2.50:

BI 231	Human Anatomy and Physiology	I*
BI 232	Human Anatomy and Physiology	II*
BI 234	Microbiology*	

**These courses must be completed within seven years prior to application and may only be attempted a maximum of two times.*

Accepted students must show evidence of the following prior to beginning the program:

1. Completion of immunization form.
2. Negative TB test or chest x-ray.
3. Current CPR certificate (Level C, or BLS for Health Care Professionals), renewed annually.
4. Criminal background check.
5. Negative 5 panel drug screen

The nursing admission packet describes these requirements in more detail including tuition and fees required. Contact the Health Admissions Offices for more information.

COURSE OF STUDY

The Nursing Program is based upon a self-care model that incorporates the concepts of biological, psychosocial/cultural, critical thinking, communication, health promotion, management and professional nursing role. The student applies these concepts and the self-care model while providing nursing care for clients with a variety of health needs.

Students enrolled in the program will work with clients who have a variety of health conditions some which may require special precautions in relation to body fluids.

STUDENT DISABILITY INFORMATION

Nursing is a physically and mentally challenging occupation. Education related to this field is designed to prepare nurses for these challenges. Nursing students must be able to meet all established essential academic and clinical requirements to successfully complete the program. Persons with questions concerning qualifications are encouraged to contact the Admissions Office for individual consultation prior to formal application.

Applicants with disabilities are encouraged to contact the Office for Students with Disabilities (OSD) 503-977-4341. To be eligible for a reasonable accommodation, applicants must provide clear documentation of their disability. OSD is responsible for determining if reasonable accommodations can be identified and ensuring that accommodations are provided for PCC students. OSD services are confidential and are separate from the nursing and college application processes. Early contact with OSD will ensure that accommodations can be made available when students begin the program.

All classes must be completed with a grade of "pass" or "C" or better before the student will be allowed to progress to the next term.

Students are strongly encouraged to complete as many support courses as possible prior to entering the program. These courses must have been taken within seven years of applying. Support courses are those listed below that do not start with the "NUR" prefix. These courses should be completed with a "C" grade or better by the end of the term in which they are designated.

NURSING AAS DEGREE

Minimum of 106 credit hours which includes 55 credit hours of required nursing courses and 51 credit hours of support courses and program prerequisites. Students must also meet Associate Degree Comprehensive Requirements and Associate of Applied Science Requirements.

COURSE LIST

Summer Term

NUR 104	Introduction to Nursing	2
FN 270	Normal & Applied Clinical Nutrition	4

Fall Term

NUR 106	Foundations for Nursing and Client Self Care	9
PSY 215	Human Development	4
BI 233	Human Anatomy & Physiology III	4

Winter Term

NUR 107	Nursing Care for the Perioperative Client/Psychosocial Adaptation	9
PSY 214	Introduction to Personality	4
BI 241	Pathophysiology	3

Spring Term

NUR 108	Nursing Care for Clients with Chronic Health Care Needs	9
PHL 205	Contemporary Moral Problems: Biomedical Ethics	4

Fall Term

NUR 206	Nursing Care for Clients with Acute Health Care Needs/Nursing Care of Families	9
General Education*		4

Winter Term

NUR 207	Nursing Care for Clients with Complex and Unstable Health Care Needs	9

Spring Term

NUR 208	Nursing Care of Clients with Emergent Health Care Needs	8
General Education*		4

**In order to graduate with an associate of applied science degree, students must complete 16 credit hours of General Education courses. At least one course must be taken from each category (Arts & Letters, Social Science, and Mathematics, Natural & Physical Science or Computer Science) with a maximum of 8 credits from any one category. No more than two courses may come from program prerequisites or requirements. Nursing students may be able to apply Biology 101 to the Mathematics & Science category in addition to two other program required courses (one course fulfilling the Social Science category and one completing the Mathematics & Science category) toward their 16 required credit hours. For a complete listing of approved General Education courses, please consult the current college catalog.*

OCCUPATIONAL SKILLS TRAINING

Southeast Center
Mt. Tabor Hall, Room 106
503-788-6127

www.pcc.edu/programs/occupational-skills/

CAREER AND PROGRAM DESCRIPTION

The Occupational Skills Training program is designed to provide the opportunity for students to receive instruction in a specific occupational area. The programs are individualized and allow flexibility in program design, delivery, and implementation. Individualized plans are developed in consultation with the student, PCC faculty, PCC OST coordinators, work-site supervisors and agency representative(s), if appropriate.

Total required credit may vary due to three to four credit conversion. PCC comprehensive degree and certificate minimum requirements must be met.

DEGREES AND CERTIFICATES OFFERED

One-Year Certificate

PREQUISITES AND REQUIREMENTS

An interview with a OST coordinator is required for assessment, to determine the specific occupation and to identify a suitable training site and its availability. Prerequisites are determined by specific occupational standards.

COURSE OF STUDY

PCC faculty and academic professionals approve community employers based on their experience and training in the specific occupational area. PCC faculty and academic professionals provide on-site monitoring of student progress toward learning outcomes through monthly on-site supervisor reports, weekly/monthly student reports, quarterly learning outcomes and curriculum reviews and quarterly student evaluations. This is an open entry/open exit program so that students complete a full college quarter, but may begin their program at any time during the school term.

OCCUPATIONAL SKILLS TRAINING CERTIFICATE

A minimum of 64 credits is required for a Certificate of Completion. A maximum of 24 credit hours of occupational skills credit may be applied to an Associate of General Studies Degree.

OPHTHALMIC MEDICAL TECHNOLOGY

Cascade Campus
Jackson Hall, (JH) Room 210A
503-978-5667

www.pcc.edu/programs/ophthalmic/

CAREER AND PROGRAM DESCRIPTION

Those training in the Ophthalmic Medical Technology Program will develop skills to perform ophthalmic procedures under the supervision of a licensed physician. These procedures include: medical histories, diagnostic tests, refractometry, anatomical and functional ocular measurements and tests, administration of topical ophthalmic and oral medications, instructing patients, maintaining equipment, sterilizing surgical instruments, assisting in minor ophthalmic surgery and assisting in the fitting of contact lenses. Ophthalmic medical technology is a rapidly expanding field and a growing demand exists for technicians.

The program is limited to 24 students. Only those students who have been officially admitted to the Ophthalmic Medical Technology Program may enroll in OMT courses. Professionals in the field may be admitted when space is available.

The program begins fall term only. To advance to the next term students must successfully complete all of the previous term's coursework by receiving a grade of "Pass" or "C" or better. All courses listed for the previous term must be completed prior to being allowed to progress to the next term.

This program is designed to correlate classroom and laboratory experiences with clinical experience in ophthalmic offices and clinics and prepares students to function under the supervision of a licensed physician.

This program is accredited by the Commission on Accreditation for Ophthalmic Medical Programs (CoA-OMP). Graduates of accredited programs are eligible to test for national certification as an ophthalmic technician.

Total required credit may vary due to three to four credit conversion. PCC comprehensive degree and certificate minimum requirements must be met.

DEGREES AND CERTIFICATES OFFERED

Associate of Applied Science Degree

Ophthalmic Medical Technology

PREREQUISITES AND REQUIREMENTS

1. High school completion or GED.
2. Compass scores to show readiness for WR 121, RD 115 and MTH 60.
3. Two statements of recommendation from a recent employer, instructor or counselor.
4. Students must have working knowledge or background of basic computer skills including Windows, internet and email.
5. Program advising session with an Ophthalmic Medical Technology Program faculty advisor.
6. Students must also have transportation to practicum facilities throughout the Portland metropolitan area.
7. A criminal background check. Please contact the department for more information.
8. Students may consult with faculty advisor about alternative approaches to completing portions of the ophthalmic medical technology curricula.

Accepted students must have documentation of the following prior to the beginning of spring term: satisfactory physical examination, Mantoux test, evidence of immunity to measles, evidence of initiating the immunization series for Hepatitis B or sign a waiver declining immunization.

OPHTHALMIC MEDICAL TECHNOLOGY AAS DEGREE

Minimum of 94 credits. Students must also meet Associate Degree Comprehensive Requirements and Associate of Applied Science Requirements

COURSE OF STUDY

First Term

BI 55	Human Biology	4
OMT 111	General Medical Terminology	3
OMT 145	Clinical Optics I	2
OMT 163	Ocular Anatomy and Physiology	2
WR 121	English Composition	4

Second Term

OMT 102	Pharmacology/Eye Disease I	2
PSY 101	Psychology and Human Relations	4
OMT 104	Ophthalmic Office Procedures	3
OMT 146	Clinical Optics II	2
General Education		4

Third Term

OMT 106	Introduction to Clinical Skills	3
MA 131	Introduction to Medical Science	5
OMT 103	Pharmacology/Eye Disease II	2
OMT 283	Perception/Low Vision	2
OMT 231	Seminar I	1
OMT 121	Practicum I	1

Only those students who have completed the first year requirements and have been officially accepted into the second year of the Ophthalmic Technology Program may enroll in the courses listed below.

Fourth Term

OMT 206	Diagnostic Procedures I	4
OMT 209	Surgical Assisting Procedures	3
OMT 232	Seminar II	2
OMT 222	Practicum II	4
OMT 208	Ocular Motility/Binocular Vision	2
General Education		4

Fifth Term

OMT 212	Contact Lens I	3
OMT 223	Practicum III	4
OMT 233	Seminar III	2
OMT 207	Diagnostic Procedures II	4
HE 112	First Aid and Emergency Care	1

Sixth Term

OMT 224	Practicum IV	4
OMT 234	Seminar IV	2
OMT 210	Therapeutic Assisting Procedures	4
OMT 213	Contact Lens II	3
General Education		4

PARAEDUCATOR

See Education

PARALEGAL

Cascade Campus
Terrell Hall, (TH) Room 109
503-978-5212

www.pcc.edu/pl

Email: gbrask@pcc.edu

CAREER AND PROGRAM DESCRIPTION

The paralegal is a trained paraprofessional who assists the attorney in delivery of legal services to the client. Tasks include: client and witness interviews, document preparation, organization of case materials and data, investigation, research and file management. The paralegal performs these tasks under the supervision of an attorney.

The PCC Paralegal Program is designed to provide students with a high quality background in paralegal studies, including providing development of analytic skills; familiarity with substantive and procedural law; development of various practical skills; familiarity with legal terminology; and research and writing skills. The program has classes that focus on specific skills, such as client counseling, investigation and research, as well as various substantive law classes

Paralegal courses may transfer to Portland State University toward a general studies degree. PCC students interested in transferring to any four-year university should check with that institution for

information about specific paralegal courses.

Total required credit may vary due to three to four credit conversion. PCC comprehensive degree and certificate minimum requirements must be met.

DEGREES AND CERTIFICATES OFFERED

Associate of Applied Science Degree
- Paralegal

One-Year Certificate
- Paralegal

PREREQUISITES AND REQUIREMENTS

1. Placement test administered through assessment centers. (Consult department chair for waiver of testing.)
2. Program advising is required. Students planning to enroll in the program should contact the department for specific eligibility requirements and program advising.
3. Students who meet prerequisites with classes from another institution should contact the PCC Paralegal Department for approval to register.
4. Because of the responsibilities involved in the practice of law, the Paralegal Department reserves the right to require that a student who appears to be unsuited or unprepared for the program or the practice, be counseled into another, or preparatory, area of study.

COURSE OF STUDY

Classes meet primarily on weekday evenings, but some daytime and Saturday classes are scheduled as well. Most classes are located at the PCC Central location on Water Avenue or Cascade Campus but classes are periodically offered at the Sylvania or Rock Creek campuses.

PARALEGAL AAS DEGREE

Minimum of 90 credit hours which includes 21 credit hours of required paralegal core courses, 24 credit hours of elective paralegal courses (Paralegal Certificate) plus General Education credit hours and approved BA, CJA or LA electives 1. Students must also meet Associate Degree Comprehensive Requirements and Associate of Applied Science Requirements. Additionally, the Department requires WR 122 and CAS 133 or equivalent or department approved waiver for the degree and certificate.

1. Courses from other departments, such as BA or CJA, may be used as paralegal electives. Consult the department for course approval.

PARALEGAL CERTIFICATE

Minimum of 45 credit hours which includes 21 credit hours of required paralegal core courses and 24 credit hours of elective legal assistant courses.

Course List - 21 credit hours

LA 101	Introduction to Law - Fundamentals [1]	3
LA 102	Introduction to Law - Substantive Areas [1]	3
LA 103	Introduction to Law - Ethics [1]	3
LA 106	Computer Assisted Legal Research	3
LA 107	Techniques of Interview [1]	3
LA 203	Legal Research and Library Use [1]	3
LA 204	Applied Legal Research and Drafting [1]	3

In addition to the required core courses listed, 24 credits from the paralegal electives listed below must be completed to earn the PCC certificate or associate of applied science degree.

Paralegal Electives

LA 104	Investigation Techniques for Legal Assistants [2]	3
LA 105	Litigation [2]	3
LA 109	Estate Planning	3
LA 111	Probate Practice	3
LA 113	Income Tax Law	3
LA 116	Real Property Law I	3
LA 124	Law Office Management	3
LA 206	Intellectual Property	3
LA 208	Family Law	3
LA 210	Advanced Estate Planning	3
LA 216	Employment Law	3
LA 219	Consumer Law	3
LA 220	Worker's Compensation	3
LA 221	Bankruptcy Law	3
LA 222	Corporate Law Practice	3
LA 224	Torts/Personal Injury	3
LA 226	Criminal Law for Legal Assistant	3
LA 280A	CE: Legal Assist/Paralegal variable credit	2

[1] *Required core courses. Prerequisites required. See Course Descriptions section of this catalog.*

[2] *Prerequisites required. See Course Descriptions section of this catalog.*

Paralegal electives from other departments

Courses from other departments, such as BA or CJA, may be used as paralegal electives. Consult the department for course approval.

PARENT EDUCATION

Sylvania Campus
Health Technology Building, (HT) Room 318
503-977-4217 or 503-977-4218
www.pcc.edu/academics/index.cfm/76,html

DESCRIPTION

Classes are taught by PCC parent education instructors with expertise in working both with children and adults. Some classes are lecture and discussion and others are interactive with parents and children together. Each class is tailored to the ages of the children and includes study topics. The study topics for the term are chosen by the participants and the instructor in each class. Topics include: development, guidance, communication, self-esteem, health, current issues and others.

Courses are designed to help participants develop skills for successful parenting, learn more about their roles as parents and

enhance their relationships with their children. Parent Education courses include: HEC 9402, HEC 157, HEC 9420, HEC 9421 and HEC 9422. See the Course Description (HEC prefix) section of this catalog for individual environmental science courses and their prerequisites.

PEACE AND CONFLICT STUDIES

Please see the Focus Awards section of the catalog.

PHILOSOPHY

Cascade Campus
Liberal Arts & Mathematics Division
Terrell Hall (TH) Room 220
503-978-5251

Sylvania Campus
Social Science Building, (SS) Room 215
503-977-4324

Rock Creek Campus
Building 3, Room 201
503-614-7235

DESCRIPTION

Philosophers ask and attempt to answer fundamental questions about ourselves and the world. What is real? What can be known? How should we live our lives? What is the nature of human nature? What distinguishes logic from illogic? Philosophy courses will look at the answers given to such questions by major historical figures and will help the student to learn how to think critically about issues of the sort raised by these questions. Philosophy courses need not be taken in sequence and any three courses constitute a sequence for purposes of graduation. All philosophy courses are transferable to Portland State University, Oregon State University and the University of Oregon.

See the Course Description (PHL prefix) section of this catalog for individual philosophy courses and course prerequisites.

PHYSICAL EDUCATION

Cascade Campus
Liberal Arts & Mathematics Division
Terrell Hall (TH) Room 220
503-978-5251

Southeast Center
Mt. Scott Hall, (MSH) Room 103
503-788-6146

Rock Creek Campus
Building 7, Room 202
503-614-7257

Sylvania Campus
Health Technology Building, (HT) Room 215
503-977-4210

www.pcc.edu/programs/pe/

DESCRIPTION

Physical education offers students the opportunity to improve physical and mental well being through a variety of exciting physical education activity and wellness classes. PCC offers a wide variety of physical education activity and wellness classes, dance, and athletic opportunities to students of all ages and fitness levels. These courses will equip students with the stamina to meet today's challenges in the workplace. Classes provide skills and knowledge that enables students to achieve lifelong fitness.

Although a physical exam is not required for physical education courses, students are advised to seek approval from their personal physician before entering into a regular program of vigorous physical activity as is found in physical education courses. Students who require classroom accommodations should notify the physical education instructor and the Office for Students with Disabilities (OSD). OSD works with students to identify and ensure reasonable accommodations in PCC classes and programs.

The Oregon State System of Higher Education and the systems in other states vary in their physical education requirements. Many physical education classes fulfill degree requirements at PCC or other institutions and colleges, or may transfer as elective credit. Students should check with their PCC program advisor or with the institution to which they plan to transfer. For information on Fitness Technology Certificate and AAS degree, see Fitness Technology in catalog. See the Course Description (PE prefix) section of this catalog for individual environmental science courses and their prerequisites.

PHYSICS

Cascade Campus
Jackson Hall (JH) Room 210
503-978-5209

Rock Creek Campus
Building 7, Room 202
503-614-7500

Southeast Center
Mt. Scott Hall, (MSH) Room 103
503-788-6147

Sylvania Campus
Science Technology Building, (ST) Room 312
503-977-4174

DESCRIPTION

Physics is the root discipline of science that describes the natural universe at its most fundamental level. Physics is relevant to a broad range of academic pursuits including chemistry, biology, engineering, medicine and liberal arts. Physics allows students to view the world with a new understanding and appreciation of

its order and beauty.

Physics is offered at three different levels: Conceptual physics (PHY 101, PHY 102, PHY 103) algebra based (PHY 201, PHY 202, PHY 203) and calculus based (PHY 211, PHY 212, PHY 213). An introductory astronomy series is also offered (PHY 121, PHY 122, PHY 123). See the Course Description (PHY prefix) section of this catalog for individual physics courses and course prerequisites.

POLITICAL SCIENCE

Cascade Campus
Liberal Arts & Mathematics Division
Terrell Hall (TH) Room 220
503-978-5251

Sylvania Campus
Social Science Building, (SS) Room 215
503-977-4289

Rock Creek Campus
Building 3, Room 201
503-614-7327

DESCRIPTION

Political science focuses upon politics and political systems and the behavior of people within political systems. At PCC, primary emphasis is on American government, the constitutional background of American politics, political parties, interest groups, elections, Congress, the Presidency, the Supreme Court, domestic and foreign policies. In addition, PCC offers international relations, American foreign policy and political ideology. See the Course Description (PS prefix) section of this catalog for individual political science courses and course prerequisites.

PROFESSIONAL MUSIC

Cascade Campus
Moriarty Arts and Letters Building, (MAHB) Room 210
503-978-5226 or 503-978-5430
or 503-978-5430

www.pcc.edu/programs/music-pro/

CAREER AND PROGRAM DESCRIPTION

Music careers are made successful by one's ability to choose a focus area: One may become a performance/studio musician, composer/arranger, recording engineer/producer, sound editor, foley artist, private music instructor/coach, record promoter/distributor, music journalist, or work in music marketing and promotions. Whichever is the case, a professional musician's resume is built from a balance between practice, theory, and solid technological skills.

PCC's program is intended for the occupationally-oriented music student whose career goals can best be reached by improving skills in music performance, music writing, music technology or a combination thereof. PCC offers a one-year certificate in music performance, production, and music writing. Students may earn this certificate by completing a minimum of 50 credit hours, including 39 credits of required, professional music courses, eight credits of elective professional music courses, and three or four credits of writing (WR 115 or above). A graduate may pursue a career as a private teacher of music, instrumental musician, composer, arranger, orchestrator, music engineer, or producer. To learn whether courses will transfer to a four-year university, students must check with the institutions to which they intend to transfer. See the Course Description (MUC prefix) section of this catalog for individual professional music courses and their prerequisites.

Total required credit may vary due to three to four credit conversion. PCC comprehensive degree and certificate minimum requirements must be met.

DEGREES AND CERTIFICATES OFFERED

One-Year Certificate
Professional Music

PROFESSIONAL MUSIC CERTIFICATE

COURSE OF STUDY

This program is designed for the occupationally-oriented music student whose career goals can best be reached by improving skills in music performance, music writing, music technology or a combination of courses in these areas.

COURSE LIST

The following core of professional music courses will be required of all program students. All sequential course must be taken and passed in sequence.

MUC101	Commercial Music Theory I	3
MUC 102	Commercial Music Theory II	3
MUC 103	Commercial Music Theory III	3
MUC 120A	Sight Singing and Ear Training I	1
MUC 120B	Sight Singing and Ear Training II	1
MUC 120C	Sight Singing and Ear Training III	1
MUC 130A	Rhythm Training I	1
MUC 130B	Rhythm Training II	1
MUC 130C	Rhythm Training III	1
MUC 140A	Group Piano I	2
MUC 143	Group Percussion	2
MUC 145A	Group Guitar/Bass I	2

MUC 150A	Keyboard Harmony I	1
MUC 150B	Keyboard Harmony II	1
MUC 150C	Keyboard Harmony III	1
MUC 164	Survey of the Music Industry	1
MUC 165	Business for the Musician	1
MUS 205	Introduction to Jazz History	3
MUS 206	Introduction to the History of Rock and Roll	3
MUS 207	Introduction to the History of Folk Music	3
MUC 234	Income Tax Preparation for Musicians	1
MUC 280A	CE: Vocational Music	3

Students may select from among the following courses to make up the number of credit hours required for the certificate. It is possible to concentrate on music writing or performance.

MUC 123	Electronic Media I	2
MUC 124	Electronic Media II	2
MUC 125	Electronic Media III	2
MUC 140B	Group Piano II	2
MUC 144	Contemporary Singing	2
MUC 145B	Group Guitar/Bass II	2
MUC 145C	Group Guitar/Bass III	2
MUC 154A	Band Performance Workshop I	2
MUC 154B	Band Performance Workshop II	2
MUC 154C	Band Performance Workshop III	2
MUC 155	Introduction to Improvisation	2
MUC 155A	Improvisation I	2
MUC 155B	Improvisation II	2
MUC 155C	Improvisation III	2
MUC 222	Introduction to Recording Tech	2
MUC 223	Studio Recording Technology I	3
MUC 224	Studio Recording Technology II	3
MUC 225	Studio Recording Technology III	3
MUC 226	Digital Recording I	2
MUC 227	Digital Recording II	3
MUC 228	Digital Recording III	3
Required writing course for the Professional Music Program:		
WR 115	Introduction to Expository Writing	4

PSYCHOLOGY

Cascade Campus
Liberal Arts & Mathematics Division
Terrell Hall (TH) Room 220
503-978-5251

Southeast Center
Mt. Scott Hall, (MSH) Room 103
503-788-6146

Rock Creek Campus
Building 3, Room 201
503-614-7327

Sylvania Campus
Social Science Building, (SS) Room 215
503-977-4289

DESCRIPTION

Psychology is the scientific study of behavior and mental processes. Psychologists investigate how the individual's immediate environment, as well as how the individual's past experience, physiological makeup, and sociocultural context influence current thoughts, emotions and behavior. Psychology students pursue careers in a wide variety of settings in the public sector and private industry after transfer to four year colleges and universities. Psychology students are also completing certificates and two year degrees.

At PCC, Psychology courses introduce students to psychology and prepare them for further study at four year colleges and universities. See the Course Description (PSY prefix) section of this catalog for individual psychology courses and course prerequisites.

RADIOGRAPHY

Sylvania Campus
Health Technology Building, (HT) Room 306
503-977-4227, 503-977-4795

www.pcc.edu/programs/radiography

CAREER AND PROGRAM DESCRIPTION

Radiographers are important members of the health care team and work closely with physicians and particularly with radiologists. The radiographer is primarily concerned with providing diagnostic radiographic images (x-rays) of disease and injury and assisting in patient care. The radiographer may be employed in hospitals, clinics and medical offices.

Radiography Program graduates may apply to take the national certification examination offered by the American Registry of Radiologic Technologists and for licensure as a radiographer in the state of Oregon. Students are required to satisfactorily complete the course of study with a minimum grade of "C" or higher in each required course and must maintain an overall grade point average of 2.0 for graduation.

PCC's program begins each September with an introductory course in the preceding summer term. The Radiography Program is eight terms in length (24 consecutive months). The program combines campus instruction with clinical education at affiliated hospitals in the Portland area. This program is designed to prepare the student for certification as a registered technologist in radiography, R.T. (R).

Total required credit may vary due to three to four credit conversion. PCC comprehensive degree and certificate minimum requirements must be met.

DEGREES AND CERTIFICATES OFFERED

Associate of Applied Science Degree
- Radiography

Less than One-Year Certificate
- Magnetic Resonance Imaging

PREREQUISITES AND REQUIREMENTS

All program applicants must have a high school diploma or a GED certificate. In addition, all applicants will be required to have

satisfactorily ("C" grade minimum) completed WR 121, MTH 111B or MTH 111C, BI 231, 232 and 233, MP 111 or the equivalent, and be computer literate. BI 231, BI 233 and MTH 111 must be current within seven years of application. Currently, all prerequisites must be completed by spring term in the year in which you apply.

NOTE: The 2010 application will require ALL prerequisites be completed by winter 2010.

Potential applicants are encouraged but not required to gain health care experience by volunteering or working in the health care industry, preferably in a hospital setting to gain knowledge of professional duties and responsibilities.

The Radiography Program is a closed entry program with limited enrollment. Completing admission requirements and applying to the program does not guarantee admission.

For specific application procedures contact the Health Admissions Office. Applications are accepted February 1 through the first Monday in April. During April and May the top applicants will be assigned to clinical affiliates for observation and interviews with clinical instructors. Selection will occur in late May. A brief orientation meeting will be held early in June. All students must be formally admitted in order to enroll in the radiography courses. Other enrollees must have program permission.

Once accepted to the program, students will be required to submit to a criminal background check and a five-panel drug screen for their clinical practicum. Students must be able to provide a valid Social Security number for the criminal background check. Proof of immunizations will also be required. For a complete listing of required immunizations, please visit our website at www.pcc.edu/rad.

During the program students will be working with ionizing radiation, processing chemicals and they will provide patient care to individuals who may have contagious diseases. Special immunization is required.

RADIOGRAPHY AAS DEGREE

Minimum of 119 credit hours which includes 102 credit hours of required radiography courses plus General Education credit hours and electives. Students must also meet Associate Degree Comprehensive Requirements and Associate of Applied Science Degree.

COURSE OF STUDY

Summer Term (before entering program)

RAD 100	Introduction to Radiology	2

First Term

RAD 101	Radiographic Positioning I	3
RAD 105	Methods of Patient Care	3
RAD 106	Radiolographic Equipment I	4
RAD 110	Radiographic Clinic I	4
HE 110	Cardiopulmonary Resuscitation	1

Second Term

RAD 102	Radiographic Positioning II	3
RAD 107	Radiolographic Equipment II	4
RAD 115	Principles of Exposure I	3
RAD 120	Radiographic Clinic II	4

Third Term

RAD 103	Radiographic Positioning III	3
RAD 122	Radiation Protection - Biology	3
RAD 130	Radiographic Clinic III	4
RAD 132	Radiographic Image Production	3
General Education Elective		4

Fourth Term

RAD 140	Radiographic Clinic IV	10
General Education Elective		4

Fifth Term

RAD 203	Applied Radiography Topics	2
RAD 209	Advanced Radiographic Procedures	2
RAD 210	Radiographic Clinic V	6
RAD 215	Principles of Exposure II	3
General Education Elective		4

Sixth Term

RAD 205	Radiographic Positioning V	3
RAD 211	Advanced Imaging Modalities	4
RAD 220	Radiographic Clinic VI	6
General Education Elective		4

Seventh Term

RAD 206	Survey of Medical Imaging Diseases	3
RAD 230	Radiographic Clinic VII	10

Eighth Term

RAD 240	Radiographic Clinic VIII	8
RAD 216	Radiography Registry Review	2

College credit courses are available to A.R.R.T. certified technologists for updating and re-entry knowledge and skills. Contact department for specific offerings each term. 503-977-4227.

MAGNETIC RESONANCE IMAGING CERTIFICATE

COURSE OF STUDY

First Term

MRI 101	MR Physics I-Principles,Equipment & Safety	2
MRI 111	MR Cross-Sec Anatomy	2
MRI 121	MR Clinical Education I	6

Second Term

MRI 102	MR Physics II Advanced Principles	2
MRI 112	MR Cross-Sec Anatomy II	1
MRI 122	MR Clinical Education II	8

Third Term

MRI 130	MR Imaging Procedures & Diagnosis	2
MRI 140	MR Registry Review	1
MRI 123	MR Clinical Education III	8

Fourth Term (If needed)

MRI 124	MR Clinical Education IV

REAL ESTATE

Sylvania Campus
Social Science Building, (SS) Room 215
503-977-4393 or 503-977-4287

www.pcc.edu/re

CAREER AND PROGRAM DESCRIPTION

PCC's Real Estate Program offers classes to train brokers, appraisers and property managers. Real estate brokers represent buyers and/or sellers in real estate sale/lease transactions. PCC offers courses that give students an introduction to the field of real estate as well as basic and advanced real estate investment. Brokers must satisfy the Oregon Real Estate Agency requirements for a broker's license. PCC offers pre-license courses approved by the Oregon Real Estate Agency for the real estate broker license. PCC also offers the Real Estate Advanced Practices post-license course which is required of all real estate brokers prior to their first license renewal.

Real estate appraisers, depending upon which license or certification is earned, may specialize in valuing simple single family residential, complex residential, or income producing properties. PCC offers pre-license/certification courses for real estate appraisers. The appraisal courses satisfy the qualifying education requirements for a registered appraisal assistant. Appraisers in Oregon must satisfy the education and experience requirements established by the Oregon Appraisal Certification and Licensure Board.

Property managers are responsible for overseeing the management of such properties as single family residences, duplexes, apartments, condominiums, office or retail buildings, and other types of income producing real estate. PCC offers pre-license courses approved by the Oregon Real Estate Agency for the real estate broker and property manager licenses. Property managers must satisfy the Oregon Real Estate Agency requirements for a property manager's license.

Course List - Broker Preparation Courses

RE 110	Real Estate Practices	3
RE 112	Real Estate Law	3
RE 114	Real Estate Agency Law	2
RE 116	Real Estate Finance	3
RE 118	Real Estate Brokerage	2
RE 126	Real Estate Contracts	2
RE 140	Real Estate Broker Property Management	1
Broker Post-License Course		
RE 130	Real Estate Advanced Practices	3

Property Manager Preparation Course

RE 252	Real Estate Property Management	6

Appraisal Preparation - (for a registered assistant)

RE 210	Real Estate Appraisal - Foundations	3
RE 211	Real Estate Appraisal - Single Family Residences	3
RE 212	Real Estate Appraisal - USPAP	2

Note: Requirements for licensing/certification as a broker, property manager or appraiser may change over time. Students are advised to confirm the current license/certification requirements with the Oregon Real Estate Agency, Oregon Appraisal Certification and Licensure Board or PCC before making any course commitments.

General Interest Real Estate Courses

Non pre-licensing/certification		
RE 100	Introduction Real Estate	3
RE 250	Real Estate Investments I	3
RE 212	Real Estate Appraisal - USPAP	2
RE 226	Real Estate Investments - Advanced	3

REFRIGERATION, HVAC AND TRADE RELATED

Cascade Campus
Technology Education Building, (TEB) Room 101
503-978-5650, 503-978-5651

See Facilities Maintenance Technology

RELIGIOUS STUDIES

Rock Creek Campus
Building 3, Room 201
503-614-7235

CAREER AND PROGRAM DESCRIPTION

Religious Studies, as an interdisciplinary field, investigates the variety of human religious experience. A broad understanding of religion is sought through critical reflection on the various founders, history, myths and doctrines, rituals and traditions, and social and personal ethics. Techniques from the arts, humanities, social, and even hard sciences are employed. Religious Studies prepares students to go on to work or study further in disciplines such as religion and ministry, social service, archeology, education, law, linguistics, or political science.

PCC currently offers one Religious Studies course, R210 World Religions. This course fulfills both General Education and diversity requirements. AAOT students interested in earning a bachelor's degree in Religious Studies should take related courses in areas such as anthropology, history, literature, and philosophy. Students must check for the specific requirements of the bachelor's program to which they intend to transfer. The interdisciplinary nature of the field allows students to customize their educational goals while providing a solid foundation for future learning. See the Course Description (R prefix) section of this catalog for individual environmental science courses and their prerequisites.

RUSSIAN

Sylvania Campus
Communications Technology Building, (CT) Room 219
503-977-4841

DESCRIPTION

All PCC Russian courses are taught using an immersion method. The objective of all Russian courses at PCC is to help students to develop communicative competence and proficiency in comprehension, speaking, reading and writing Russian as well as cultural awareness. Assessment is based on consistent attendance, active student participation, and daily written and oral assignments.

There are no requirements or prerequisites for entry into the first term of first year Russian. However, the student should read the Russian course descriptions for other Russian courses. Students who have studied a language before and are unsure of their placement are encouraged to consult with a world language teacher since they will not be admitted to a course if their skill level is too advanced for that course.

All students who enroll in world language classes (including those on the waiting list) are expected to attend class the first day when material essential for successful completion of the course will be presented. Students who do not attend the first class session may be replaced by those who do attend. See the Course Description (RUS prefix) section of this catalog for individual environmental science courses and their prerequisites.

SIGN LANGUAGE INTERPRETATION (SLIP)

Sylvania Campus
Communications Technology Building, (CT) Room 219
503-977-4672 (V); 503-977-4951 (VP)
www.pcc.edu/programs/sign-language/

CAREER AND PROGRAM DESCRIPTION

Professional sign language interpreters work in a variety of settings such as education, social service, religion, government, business, performing arts, mental health, medical, legal and law enforcement. Interpreters may specialize in one area or may work in private practice in a variety of settings. The majority of graduates from this program are hired into entry level positions in educational settings. Currently, the demand for services exceeds the supply of interpreters nationwide.

The program focuses on the acquisition of bi-cultural and bi-lingual abilities and on both transliteration and interpretation skills. Students may retake courses which will assist them in developing exit competencies.

An articulation agreement between PCC and Marylhurst University allows students to apply credits earned in Sign Language Interpretation (SLIP) toward a bachelor degree in Human Studies at Marylhurst. For more information, contact the department office.

Total required credit may vary due to three to four credit conversion. PCC comprehensive degree and certificate minimum requirements must be met.

DEGREE AND CERTIFICATES OFFERED

Associate of Applied Science Degree
- Sign Language Interpretation

Two-Year Certificate
- Sign Language Interpretation

One-Year Certificate
- Deaf Studies

PREREQUISITES AND REQUIREMENTS

1. Submit an application.
2. Complete WR 121 with a grade of “C” or better prior to entering the program.
3. Complete ASL 130 with a grade of “C” or better prior to entering the program. Students taking any prerequisites classes during the summer prior to enrollment may be tentatively accepted based on their progress in the course at midterm, with final acceptance pending successful completion of the course.
4. Complete ASL 101, 102, 103, and 201, 202, 203 or ASL 150, 151, 250, 251 with a grade of “C” or better prior to entering the program.
5. Demonstrate American Sign Language and spoken English competencies through department-administered assessment.

The deadline to complete steps 1-4 above is April 1. Once step 4 is complete, students will be given a language assessment. Minimum entrance requirements are intermediate level for ASL and superior level for English. Candidates with higher language competencies will be awarded seats before those with lower language competencies.

ASL 130 Deaf Studies is a lecture course listed under Sign Language Studies in the college schedule and serves as a prerequisite course.

COURSE OF STUDY

This is a full-time two year (six term) program for students interested in sign language interpretation as a career. A maximum of 30 students will be accepted annually into the fall term. There are five practicum courses which place students in contact with Deaf people, employers and professional interpreters. Students must pass a qualifying exam before being accepted into an internship. Graduation is dependent upon entrance into and successful completion of an internship under the direction of a professional interpreter who acts as a mentor.

Students who require additional time to master interpreting skills may return after completion of second year courses to prepare to enter and complete this internship by re-taking and passing the qualifying exam. SLIP coursework which would assist this development is available to the candidate. These courses must be taken for credit. Please make arrangements with the SLIP Department.

SIGN LANGUAGE INTERPRETATION AAS DEGREE

Minimum of 106 credit hours which includes 90 credit hours of required SLIP courses, plus General Education credit hours and elective courses and exit literacy in English and math. Students must also meet Associate Degree Comprehensive Requirements and Associate of Applied Science Requirements.

SIGN LANGUAGE INTERPRETATION CERTIFICATE

Minimum of 90 credit hours of required SLIP courses, plus completion of WR 121.

COURSE LIST

The following courses are required of all students accepted into the SLIP. Students must receive passing grades as determined by program policy to maintain student status in the program. Students are required to take either ITP 283 or ITP 284 for graduation from the Two-Year Certificate program, or with the Associate of Applied Science Degree.

Note: All courses within the SLIP are open to individual professional interpreters and to other professionals working in fields serving Deaf people. This is subject to course availability, class size and program permission based on prerequisite skill and knowledge. In addition, groups and organizations such as school districts may contract with the SLIP for custom-designed courses for their staff.

First Term

ITP 111	American Sign Language I	5
ITP 120	Fingerspelling I	2
ITP 131	Deaf Culture	4
ITP 270	Interpreting Process I	4

Second Term

ITP 112	American Sign Language II	5
ITP 230	American Sign Language Linguistics I	3
ITP 260	Interpreting Theory I	3
ITP 271	Interpreting Process II	4
ITP 180	Field Experience	1

Third Term

ITP 113	American Sign Language III	5
ITP 121	Fingerspelling II	2
ITP 276	Specialized Discourse I	3
ITP 231	American Sign Language Linguistics II	2
ITP 272	Interpreting Process III	4
ITP 279	Mock Interpreting I	1

Fourth Term

ITP 211	American Sign Language IV	3
ITP 277	Specialized Discourse II	3
ITP 273	Interpreting Process IV	6
ITP 281	Mock Interpreting II	2
ITP 262	Interpreting Theory III	4

Fifth Term

ITP 212	American Sign Language V	3
ITP 261	Interpreting Theory II	3
ITP 283*	Interpreting Internship I	3
ITP 274	Interpreting Process V	6
ITP 285	Deaf Studies Internship	3
HEC 226	Child Development	4
	or	
PSY 215	Human Development	4

Sixth Term

ITP 275	Interpreting Process VI	4
ITP 284*	Interpreting Internship II	3

**Only one internship (ITP 283 or 284) is required for an interpreting degree or certificate, however, students are strongly encouraged to take both.*

Recommended Electives

Because interpreters work in a variety of settings, students are encouraged to broaden their general knowledge in a variety of areas. For those planning to work in K-12 or post secondary education, background in English, writing and literature, history, science, social studies, math and basic computer use is essential. SLIP students may find the following electives helpful:

SP 100	Introduction to Speech Communication	3-4
SP 111	Fundamentals of Speech	3-4
SP 140	Introduction to Intercultural Communication	3-4

DEAF STUDIES CERTIFICATE

Student must follow the same application process as for entrance into the SLIP, then complete a separate application packet. Minimum of 51 credit hours of required courses. The Deaf studies certificate does not qualify students to work as interpreters but allows them to work with Deaf people in a field other than interpreting, such as teaching, working in an agency that serves Deaf people, or continuing the study of American Sign Language. Coursework for this certificate closely parallels that of the SLIP, with the omission of some of the hands-on interpreting courses.

REQUIRED COURSES

ITP 111	ASL I	5
ITP 112	ASL II	5
ITP 113	ASL II	5
ITP 120	Fingerspelling I	2
ITP 121	Fingerspelling II	2
ITP 131	Deaf Culture	4
ITP 180	Field Experience	1
ITP 211	ASL IV	3
ITP 212	ASL V	3
ITP 230	ASL Linguistics I	3
ITP 231	ASL Linguistics II	2
ITP 260	Interpreting Theory I	3
ITP 261	Interpreting Theory II	3
ITP 262	Interpreting Theory III	4
ITP 285	Deaf Studies Internship	3
HEC 226	Child Development	4
	or	
PSY 215	Human Development	3-4

SIGN LANGUAGE STUDIES (SLS)

Sylvania Campus
Communications Technology Building, (CT) Room 219
503-977-4672 (V), 503-977-4951 (VP)

DESCRIPTION

American Sign Language (ASL) is the language used by Deaf people in the United States and parts of Canada when communicating with each other. ASL courses are offered for General Education credits as a modern language for students earning an associate degree from PCC and second year courses satisfy the language requirement for the associate of arts Oregon transfer.

With the exception of ASL 130 Deaf Studies, American Sign Language will be used in classes; no spoken English will be used. This method involves the student in conversation using ASL and prepares them to function comfortably in a variety of situations in the Deaf community. Completion of ASL courses does not qualify a student to perform interpreting services. Interpreting requires formal training. Students who are interested in interpreting as a career, please see the catalog description under Sign Language Interpretation (SLIP.)

The following general remarks apply to all sign language studies courses:

All students who enroll in sign language studies classes (including those on the waiting list) are expected to attend class the first day, when material essential for successful completion of the course will be presented. Students who do not attend the first class session may be replaced by those who do attend. Students who have studied sign language elsewhere and wish to continue at PCC must take a Sign Language Proficiency Interview through the department. Call Sign Language Studies Department, 503-977-4672 voice or 503-977-4951 (VP) at least three weeks prior to the end of the term before the term you plan to take ASL to schedule an appointment for a Sign Language Proficiency Interview (SLPI.)

There are no prerequisites for entry into the first term of first year American Sign Language. However, students should read the Sign Language Studies course descriptions for the prerequisites for other American Sign Language courses.

SOCIOLOGY

Cascade Campus
Liberal Arts & Mathematics Division
Terrell Hall (TH) Room 220
503-978-5251

Southeast Center
Mt. Scott Hall, (MSH) Room 103
503-788-6146

Rock Creek Campus
Building 3, Room 201
503-614-7327

Sylvania Campus
Social Science Building, (SS) Room 217
503-977-4289

DESCRIPTION

Sociology is the study of human social behavior. It is the scientific study of human interaction with a focus on human group life. The general sociology sequence SOC 204 and SOC 205 introduces the student to basic knowledge, concepts, theory and research in sociology. It is recommended, but not required, that the courses be taken in sequence. The sequence is a prerequisite for upper division sociology courses at most four-year institutions.

See the Course Description (SOC prefix) section of this catalog for individual sociology courses and course prerequisites.

SPANISH

Cascade Campus
Liberal Arts & Mathematics Division
Terrell Hall, (TH) Room 220
503-978-5251

Southeast Center
Mt. Scott Hall, (MSH) Room 103
503-244-3585

Rock Creek Campus
Building 3, Room 214
503-614-7336

Sylvania Campus
Communications Technology Building, (ST) Room 219
503-977-8023

DESCRIPTION

All PCC Spanish courses are taught using an immersion method. The objective of all Spanish courses at PCC is to help students to develop communicative competence and proficiency in comprehension, speaking, reading and writing Spanish as well as cultural awareness. Assessment is based on consistent attendance, active participation, and written and oral assignments.

There are no requirements and prerequisites for entry into the first term of first year Spanish. However, the student should read the Spanish course descriptions for other Spanish courses. Students who have studied a language before and are unsure of their placement are encouraged to consult with a world language teacher since they will not be admitted to a course if their skill level is too advanced for that course.

All students who enroll in world language classes (including those on the waiting list) are expected to attend class the first day when material essential for completion of the course will be presented. Students who do not attend the first class session may be replaced by those who do attend. See the Course Description (SPA prefix) section of this catalog for individual environmental science courses and their prerequisites.

SPEECH COMMUNICATION

Cascade Campus
Liberal Arts & Mathematics Division
Terrell Hall (TH) Room 220
503-978-5251

Southeast Center

Mt. Scott Hall, (MSH) Room 103
503-788-6146

Rock Creek Campus
Building 3, Room 201
503-614-7235

Sylvania Campus
Communications Technology Building, (CT) Room 216
503-977-4264

DESCRIPTION

Speech Communication is the study of human communication processes. By understanding human symbolic interaction, students may critically analyze and apply methods of persuasion in interpersonal, small-group, intercultural, business, public speaking, and mass media contexts. Speech Communication provides students with practical tools that enable them to develop, manage, maintain, and mature many types of relationships.

PCC offers three sequences of classes, which reflect differing approaches, for students who want a more focused study of communication: SP140, 237, 214, 215 (Interpersonal Communication); SP 112, 228 (Persuasive Discourse); SP 130, 215, 237 (Business Communication). Students may select two courses from one of the above sequences to be applied toward their sequence requirement for the Associate of Arts Oregon Transfer (AAOT) degree.

See the Course Description (SP prefix) section of this catalog for individual speech communication courses and their prerequisites. To learn whether courses will transfer to a four-year university, students must check with the institutions to which they intend to transfer.

THEATRE ARTS

Cascade Campus
Moriarty Arts and Humanities Building
503-978-5250

Sylvania Campus
Performing Arts Center
503-977-4323

www.pcc.edu/programs/theatre/

Rock Creek Campus
Building 3, Room 201
503-614-7235

DESCRIPTION

The PCC Theatre Arts courses prepare community college students in the arts of acting, directing, design, and stagecraft. In a state-of-the-art theatre on the Sylvania campus, the program mounts fully staged productions ranging across the dramatic, comic and musical genres. Our students often find professional employment as technicians or actors, or excel in four-year academic programs.

Theatre Arts courses provide a nurturing atmosphere for exploration of this most collaborative and compelling art form. We offer hands-on classes in technical theatre and acting and currently produce three mainstage shows each year. In addition, the annual Student One-Act Play Festival showcases new plays written, directed and acted, and designed by our students. Students may select courses to complete requirements for the Associate of Arts Oregon Transfer (AAOT) degree.

VETERINARY TECHNOLOGY

Rock Creek Campus
Building 7, Room 202
503-614-7461

www.pcc.edu/programs/vet-tech/

CAREER AND PROGRAM DESCRIPTION

Veterinary technicians work with veterinarians and are skilled and knowledgeable in the practical application of aspects involved in the care and handling of animals, clinical laboratory procedures, animal diseases, animal nutrition, pharmacology, radiography, anesthesiology and medical and surgical assistance. Graduates are prepared to perform entry-level work as technicians in small and large animal hospitals and clinics, laboratory animal research facilities, educational institutions, military service and commercial firms. The program also emphasizes the development of professional attitudes and interpersonal skills expected of health care professionals.

This program is accredited by the Committee on Veterinary Technician Education and Activities of the American Veterinary Medical Association. Graduates are eligible to take the Veterinary Technician National Examination administered by the Oregon Board of Veterinary Medical Examiners certification examination for veterinary technicians. Graduates may also travel to other states to take licensing examinations.

This is a seven-term program. Continuation into the second year is contingent upon satisfactory performance in the first year.

Total required credit may vary due to three to four credit conversion. PCC comprehensive degree and certificate minimum requirements must be met.

DEGREES AND CERTIFICATES OFFERED

Associate of Applied Science Degree
Veterinary Technology

PREREQUISITES AND REQUIREMENTS

1. College placement test administered through assessment centers.
2. Writing skills placement at WR 121 or above.
3. Completing MTH 65, or MTH 63 with a grade of “C” or higher, or passing a math class with a grade “C” or higher for which MTH 65 or higher level math skills are a prerequisite, or passing the PCC competency exam for MTH 65.
5. High school diploma, GED certificate, or equivalent required.

6. Completion of CH 100 Fundamentals of Chemistry, its equivalent or higher with a grade of "C" or better.
7. Completion of BI 112 Biology, its equivalent or higher with a grade of "C" or better.

The program has a limited enrollment. Admission to the first year of the program is based on high school and college grades, meeting the above program prerequisites, completion of required observation hours with a veterinarian, a letter of recommendation, and an interview. Forty hours of observation with a veterinarian is also required. This may be done as a paid employee or as a volunteer.

For specific eligibility requirements and to obtain an Admission application packet, contact the department.

Note: Only students who have been officially accepted into the program or those who have prior approval may enroll in courses.

VETERINARY TECHNOLOGY AAS DEGREE

Minimum of 103 credit hours which includes 84 credit hours of veterinary technology courses,16 credit hours of General Education and 3 to 4 credit hours to meet the English Composition requirement for graduation. The remaining credit hours of General Education needed to meet the graduation requirement will be from the chemistry and biology courses required prior to starting the program. Students must also meet Associate Degree Comprehensive Requirements and Associate of Applied Science degree Requirements. Course work from other colleges may substitute for the General Education requirement. Consult a program advisor to plan General Education classes.

COURSE OF STUDY

Fall Term

VT 100	Veterinary Medical Terminology	2
VT 101	Introduction to Veterinary Technology	2
VT 121	Basic Animal Science	4
VT 105	Comparative Veterinary Anatomy and Physiology I	4

Winter Term

VT 102	Animal Nursing and Restraint	3
VT 107	Veterinary Parasitology	3
VT 108	Pharmaceutical Mathematics I	1
VT 106	Comparative Veterinary Anatomy and Physiology II	4
General Education		4

Spring Term

VT 103	Animal Health Record Systems	3
VT 110	Specimen Collection Laboratory	1
VT 111	Hematology and Urinalysis	5
General Education		3

Summer Term

VT 109	Radiation Safety	2
VT 112	Clinical Laboratory Procedures	5
VT 113	Veterinary Microbiology	3
VT 280A	CE: Vet Tech Clinic I	4

Fall Term

VT 201	Anesthesiology	3
VT 204	Applied Radiography	3
VT 205	Veterinary Pharmacology	4
VT 211	Pharmaceutical Mathematics II	1

Winter Term

VT 202	Surgical Nursing and Lab Animal Procedures	4
VT 207	Public Health and Sanitation	2
VT 208	Small Animal Diseases	4
VT 280B	CE: Vet Tech Clinic II	4

Spring Term

VT 203	Veterinary Procedures Seminar	3
VT 209	Large Animal Diseases and Procedures	3
VT 210	Animal Nutrition	3
VT 280C	CE: Vet Tech Clinic III	4

VIDEO PRODUCTION

Cascade Campus
Moriarty Arts and Letters Building
503-978-5398, 503-978-5672

www.pcc.edu/programs/multimedia/

See Multimedia

WELDING TECHNOLOGY

Rock Creek Campus
Building 2, Room 131
503-614-7226, 503-614-7601 or 503-614-7246

www.pcc.edu/programs/welding/

CAREER AND PROGRAM DESCRIPTION

Welding is a skill used by many trades: sheet metal workers, ironworkers, boilermakers, carpenters, steamfitters, glaziers and repair and maintenance personnel in applications ranging from the home hobbyist to heavy fabrication of bridges, ships and many other projects. A variety of welding processes are used to join units of metal.

The program offers flexible scheduling. Register for full-time or part-time classes in an Open Entry-Open Exit format.

Total required credit may vary due to three to four credit conversion. PCC comprehensive degree and certificate minimum requirements must be met.

DEGREE AND CERTIFICATES OFFERED:

Associate of Applied Science Degree
- Welding Technology

Two-Year Certificate
- Welding Technology

One-Year Certificate
- Welding Technology

PREREQUISITES AND REQUIREMENTS

1. Placement into MTH 60, WR 90 and RD 90 or successful completion of MTH 20, WR 80, and RD 80, or ENNL 250.*
2. Contact the department for tool requirements.

**Applies to certificate and degree courses only.*

COURSE OF STUDY

The program provides training in S.M.A.W. (shielded metal arc welding,) G.T.A.W. (gas tungsten arc welding,) G.M.A.W. (gas metal arc welding,) F.C.A.W. (flux-cored arc welding,) O.A.W. (oxy-acetylene welding,) O.A.C. (oxy-acetylene cutting,) and basic fabrication. Lecture portions of the program include blueprint reading, welding principles, non-destructive testing (visual, penetrant, magnetic particle) and codes and standards.

WELDING TECHNOLOGY AAS DEGEE

Minimum 97 credit hours which includes 81 credit hours of welding courses plus 16 General Education credits. Students must meet Associate Degree Comprehensive Requirements and Associate of Applied Science Requirements. Consult an academic advisor to plan General Education classes.

WELDING TECHNOLOGY CERTIFICATE

Minimum of 81 credit hours of welding courses which includes all one-year courses (first, second and third terms) plus required courses listed below during fourth, fifth and sixth terms and a minimum of 12 credits from the elective courses.

WELDING TECHNOLOGY CERTIFICATE

Minimum of 44 credit hours of welding courses. Courses can be taken out of sequence.

COURSE LIST

First Term

WLD 111	Shielded Metal Arc Welding (E7024) and Oxy-acetylene Cutting	4
WLD 112	Shielded Metal Arc Welding: Mild Steel I (E7018)	4
WLD 113	Shielded Metal Arc Welding: Mild Steel II (E7018)	4
WLD 101	Welding Processes and Applications	4

Second Term

WLD 114	Shielded Metal Arc Welding: Mild Steel III (E6011)	3
WLD 151	SMAW Certification Practice: Unlimited Thickness Mild Steel	3
WLD 131	Gas Metal Arc Welding	3
WLD 132	Gas Metal Arc Welding-Pulse	3
WLD 102	Blue Print Reading	4

Third Term

WLD 141	Flux-Cored Arc Welding I (Gas Shielded)	3
WLD 142	Flux-Cored Arc Welding II (Self Shielding)	3
WLD 152	Wire Welding Certification Practice	6

Fourth Term

WLD 221	Gas Tungsten Arc Welding: Mild Steel	3
WLD 222	Gas Tungsten Arc Welding: Aluminum	3
WLD 223	Gas Tungsten Arc Welding: Stainless Steel	3
WLD 203	Structural Steel Welding Codes and Standards	4
WLD 261	Basic Fabrication I	6

Fifth Term

WLD 261	Basic Fabrication I	6

Sixth Term

WLD 262	Basic Fabrication II	6

Electives

WLD 115	Shielded Metal Arc Welding Mild Steel IV (E6011)	3
WLD 204	Nondestructive Testing I	4
WLD 216	Miscellaneous Electrodes & Advanced Positions	3
WLD 224	Gas Tungsten Arc Welding: (Mild Steel) Pipe I	3
WLD 225	Gas Tungsten Arc Welding: (Mild Steel) Pipe II	3
WLD 253	SMAW Certification Practice 3/8” Mild Steel (E6011)	3
WLD 254	SMAW Certification Practice 3/8” Mild Steel (E7018)	3
WLD 256	Preparation for Pipe Certification I	3
WLD 257	Preparation for Pipe Certification II	3
WLD 263	Capstone	6
WLD 271	Oxy-acetylene Welding Projects	3
WLD 280A	CE: Welding - variable credit	11
WLD 280B	CE: Welding - Seminar	12
WLD 290	Submerged Arc Welding	2
WLD 295	Welding Sculpture	4

[1] *Cooperative education is a variable credit course up to a maximum of twelve credit hours. The student must have program approval prior to enrolling.*

[2] *The seminar is optional.*

Special Program and Individualized Course Offerings

These courses are designed to upgrade or develop specific welding skills based on the individual needs of the student. These courses do not apply toward the certificates or Associate of Applied Science Degree in Welding Technology.

WLD 210	Aviation Welding	2
WLD 217	Diesel Welding	3
WLD 211	Gas Metal Arc Welding of Aluminum for Auto Collision Repair	2
WLD 9902	Welding Practice	1
WLD 9903	Welding Practice	1.5
WLD 9904	Welding Practice	2
WLD 9905	Welding Practice	3
WLD 9910	Shielded Metal Arc Welding (Stick)	3
WLD 9911	Shielded Metal Arc Welding (Stick)	3

WLD 9912	Shielded Metal Arc Welding (Stick)	3
WLD 9913	Shielded Metal Arc Welding (Stick)	3
WLD 9920	Gas Tungsten Arc Welding (Heliarc)	3
WLD 9921	Gas Tungsten Arc Welding (Heliarc)	3
WLD 9922	Gas Tungsten Arc Welding (Heliarc)	3
WLD 9923	Gas Tungsten Arc Welding (Heliarc)	3
WLD 9930	Wire Welding	3
WLD 9931	Wire Welding	3
WLD 9932	Wire Welding	3
WLD 9933	Wire Welding	3
WLD 9940	Pipe Welding Practice	3
WLD 9941	Pipe Welding Practice	3
WLD 9942	Pipe Welding	3
WLD 9943	Pipe Welding Practice	3
WLD 9950	Oxy-Acetylene Welding Practice	3
WLD 9951	Oxy-Acetylene Welding Practice	3
WLD 9952	Oxy-Acetylene Welding Practice	3
WLD 9953	Oxy-Acetylene Welding Practice	3
WLD 9960	Welding Practice for Sculpting	3
WLD 9961	Welding Practice for Sculpting	3
WLD 9962	Welding Practice for Sculpting	3
WLD 9963	Welding Practice for Sculpting	3
WLD 9970	Fabrication Welding Practice	3
WLD 9971	Fabrication Welding Practice	3
WLD 9972	Fabrication Welding Practice	3
WLD 9973	Fabrication Welding Practice	3
WLD 9980	Certification Welding Practice	3
WLD 9981	Certification Welding Practice	3
WLD 9982	Certification Welding Practice	3
WLD 9983	Certification Welding Practice	3

WOMEN'S STUDIES

Cascade Campus
Liberal Arts & Mathematics Division
Terrell Hall (TH) Room 220
503-978-5251

Sylvania Campus
Social Science Building, (SS) Room 215
503-977-4289

Rock Creek Campus
Building 3, Room 201
503-614-7248

www.pcc.edu/pcc/pro/progs/ws/

DESCRIPTION

The Women's Studies Program introduces the past and present achievements and experiences of women from an interdisciplinary and global perspective. The program explores the decisive role that gender has played and continues to play in human societies and contributes to an understanding of women's lives. Knowledge derived from women's studies courses will enable people to analyze current problems that women face in the areas of employment, the family, domestic violence, health and the legal system. Since women comprise more than half of the world's population, an understanding of their experiences, history, needs and abilities is an asset to students considering careers in such fields as education, social service, government, business, law, the ministry, journalism, health occupations and childcare.

The courses in the Women's Studies Program require college-level reading and writing skills; a member of the counseling staff should be consulted with respect to these basic skills.

All women's studies courses meet AAOT (associate of arts, Oregon transfer degree) requirements. Also, women's studies courses satisfy General Education and diversity requirements. Introduction to Women's Studies (WS 101) may be taken for either Arts and Letters credit, or social science credit.

The women's studies program award at PCC prepares students for entry into other Women's Studies Programs at the bachelor's degree level. In Oregon these programs can be found at Portland State University, University of Oregon, Oregon State University, and Lewis and Clark College. Additional information on the Women's Studies Focus Award may be found in the Focus Award section of the catalog. See the Course Description (WS prefix) section of this catalog for individual environmental science courses and their prerequisites.

WRITING

Cascade Campus
Terrell Hall, (TH) Room 220
503-978-5251

Southeast Center
Mt. Scott Hall, (MSH) Room 103
503-788-6146

Rock Creek Campus
Building 3, Room 201
503-614-7327

Sylvania Campus
Communications Technology Building, (CT) Room 219
503-977-4266

www.pcc.edu/programs/writing/

DESCRIPTION

Writing is fundamental to learning to think and express ones thoughts in ways that reach others. The ability to use language coherently and powerfully, to write in ways that connect with others across cultural boundaries and within communities, to persuade, to inform, to inquire and discover, and to express oneself--these are all essential to active citizenship and to success in almost any profession. The writing courses at PCC enable students to think creatively and prepare them as they transfer to universities and evolve vocationally.

PCC's English Composition Program courses prepare students for the written work of upper division courses and graduate education; also, writing courses meet the requirements for several associate degree and certificate programs at PCC. For students who wish to transfer to a four-year Oregon college or university, WR 121, 122 and/or WR 227 satisfy the writing course requirements. Writing transfer courses are offered under the subject headings

of English Composition, Business and Technical Writing, and Creative Writing. Conferences are an integral part of the instructional process in all writing courses, and students should expect at least two per term.

Students are required to take the writing placement examination to determine appropriate placement in a writing course. Testing centers are available at Cascade, Rock Creek, Southeast Center or Sylvania. Once students receive placement scores, they should check with an advisor before enrolling in a writing course.

PCC offers students one of the largest selections of creative writing courses in Oregon. Creative writing faculty recommend that students who register for creative writing courses adhere to the standard conventions of spelling and grammar and have reading skills that are at the WR 121 level. Students should expect to study critical terminology and spend time discussing their work. Information on the focus award in creative writing may be found in the Focus Award section.

Students majoring in technical areas or business are either required or encouraged to take WR 227, Technical Writing I. See the Course Description (WR prefix) section of this catalog for individual writing courses and their prerequisites.

FOCUS AWARDS

Focus Awards recognize the completion of a collection of courses in an area of study. By taking the courses required for a Focus Award, students deepen and broaden their knowledge and experience in that particular area of study. This can be particularly helpful as a head start toward a major at a four-year institution where a student might transfer. Focus Awards are administered and awarded by the responsible Division Dean. Focus Awards are not to be confused with degrees or certificates, are not officially recognized by the state, and do not appear on transcripts.

ASIAN STUDIES FOCUS AWARD

www.pcc.edu/programs/asian-studies/

The PCC Asian Studies Program seeks to foster a richer understanding and appreciation of the cultures of Asia. Sixteen credits from the following courses can culminate in an Asian Studies Focus Award, which will show prospective employers and transfer colleges a foundational focus on Asia. This program encourages broader reflections about the nature of culture and how it shapes everything from world views to daily life, increasing the student's cultural competencies. Above all, these focused studies provide an enriching life experience.

To receive the Asian Studies Focus Award, a student must complete at least 16 credits from the following choices, which must:

- Include no more than two courses from one discipline (e.g. Art, Japanese, Literature)
- Cover more than one geographic area of Asia
- Include no more than one general course, in which the student should focus on Asian topics (BA 203, MUS 108, ATH 103, GEO 107, PS 204, PS 205, SP140, WS 201).

Although only two courses from one discipline may apply toward the award, we encourage and wholeheartedly support taking two full years of an Asian language

Courses may be selected from the following (*courses subject to approval):

ART

ART 207	History of Asian Art: India	4
ART 208	History of Asian Art: China	4
ART 209	History of Asian Art: Japan	4

HISTORY

HST 105	History of Eastern Civilizations: India and the Subcontinent	4
HST 106	History of Eastern Civilizations: East Asia	4

LANGUAGE

JPN 101, 102, 103 First Year Japanese	5
JPN 150, 151 First Year Japanese	6
JPN 111B, 112B, 113B First Year Japanese Conversation	2

JPN 211B, 212B, 213B		
Second Year Japanese Conversation		2
JPN 201, 202, 203 Second Year Japanese		5
JPN 260, 261, 262 Japanese Culture		2

LITERATURE

ENG 207	World Literature: Asian–Indian	4
ENG 208	World Literature: Asian–Chinese	4
ENG 209	World Literature; Asian–Japanese	4
ENG 244	Introduction to Asian American Literature	4
ENG 195, 196, or 197 Film Studies (Selected topics focusing on Asia)*		4

PHILOSOPHY

PHL 210	Introduction to Asian Philosophy	4

MUSIC

MUS 108	Music Cultures of the World	4

BUSINESS ADMINISTRATION

BA 203	International Business	3

ANTHROPOLOGY

ATH 103	Introduction to Cultural Anthropology	4
ATH 199 or 299 Selected topics focusing on Asia*		

GEOGRAPHY

GEO 107	Geography of the Developing World	4
GEO 199 or 299 Selected topics focusing on Asia*		

POLITICAL SCIENCE

PS 204	Comparative Political Systems	4
PS 205	Global Politics	4

SPEECH

SP 140	Introduction to Intercultural Communication	4

WOMEN'S STUDIES

WS 201	Women of the World	4

**Courses subject to approval*

To receive program award, visit the English and World Languages Div at Sylvania Campus, CT 219.

CREATIVE WRITING FOCUS AWARD

www.pcc.edu/programs/writing/creative/

The Creative Writing Focus Award is designed to offer students a rounded experience in the craft of creative writing. Students work on their own writing, workshop their writing and the writing of others, study literature and learn about editing and publishing. This program introduces students to the field of creative writing as well as enhancing degrees from other disciplines.

Through introductory and advanced courses in creative writing and literature, a Creative Writing Focus Award empowers students to realize themselves as writers and imagine the possibilities of a career in creative writing. For more information visit **www.pcc.edu/academics/index.cfm/104,1095,30,html**

All courses required for a Creative Writing Focus Award meet AAOT (Associate of Arts, Oregon Transfer Degree) requirements.

PROGRAM REQUIREMENTS:

Students will complete a 20-unit program that includes:

8 credits of introductory courses:

WR 240	Creative Writing—Creative Nonfiction
WR 241	Creative Writing—Fiction
WR 242	Creative Writing—Poetry
WR 243	Creative Writing—Scriptwriting

4 credits of:

WR 246	Advanced Creative Writing—Editing & Publishing (or waiver--see notes)

4 credits of advanced courses:

WR 244	Advanced Creative Writing—Fiction
WR 245	Advanced Creative Writing—Poetry
WR 247	Advanced Creative Writing—Scriptwriting
WR 248	Advanced Creative Writing—Creative Nonfiction
WR 246	For a second time

4 credits of diversity literature classes:

ENG 207, 208, or 209 World Lit—Asian	
ENG 211	Contemporary African Lit
ENG 213	Latin American Lit
ENG 222	Images of Women in Lit
ENG 240	Native American Lit
ENG 244	Asian American Lit
ENG 250	Introduction to Folklore and Mythology
ENG 256,	ENG 257, ENG 258 African American Lit
ENG 260	Introduction to Women Writers
ENG 265	International Political Poetry
HUM 205	African Literature

Note: WR 246 may be waived, subject to approval by the Creative Writing Department Chair, on the grounds of schedule conflict or equivalent experience. A waiver would require students to take another creative writing class, beginning or advanced, that they have not taken before.

Students completing all three terms of WR 246 will receive an Emphasis Plus.

All advanced creative writing courses and diversity literature classes must be taken at Portland Community College.

WR 246 may be taken three times for credit.

HEALTH STUDIES FOCUS AWARD

The Health Studies Award provides students with:

- An introductory body of knowledge in Health Studies to prepare them for further academic study and transfer to a four-year institution or exploration of careers in the health care industry.
- Opportunities to build their understanding of the complex factors, forces and institutions that influence individual, community, environmental and global health.
- Academic support, guidance, and encouragement through faculty-student mentoring

Opportunities to network with local four-year universities and colleges.

The Health Studies Award prepares students to pursue health studies and related programs at the bachelor level. In Oregon, these programs can be found at Portland State University, Oregon State University, other schools in the Oregon University System and private colleges.

Students receiving the Health Studies Award will have successfully completed a minimum of 15 credits (with a "C" grade or better) from the following choices, which must include:

- Core Health Courses
- An additional course from Elective

HEALTH COURSES

- Remainder of credits from Elective Health Courses or Approved Related Course List

HEALTH CORE REQUIRED COURSES

HE 250	Personal Health or HPE 295 Health and Fitness for Life
HE 251	Community and Public Health Issues

Elective Health Courses (one required, additional may be selected)

HE 212	Women's Health*
HE 213	Men's Health
HE 242	Stress and Human Health*
HE 255	Film and Public Health*
HE 264	Health, Food, and the Environment

Approved Related Courses

AD 241	Prevention, Theory, and Practice
ESR 171	Environmental Studies
FN 225	Nutrition
PSY 215	Human Development
PSY 231	Human Sexuality
SOC 231	Sociology of Health and Aging

To receive information on the Health Studies Program Award, contact:

Susanne Christopher – Rock Creek

Marshall Meyer – Sylvania

Shari Rochelle – Cascade

**Lower division courses that will be accepted as equivalent to PSU's upper division courses. Transfer students will still need to complete upper division credit requirements for the university and/or college.*

JOURNALISM FOCUS AWARD

Students must successfully complete (with a "C" or better) 24 credit hours of approved courses to receive a Focus Award.

REQUIRED COURSES

Students must complete a minimum of 3 courses among these specific journalism courses:

J 200*	Introduction to Writing for the Media
J 201	Mass Media and Society
J 202	Information Gathering
J 204	Visual Communication for Mass Media

**Students who have taken J 203 Writing for the Media will substitute that course for J 200 Introduction to Writing for the Media.*

ELECTIVE COURSES:

ATH 103	Introduction to Cultural Anthropology
ART 204	History of Western Art
ART 205	History of Western Art
ART 206	History of Western Art
EC 200	Principles of Economics: Intro, Institutions and Philosophies
ENG 195	Film Studies: Film as Art
ENG 196	Film Studies: Directors
ENG 197	Contemporary Themes & Genres
ENG 240	Introduction to Native American Literature
ENG 253	Survey of American Literature
ENG 254	Survey of American Literature
ENG 255	Survey of American Literature
ENG 256	African American Literature
ENG 257	African American Literature
ENG 258	African American Literature
HST 201	History of the United States - I
HST 202	History of the United States - II
HST 203	History of the United States - III
HST 204	History of Women in U.S.: Pre-colonial to 1877
HST 205	History of Women in U.S.: 1877-Present
HST 206	History of Women in U.S.: 1920 to Present
PHL 197	Critical Thinking: Television and the Presentation of Reality
PS 211	Peace and Conflict
PS 201	U.S. Govt: Foundations & Principles
PS 202	U.S. Government: Institutions & Policies
PS 203	State and Local Government

PSY 216	Social Psychology
SOC 204	General Sociology: Sociology in Everyday Life
SOC 205	General Sociology: Social Change and Social Institutions
SOC 206	General Sociology: Social Problems
SOC 215	Global Studies: Social Issues and Movements
SP 100	Introduction to Speech Communication
SP 140	Introduction to Intercultural Communication
SP 237	Gender and Communication
WR 240	Creative Writing-Non-fiction
WR 248	Advanced Creative Writing -Non-fiction
WS 101	Introduction to Women's Studies

PEACE AND CONFLICT FOCUS AWARD

Contact: Michael Sonnleitner 503-614-7091

PACS I Focus Award Requirements

1. A minimum of 18 credit hours, including PS 211 (or equivalent.)
2. At least one course from each of three course categories (out of the five available course categories.)

PACS II FOCUS AWARD REQUIREMENTS

1. A minimum of 30 credit hours; includes PS 211 (or equivalent), at least one credit in cooperative education (PS 280C or equivalent) and a two-credit cooperative education seminar (PS 280B or equivalent.)
2. At least one course from each of the five course categories, with no more than three of these courses coming from any one subject area discipline, and at least two coming from outside of the social sciences.

PACS III FOCUS AWARD REQUIREMENTS

1. A minimum of 45 credit hours, includes PS 211 (or equivalent), at least one credit in cooperative education (PS 280C or equivalent), and a two credit cooperative education seminar (PS 280B or equivalent.)
2. At least one course from each of the five course categories, with no more than four of these courses coming from any one subject area discipline, and at least three coming from outside of the social sciences.
3. Inclusion of at least three courses concentrated in at least one course category.

INTEGRATIVE COURSES

PS 211	Peace and Conflict	4
PS 280B	CE: Community Service and Action Seminar	2
PS 280C	CE: Peace and Conflict variable credit	

Category I: Personal to Societal Peace and Conflict

ATH 103	Introduction to Cultural Anthropology	4
EC 216	Labor Markets: Economics of Gender and Work	3
ENG 261	Literature of Science Fiction	4
HST 203	History of the United States-III	4
PHL 202	Introduction to Philosophy: Elementary Ethics	4
PS 201	U.S. Government: Foundation and Principles	4
PSY 216	Social Psychology	4
SOC 204	General Sociology: Sociology in Everyday Life	4
SOC 205	General Sociology: Social Change & Social Institutions	4
SOC 206	General Sociology: Social Problems	4

Category II: Race and Gender, and Peace and Conflict

ENG 211	Contemporary African Literature	3
ENG 212	Biography	3
ENG 222	Images of Women in Literature	3
ENG 240	Introduction to Native American Literatures	3
ENG 258	African American Literature	3
ENG 260	Introduction to Women Writers	3
HST 206	History of Women in the United States: 1920 to Present	4
HST 218	Native American Indian History	3
HST 225	History of Women, Sex, and the Family	3
HST 276	African American History-III	4
SOC 218	Sociology of Gender	3

Category III: Environmental and Ecological Peace and Conflict

ATH 214	Human Environments: Ecological Aspects	4
ATH 215	Human Environments: Energy Consideration	3
BI 141	Habitats: Life of the Forest	4
BI 142	Habitats: Marine Biology	4
BI 143	Habitats: Fresh Water Biology	4
GEO 105	Introduction to Human Cultural Geography	4
GEO 106	Introduction to Human Cultural Geography	4
GEO 208	Physical Geography: Geomorphology	3
GEO 209	Physical Geography: Weather and Climate	4
ESR 171	Environmental Science: Biological Perspectives	4
ESR 172	Environmental Science: Chemical Perspectives	4
ESR 173	Environmental Science: Geological Perspectives	4

Category IV: Global Peace and Conflict

EC 115	Outlines of Economics	3
EC 230	Contemporary World Economic Issues: International Economics	3
ENG 265	International Political Poetry	4
GEO 107	Introduction to Human Cultural Geography	4
HST 103	Western Civilization: Modern Europe	4
PS 205	Global Politics: Conflict and Cooperation	4
PS 220	U.S. Foreign Policy	4
PS 225	Political Ideology: Alternative Idea Systems	4

Category V: Communication: Peace and Conflict

ENG 197	Contemporary Themes & Genres	4
MUS 207	Introduction to the History of Folk Music	3
PHL 191	Critical Thinking: Language and the Layout of Argument	4
PHL 193	Critical Thinking: The Evaluation of Practical Argument	4
PHL 197	Critical Thinking: TV and the Presentation of Reality	4
SP 100	Introduction to Speech Communication	4

PREPARE FOR COLLEGE PROGRAMS

Adult Basic Education (ABE) and General Educational Development (GED)

Southeast Center
Mt. Tabor Hall, (MTH) Room 128
503-788-6255

www.pcc.edu/prepare/basic/

DESCRIPTION

A non-credit program for self-improvement designed to expand basic skills for students whose abilities range from underprepared to pre-college level. Development of reading, writing and math skills are emphasized, as well as life skills, employability and technology. Students without a high school diploma also have the opportunity to prepare for the GED exams in five subject areas: writing, social studies, science, literature and math.

ABE classes are open to anyone 18 or over who want to improve basic reading, writing and math skills at the pre-college level. Students who are 16 or 17 must first obtain an official release from high school before attending class. To enroll, individuals must attend a two-part Orientation and Placement session. The sessions for both day and evening classes are conducted on a regular basis throughout each term. Students needing special assistance such as an interpreter, a reader or a writer to participate in the orientation and intake sessions should contact the Office for Students with Disabilities (503-977-4341) at least two weeks before the session is held.

COURSE OF STUDY

Upon entering an ABE class, students' reading, writing and math abilities are assessed and individual programs of study are developed to guide them toward their personal academic goals. Large group, small group and individualized instruction are used to maximize academic gains. To help with their studies, students may purchase books but are not required to do so. Day and evening classes are offered at all campuses and at many other locations in the community.

COURSES

ABE 0741 ABE: Beginning Literacy

ABE 0744 ABE: Secondary includes preparation for the GED test.

The GED State Examination

The GED State Exam battery includes five tests:

1. Writing skills: This test is divided into two sections. Part I measures sentence structure, usage and mechanics. Part II requires students to write an essay on a topic that adults would be expected to have general knowledge.
2. Social studies test: Content includes history, economics, political science, geography and behavioral science. Reading skills assessed include comprehension, application, analysis and evaluation.
3. Science test: Gauges knowledge on life science, biology and physical sciences, earth science, physics and chemistry. This test covers reading skills components including comprehension, application, analysis and evaluation.
4. Interpreting Literature and the Arts: Consists of popular literature, classical literature and commentary about literature and the arts. Reading skills assessed include comprehension ,application and analysis.
5. Mathematics: Incorporates arithmetic (measurement, number relationships and data analysis), algebra and geometry. Skills that are tested are problem-solving abilities and higher level thinking skills.

DEVELOPMENTAL EDUCATION

Cascade Campus
Terrell Hall, (TH) Room 220
503-978-5251

Southeast Center
Mt. Scott Hall, (MSH) Room 103
503-788-6146

Rock Creek Campus
Building 2, Room 212
503-614-7414

Sylvania Campus
Social Science Building, (SS) Room 215
503-977-4192

www.pcc.edu/prepare/developmental/

DESCRIPTION

Programs in developmental education help students prepare for PCC academic and career/technical programs and their chosen careers. Courses in this department include reading, writing and mathematics. Also available are support services including Learning Centers and tutoring.

Classes and services are offered at Cascade, Rock Creek, Southeast Center and Sylvania. For most developmental education courses, financial aid is available to those who qualify. For more information, contact the Financial Aid Office.

For accurate placement, students are required to take reading, writing and mathematics placement tests. For specific information, students should contact the nearest campus testing center.

LEARNING CENTERS

Developmental English and mathematics instruction are offered on an individualized basis through the Learning Centers at Cascade, Rock Creek, Southeast Center and Sylvania. Instruction is available by computer, videotape, lecture, self-paced format, tutoring and other teaching modes.

TUTORING

Free tutorial assistance is offered to students in many academic programs. Students may "drop-in" during any regularly scheduled tutoring time. For more information, contact the Learning Centers at Cascade, Rock Creek, Southeast Center or Sylvania.

Transfer Courses

RD 115	College Reading	3
RD 116	College Vocabulary Development	3
RD 117	Advanced College Reading	3

Developmental English

ALC 50	Basic English Language Skills Lab	0
ALC 51	Basic English Language Skills Lab	1
ALC 52	Basic English Language Skills Lab	2
ALC 53	Basic English Language Skills Lab	3
RD 80	Reading 80	3
RD 90	Reading 90	3
RD 95	Reading for Enjoyment	3
WR 60	Spelling I	3
WR 65	Spelling II	3
WR 80	Writing 80	3
WR 90	Writing 90	3
WR 91	Basic Grammar	1
WR 92	Basic Grammar	2
WR 93	Basic Grammar	3

Developmental Mathematics

ALC 60	Basic Math Skills Lab	0
ALC 61	Basic Math Skills Lab	1
ALC 62	Basic Math Skills Lab	2
ALC 63	Basic Math Skills Lab	3
ALC 70	Technical Math Support	2
MTH 15	Conquering Math Anxiety	1
MTH 20	Basic Math	4
MTH 21C	Percentage & Statistics	1
MTH 22	Measurements	1
MTH 22C	Measurements	1
MTH 23C	Introduction to Geometry	1
MTH 24C	Pre-Algebra	1
MTH 25C	Fractions	1
MTH 26C	Decimals	1
MTH 27C	Applications in Mathematics	1

OTHER DEVELOPMENTAL EDUCATION COURSES

DE 30	Learning Skills	3
DE 50	Vocabulary Building	3

ENGLISH FOR SPEAKERS OF OTHER LANGUAGES (ESOL)

www.pcc.edu/prepare/esol/

DESCRIPTION

The ESOL Program offers classes for persons whose native language is not English. Reading, writing, communication, and American culture are stressed.

ESOL classes are open to U.S. citizens, immigrants and refugees who want to improve their basic English language proficiency. International students should contact the international student advisor. Testing and orientation are required before entering the program.

COURSE OF STUDY

The ESOL Department offers eight levels of English, from Level 1, for students with no or very little English, through Level 8, after which students can continue with college classes.

ESOL Levels 1 - 8 serve the needs of adult refugees, immigrants, permanent residents and U.S. citizens. Levels 4 - 8 also serve the needs of professional personnel working or training in the U.S., international students and international visitors. ESOL offers both credit and non-credit classes. Levels 1-3 are non-credit classes. Levels 4 and 5 can be taken either as non-credit or college credit classes. Levels 6-8 are college credit classes.

Twenty-four credits of ESOL courses may be applied to the Associate Degree or an Oregon Transfer Degree. The cost of ESOL classes ranges from a moderate fee to full college tuition. Each class in Levels 1-3 is designed to take two or three terms to complete. Each class in Levels 4 - 8 is designed to be completed in one term. All new students must be tested prior to enrollment. Students should contact the campus where they want to attend to find out about testing.

ADULT HIGH SCHOOL DIPLOMA

Cascade Campus
Student Center, (SC) Room 115
503-978-5271

Southeast Center
Mt. Tabor Hall, (MTH) Room 152
503-788-6252

Rock Creek Campus
Building 9, Room 105
503-614-7290

Sylvania Campus
College Center, (CC) Room 216
503-977-4473

Students 16 years of age and older may complete studies for high school diplomas at PCC. Students under the age of 16 who wish to be considered for enrollment in PCC classes must complete the placement exam and meet with a PCC counselor. Previous high school credits will be evaluated and applied toward the diploma. Students take PCC classes to satisfy remaining high school requirements and earn simultaneous college credit, which may also be applied toward college degrees or certificates. The program must be planned with the High School Completion Office at the PCC campus the student wishes to attend. For more information, contact the PCC Admissions Office of the campus where you intend to enroll.

HOW TO ENROLL

Prior to registration, students must:

1. Be at least 16 years old.

2. Have earned a minimum of 12 credits from an accredited high school or appropriate college work. Those with less than 12 credits may be admitted on a probationary status.
3. Provide PCC with an official copy of their high school transcript mailed or hand delivered in a sealed envelope to one of the campus offices above.
4. Schedule an appointment for the English and Math placement tests.
5. Schedule an appointment with a PCC counselor at one of the campus offices listed above to discuss transcript evaluation and placement test scores. At that time students will receive a copy of remaining graduation requirements.

Graduation Requirements

1. Students must meet the State of Oregon minimum requirements of 22 high school credits.
2. Students must meet the college English and Mathematics competency requirements which are as follows:

   Writing placement test less than three years old indicating placement at Writing 115 or completion of Writing 90 with a grade of "C" or better.

   Reading placement test less than three years old indicating placement at Reading 115 or completion of Reading 90 with a grade of "C" or better.

   Math placement test less than three years old indicating placement at Math 70 or higher, or completion of Math 65 with a grade of "C" or better.
3. Students must attend at least one complete term and satisfactorily pass a minimum of 6 college credit hours.

High school graduation petitions will remain valid for one calendar year.

PCC PREP ALTERNATIVE PROGRAMS

503-788-6213

www.pcc.edu/pccprep

PCC Prep Alternative Programs offer educational options to youth 16-20 years of age who are

at risk of dropping out of school or those who have already left school without obtaining a high school diploma. Three programs offer a variety of options to give students a second chance at academic success.

In the Multicultural Academic Program (MAP) students with a first language other than English improve English skills in reading, writing and speaking. As they gain confidence in their English abilities students can work toward a GED or high school diploma.

In Gateway to College students are given the opportunity to earn a high school diploma while simultaneously achieving college credits. Students start in small learning communities and develop academic and personal skills to help them become successful college students. This is a rigorous program that requires students to be focused and able to commit the time necessary to achieve in college.

The Youth Empowered to Succeed! (YES!) program is for students interested in obtaining a GED. Students take classes specifically designed to prepare them to pass the GED tests. After completing their GED YES! students may be eligible to apply to Gateway to College or receive a tuition wavier for one free term of classes at PCC.

In each program students receive the support of a Resource Specialist who acts as an instructor, advisor and counselor. In all three programs, the cost of classes and books are covered but students must pay a registration fee. In Gateway to College, students are also responsible for class fees each term.

See also Alternative Programs, High School Completion, English for Speakers of Other Languages and Developmental Education sections in this catalog for related instruction.

PAVTEC

Rock Creek Campus,
Building 5, Room 115
503-614-7738

www.pcc.edu/pavtec

PAVTEC is a consortium of 12 school districts, private industry, labor and other educational institutions including K-12 through graduate school. PAVTEC works with the 30 area high schools and PCC to provide quality articulated career technical programs. Among its responsibilities, PAVTEC coordinates the articulation (dual credit) program called "PCC Dual Credit."

VOLUNTEER LITERACY TUTORING

Sylvania Campus
Social Science Building, (SS) Room 03
503-977-4148

www.pcc.edu/resources/tutoring/volunteer/

Volunteer tutors are available to help with basic skills in reading, writing, math and speaking English. Some tutors can also help with GED preparations. Tutorial services are available at all PCC locations in addition to a variety of other community sites Washington County Consortium.

WORKFORCE, ECONOMIC AND COMMUNITY DEVELOPMENT PROGRAMS

WORKFORCE SERVICES

Worksource Portland Metro West, CAPITAL Career Center in

Washington County 503-533-2713.

Worksource Portland Metro Northeast, Workforce Network in Multnomah County 503-943-2000

The Worksource Centers provide a comprehensive menu of workforce services to job seekers and businesses. The centers provide a range of educational, employment and business services through a collaboration of partners, including Worksystems, inc., the Oregon Employment Department and the Department of Human Services. The Workforce development programs offered through the centers (and at a variety of other locations) include:

The Dislocated Workers Program (DWP), which helps people who have lost their jobs due to downsizing, layoffs or plant closures.

The Workforce Investment Act Adult Program, which provides services to unemployed or underemployed adults.

The Steps to Success Program (STS), which provides services to individuals receiving public assistance.

The Food Stamp Employment and Training Program, which provides services to individuals receiving food stamps.

The Rapid Response Program, which begins working directly with employers and employees when a pending layoff or closure is announced to minimize the impact of job loss.

Through these programs the Worksource Centers offer:

Services to job seekers including: a career center with computers, printers and fax machines for job searches; job listings; job search workshops; career counseling; assessment and testing; computer classes; Adult Basic Education; Work Experience opportunities, English as a Second Language classes; career technical training and post-employment training.

Services to businesses including: new employee recruitment; job applicant screening and referral; skill testing; customized pre-employment training; Jobs Plus training, rapid response and out placement services.

CENTER FOR BUSINESS AND INDUSTRY (CBI)

Washington County Workforce Training Center
503-731-6888

cbi@pcc.edu, www.pcc.edu/cbi

The Center for Business & Industry (CBI) connects business leaders to Portland Community College's vast resources. The CBI uses industry experts, as well as faculty, to provide a wide array of solutions to businesses: needs assessment, job profiling, screening, recruiting, training, education, downsizing and more. CBI services are also flexible – meeting the needs for one worker, one business or an entire industry-wide effort. CBI helps connect businesses to current PCC programs, customizes specific training solutions for an organization, and creates trainings specific to meet the needs of various businesses. Whether it is preparing staff for new technology or offering a stress management workshop, these programs are designed to encourage both professional and personal growth.

CUSTOMIZED AND WORKPLACE TRAINING (CWT)

Washington County Workforce Training Center
503-533-2821

www.pcc.edu/business/workplace-training/

As part of the Center for Business & Industry, Customized & Workplace Training (CWT) is a premier provider of customized training and development solutions for business, industry and government worldwide. CWT develops solutions that help maximize businesses profitability and sustainability in the global marketplace.

Customized & Workplace Training offers training and development services include consulting, leadership and management development, LEAN business process implementation, occupational language services, safety and health programs, technical training, basic skills training, and workforce programs. Programs are customized to meet each client's individual needs and delivered at times and locations convenient to the client.

INSTITUTE FOR HEALTH CARE PROFESSIONALS (IHP)

Central Portland Workforce Training Center
503-731-6633

www.pcc.edu/business/ihp/

As a part of the Center for Business & Industry, the Institute for Health Care Professionals offers timely, relevant and innovative solutions for health care providers. Educational opportunities offered are: professional development/continuing education courses; certification/re-certification; entry level health care training; preparation for licensure; customized training; conference management services; American Heart Association (AHA) training through its AHA designated Community Training Center. Choose from traditional classroom format, customized on-site training or distance education.

COMPUTER EDUCATION PROGRAM (CEP)

Central Portland Workforce Training Center

Southeast Center

Washington County Workforce Training Center

503-788-6200

www.computers.pcc.edu

As a part of the Center for Business & Industry, the Computer Education Program (CEP) provides computer technology education and training to meet the specific needs of today's workplace. Students can choose from application instruction, industry recognized IT certification programs and customized training. Courses are designed to empower adult learners to use computers and technology to meet business and professional goals.

SMALL BUSINESS DEVELOPMENT CENTER (SBDC)

2025 Lloyd Center Mall
503-978-5080

www.pcc.edu/business/small-business-development

As a part of the Center for Business & Industry, the Small Business Development Center (SBDC) is all about creating employers. The SBDC helps entrepreneurs start and grow their businesses. The SBDC is part of a network of 19 SBDCs located throughout the state of Oregon and more than 1000 SBDCs throughout the U.S.

The SBDC uses experienced business professionals, focusing on essential business skills, to help entrepreneurs just starting their first business or experienced entrepreneurs developing their existing business to identify and make critical business decisions. The business advisors work with the entrepreneur one-on-one to design a customized plan of action. Business advising is a free confidential service available by appointment.

The SBDC also provides excellent entrepreneurial education for all phases of business development – from starting a business to developing and growing an existing business. Classes and workshops are taught by experienced business professionals who provide practical information that entrepreneurs can use in the business the next day.

WORKFORCE DEVELOPMENT PROGRAMS

Career Pathways

503-788-6271

www.pcc.edu/cp

Career Pathways are PCC classes offered in an intensive, short-term format (three to six months) that prepare students to gain entry-level employment in a chosen field and continue their education toward an advanced certificate and/or degree. In addition to their job-specific education, students will learn tools needed to get a job, including writing resumes and cover letters and interviewing. Completion awards are available for most Pathways.

Pathways are available for entry-level occupations in various fields such as healthcare, business services and trades. Several vocational trainings are also available for English language learners including healthcare and office skills.

COMMUNITY & CONTINUING EDUCATION

503-788-6266

www.pcc.edu/pcc/pro/comed/

PCC's Community Education Department offers hundreds of non-credit life enriching classes that do not involve grades or exams. Whether it's honing a particular skill or hobby or exploring a wide range of new interests, the classes are designed for adults and are typically offered during evenings or on weekends to accommodate professional schedules. Courses are open to everyone sixteen years old and older and feature local experts as instructors; topics include creative arts workshops; hands-on home and garden classes; ethnic cooking, music; relationships; social and political discussions; travel excursions; languages from around the world and many other options for lifelong learning. Classes are offered in neighborhood locations throughout Portland, Beaverton, Lake Oswego, Tigard, Tualatin, Sherwood, Hillsboro and Forest Grove. Classes are also available online. Additional contact information is listed below.

Continuing education courses offer busy professionals the quickest and surest route to maintaining and enhancing their professional certifications. Classes offer CEU hours that can be used for professional licensure renewal and preparation for taking the next step in an employee's career. Class formats feature in-person, hands-on learning opportunities from industry experts. Options include: electrical license renewal, insurance and tax workshops, home inspection certification and renewal, real estate and appraiser license renewal.

Beaverton, Hillsboro, Forest Grove: Gary Palmer, 503-533-2711

Online Learning: Dawn Davis, 503-731-6619

North/Northeast Portland, Cascade Campus: 503-978-5303

Columbia County, Downtown/Northwest Portland, Rock Creek: Ann Carlsmith, 503-614-7307

Southeast Portland: Julie Wolleck, 503-788-6269

Sylvania Campus: Tsipora Dimant, 503-731-6643

Lake Oswego, Southwest Portland: Tigard, Tualatin, Newberg and Sherwood: Tsipora Dimant, 503-731-6643

CEUs: Dawn Davis, 503-731-6619

Non-credit classes do not meet the federal requirements for financial aid or most Veterans' benefits, are not equivalent to credit hours and may not be used toward PCC certificates and degrees

INTERNATIONAL PROGRAMS

International Customized Contract Training

503-533-2889

Portland Community College's International Contract Training Program (ICT) offers international business, industry and government traditional and customized training and educational services. ICT offers international organizations more than 60 traditional degree and certificate programs available through PCC as well as the option of customized training and educational services offered in the United States or abroad.

DISTANCE LEARNING

www.pcc.edu/business/small-business-development

Web Classes: www.distance.pcc.edu

Web classes utilize Internet-based distance learning where stu-

dents work independently through online coursework. Students and instructors interact through the Internet and email, although some classes may require on-campus exams or labs. Students need to check the class schedule for specific computer and course requirements. Both credit and non-credit courses are available.

Telecourses (TV)

Sylvania Campus
TCB 116

503-977-4730 or 503-977-4655

Telecourses are credit courses delivered in video format providing the opportunity to take a campus-based course independently off campus through distance learning. Telecourses consist of a video series, textbook, study guide, pre-taped video lessons and an instructor to guide students through the course. Telecourses sometimes require an on-campus orientation and mid-term and final exams. Several viewing options are available for each Telecourse video series, including on-demand video streaming, cable TV broadcasts on Channel 27 (Portland only), DVD/VHS purchase or rental (depending on availability), and on-campus library viewings.

Teleweb (TVWEB)

Sylvania Campus
TCB Building 116

503-977-4730 or 503-977-4655

TeleWeb classes are a combination of Telecourses and Web courses. TeleWeb lessons are mainly delivered in video format,and course content also includes lessons, communication, quizzes, and other components that require Internet access and basic navigation abilities. Several viewing options are available for each Telecourse video series, including on-demand video streaming, cable TV broadcasts on Channel 27 (Portland only), DVD/VHS purchase or rental (depending on availability), and on-campus library viewings.

Interactive Television Classes (ITV)

Sylvania Campus
TCB Building 116

503-977-4405, 503-977-8585

Interactive television classes are regular college courses delivered live from a PCC television classroom to receiving classrooms at Rock Creek, Sylvania, and Cascade campuses, and Southeast Center. Students taking interactive televised classes see the instructor on live television and are able to interact with the instructor and with students at other sites through special audio systems. ITV support is provided with initial classroom orientation.

GENERAL EDUCATION LIST

Candidates for the Associate of Arts Oregon Transfer (AAOT) may use any courses listed below to satisfy the Distribution requirements except those indicated with a 1.

Candidates for the Associate of Science Oregon Transfer in Business (ASOT) may use any courses listed below to satisfy the Distribution requirements except for those indicated with a 2.

Candidates for the Associate of Applied Science (AAS), the Associate of Science (AS) and the Associate of General Studies (AGS) may use any of the courses listed below to satisfy the Distribution requirements for those degrees except those marked with a 3.

Candidates for the AAOT degree at PCC are required to complete one course which has been recognized as providing outcomes related to cultural diversity. These courses are indicated with a *.

Candidates for the AAOT degree at PCC are required to complete one two-course sequence in each distribution area. Sets of courses that can be used to satisfy this requirement are listed under “Sequence Courses”. These courses may also be used for regular (non-sequence) distribution courses.

* May be used to satisfy the Cultural Diversity requirement for the AAOT

1 Not applicable to the AAOT distribution requirements.

2 Not applicable to the ASOT in Business distribution requirements.

3 Not applicable to the AAS, AS or AGS distribution requirements.

Beginning Fall Term 2008, most of the courses below will have standard prerequisites: of a letter grade of C or higher in:

WR 115, or placement into WR 121 and

RD 115, or equivalent test scores and

MTH 20 or placement into MTH 60

Some courses may have higher requirements in these areas and/or additional prerequisites as appropriate. See course descriptions for current prerequisites. Instructors may waive prerequisites on a case-by-case basis.

ARTS AND LETTERS

ART

ART 115, 116, 117 Basic Design
ART 131 Introduction to Drawing
ART 140 Digital Photography
ART 141 Introduction to Photography (Non-darkroom)
ART 142 Introduction to Photography (Darkroom)
ART 143 Photography II
ART 181 Painting I
ART 210 Women in Art *
ART 231 Drawing
ART 237 Life Drawing
ART 253 Ceramics I
ART 256 Ceramics II

ART 270 Printmaking
ART 277 Life Painting
ART 279 Experimental Media 2
ART 281 Painting
ART 284 Watercolor I
ART 287 Watercolor II
ART 290 Sculpture: Plaster/Clay
ART 291 Sculpture: Carving
ART 292 Sculpture: Mixed Media
ART 293 Figure Sculpture
ART 294 Sculpture: Welding

Courses that can be used for the AAOT Sequence Requirement:

(Choose 2 from one of the sets below.)

ART 101, 102, 103 Introduction to Art
ART 204, 205, 206 History of Western Art
ART 207, 208, 209 History of Asian Art *
ART 211, 212, 213 Modern Art History

HUMANITIES

HUM 100 Introduction to Humanities
HUM 221 Leadership Development

Courses that can be used for the AAOT Sequence Requirement:

(Choose 2 from one of the sets below.)

HUM 201, 202, 203 Humanities & Tech:
HUM 204, 205, 206 African History, Literature, Art *

JOURNALISM

J 201 Mass Media and Society 3
J 202 Information Gathering 3
J 204 Visual Communication for the Media 3

MODERN LANGUAGES

ASL 101, 102, 103 First Year ASL I, II, 2
ASL 130 Deaf Studies *
ASL 150,151 Accelerated ASL I, 2
ASL 201, 202, 203 American Sign Language IV, V, VI
ASL 250, 251 Accelerated American Sign Language
ESOL 150,152,154,160,162,164,166, and 253 English for Speakers of Other Languages 2
ESOL 250, 252, 254, 260, 262, 264, 265 English for Speakers of Other Languages
FR 101,102,103,150,151 First Year French I, 2
FR 201, 202, 203 Second Year French
FR 250, 251 Second Year French
FR 255 Accelerated French I,2
FR 256, 257 Accelerated French
FR 260A, 261A, 262A French Culture
FR 270A, 271A, 272A Readings in French Literature *
FR 290A French Speaking and Writing
FR 291A, 292A French Composition 2
GER 101,102,103,150,151 First Year German I,2
GER 201, 202, 203, 250, 251 Second Year German
GER 255 Accelerated German I, 2
GER 256, 257 Accelerated German
GER 260A, 261A, 262A German Culture Through Film
GER 270A, 271A, 272A Readings in German Literature
GER 290A, 291A, 292A German Composition2
JPN 101,102,103,150,151 First Year Japanese I,II
JPN 201, 202, 203, 250, 251 Second Year Japanese 2
JPN 260A, 261A, 262A Japanese Culture *
RUS 101,102,103,150,151 First Year Russian I, 2
RUS 201, 202, 203, 250, 251 Second Year Russian
RUS 270A, 271A, 272A Readings in Russian
SPA 101,102,103,150,151 First Year Spanish I, 2
SPA 201, 202, 203, 250, 251 Second Year Spanish
SPA 255 Accelerated Spanish I, 2
SPA 256, 257 Accelerated Spanish
SPA 260A, 261A, 262A Spanish: Culture *
SPA 260M Spanish Culture (Mexico) *
SPA 270A, 271A, 272A Readings in Spanish

LITERATURE *

SPA 290A, 291A, 292A Spanish Composition

LITERATURE

ENG 212 Biography
ENG 214 Literature of the Northwest
ENG 261 Literature of Science Fiction
ENG 275 Bible as Literature

Courses that can be used for the AAOT Sequence Requirement:

(Choose 2 from one of the sets below.)

ENG 104, 105, 106 Introduction to Literature
ENG 107, 108 World Literature: Western
ENG 195, 196, 197 Film Studies:
ENG 201, 202 Shakespeare
ENG 204, 205 Survey of English Literature
ENG 207, 208, 209 World Literature: Asian *
ENG 253, 254 Survey of American Literature
ENG 256, 257, 258 African American Literature *

Two terms completing a sequence chosen from:

ENG 213 Latin American Literature *
ENG 215 Literature of the Genocide *
ENG 222 Images of Women in Literature *
ENG 240 Introduction to Native American Literature *
ENG 244 Introduction to Asian American Literature *
ENG 250 Introduction to Folklore and Mythology *
ENG 260 Introduction to Women Writers *
ENG 265 International Political Poetry *

MUSIC

MUS 105 Music Appreciation
MUS 106 Opera Appreciation
MUS 108 Music Cultures of the World *
MUS 110 Fundamentals of Music
MUS 204 Music of the Western World 2

Courses that can be used for the AAOT Sequence Requirement:

(Choose 2 from one of the sets below.)

MUS 111, 112, 113 Music Theory
MUS 201A, 202, 203 Introduction to Music and Its Literature
MUS 205, 206, 207 Introduction to Jazz History, History of Rock Music, History of Folk Music*
MUS 208,209,210 African-American Music *

PHILOSOPHY

Courses that can be used for the AAOT Sequence Requirement:

(Choose 2 from one of the sets below.)

PHL 191 Lang & the Layout of Argument,
and one of:
PHL 195 Critical Thinking: Science & the Occult
Or PHL 197 TV & the Present of Reality
PHL 201 Philosophical Problems
or PHL 202 Introduction to Philosophy: Elementary Ethics
and one of:
PHL 204 Philosophy of Religion
PHL 205 Biomedical Ethics
PHL 206 Introduction to Environmental Ethics 3
PHL 207 Ethical Issues in Aging
PHL 208 Political Philosophy
PHL 209 Business Ethics
PHL 210 Introduction to Asian Philosophy *
PHL 221 Symbolic Logic
PHL 222 Elementary Aesthetics

RELIGION STUDIES

R 210 World Religions *

SPEECH

SP 100 Introduction to Speech Communication
SP 105 Listening 3
SP 111 Public Speaking , 113 Fundamentals of Speech
SP 227 Non-verbal Communication
SP 229 Oral Interpretation 3

Courses that can be used for the AAOT Sequence Requirement:

(Choose 2 from one of the sets below.)

SP 140 Introduction to Intercultural Communication *
and SP 215 Small Group Communication
and/or SP 237 Gender and Communication *
and/or SP 214 Interpersonal Communication
SP 112 Persuasion Argument and Debate
and SP 228 Mass Communication
SP 130 Business and Professional Communication 3
and SP 215 Small Group Communication
and SP 237 Gender and Communication *

THEATER ARTS

TA 101 Theater Appreciation
TA 141, 142, 143 Fundamentals of Acting Technique 3
TA 144 Improvisational Theater 3
TA 148 Movement for the Stage 3
TA 180C, 253C Theater Rehearsal and Performance
TA 241, 242, 243 Intermediate Acting Technique 3
TA 261 Introduction to Costuming
TA 274 Theatre History

WRITING

WR 222 Writing Research Papers
WR 240, 241, 242, 243 Creative Writing
WR 244, 245, 246, 247, 248 3 Advanced Creative Writing

OTHER ARTS AND LETTERS

WS 101 Women's Studies *

WS 201 Women of the World 2

WS 202 Women Working for Change 2

SOCIAL SCIENCE

ANTHROPOLOGY

ATH 210 Selected Topics in Ethnology *
ATH 212 Introduction to Shamanism 3
ATH 214 Human Environments: Ecological Aspects

Courses that can be used for the AAOT Sequence Requirement (Choose 2 from one of the sets below.):

ATH 101 Introduction to Physical Anthropology
ATH 102 Archaeology & Prehistory
ATH 103 Cultural Anthropology
ATH 207, 208, 209 Cultural Anthropology
ATH 230 Native Americans of Oregon *
ATH 231 Native Americans of the Northwest *
ATH 232 Native North Americans *

ECONOMICS

EC 200 Introduction to Economics
EC 203 Principles of Economic Issues: Applications to Economic Issues
EC 216 Labor Markets: Economics of Gender, Race & Work
EC 230 Contemporary World Economic Issues: International Economics
EC 285 Introduction to Political Economy

Courses that can be used for the AAOT Sequence Requirement:

EC 201 Principles of Economics: Microeconomics
EC 202 Principles of Economics: Macroeconomics

GEOGRAPHY

GEO 202 Geography of Europe
GEO 204 Geography of Middle East *
GEO 206 Geography of Oregon

GEO 209 Physical Geography
GEO 210 The Natural Environment
GEO 214 Geography of Mexico *
GEO 221 Field Geography
GEO 265 Introduction to GIS

Courses that can be used for the AAOT Sequence Requirement (Choose 2):
GEO 105, 106, 107 Introduction to Human Cultural Geography

HISTORY

HST 218 Native American Indian History *
HST 225 History of Women, Sex and the Family *
HST 240 Oregon's History
HST 246, 247 Religion in the United States
HST 270 History of Mexico *
HST 277 Oregon Trail
HST 278, 279 Russian History I, II
HST 285 The Holocaust

Courses that can be used for the AAOT Sequence Requirement (Choose 2 from one of the sets below.):
HST 101, 102, 103 Western Civilization
HST 104, 105, 106 History of Eastern Civilization *
HST 201, 202, 203 History of the United States
HST 204, 205, 206 History of Women in the U.S. *
HST 274, 275, 276 African-American History

POLITICAL SCIENCE

PS 204 Comparative Political Systems
PS 205 Global Politics: Conflict and Cooperation
PS 211 Peace and Conflict
PS 220 U.S. Foreign Policy
PS 225 Political Ideology

Courses that can be used for the AAOT Sequence Requirement (Choose 2 from one of the sets below.):
PS 201, 202 U.S. Government
PS 203 State and Local Government

PSYCHOLOGY

PSY 101 Psychology and Human Relations
PSY 213 Brain, Mind & Behavior
PSY 214 Introduction to Personality
PSY 215 Human Development
PSY 216 Social Psychology
PSY 222 Family and Intimate Relationships *
PSY 231, 232 Human Sexuality
PSY 239 Introduction to Abnormal Psychology
PSY 240 Personal Awareness and Growth

Courses that can be used for the AAOT Sequence Requirement (Choose 2 from one of the sets below.):
PSY 201, 202 Introduction to Psychology
PSY 201A, 202A Introduction to Psychology*

SOCIOLOGY

SOC 206 General Sociology
SOC 211 Peace and Conflict
SOC 213 Diversity in America *
SOC 214ABC Illumination Project *
SOC 215 Social Issues and Movements*
SOC 218 Sociology of Gender *
SOC 223 Sociology of Aging
SOC 228 Introduction to Environmental Sociology
SOC 230 Introduction to Gerontology
SOC 231 Sociology of Health and Aging
SOC 232 Death and Dying
SOC 252 Sociological Theory 2

Courses that can be used for the AAOT Sequence Requirement:
SOC 204, 205 General Sociology

OTHER SOCIAL SCIENCES

HEC 226 Child Development I
WS 101 Women's Studies *
WS 201 Women of the World *
WS 202 Women Working for Change *

SCIENCE AND MATHEMATICS

BIOLOGY

BI 112 Cell Biology for Health Occupations 2
BI 170 Environmental Science
BI 200 Principles of Ecology: Field Biology
BI 121, 122 Introduction to Human Anatomy and Physiology I, II 2
BI 202 Botany: An Introduction to the Plant Kingdom
BI 222 Human Genetics II
BI 234 Microbiology

Courses that can be used for the AAOT Sequence Requirement (Choose 2 from one of the sets below.):
BI 101 or 101B, 102, 103 Biology
BI 141, 142, 143 Habitats
BI 211, 212, 213 Principles of Biology
BI 231, 232, 233 Anatomy and Physiology I, II, III

CHEMISTRY

CH 100 Fundamentals for Chemistry

Courses that can be used for the AAOT Sequence Requirement (Choose 2 from one of the sets below.):
CH 101, 102 Inorganic, Organic Chemistry Principles I
CH 104, 105, 106 General Chemistry
CH 221, 222, 223 General Chemistry
CH 241, 242, 243 Organic Chemistry

COMPUTER SCIENCE

CIS 120, Computer Concepts I, II
CIS 121 Computer Concepts II
CIS 122 Software Design 2
CS 160 Exploring Computer Science 2
CS 161, 162 Computer Science I, II 3

GEOLOGY

G 207 Geology of the Pacific Northwest II
G 208 Volcanoes and their Activity II
G 209 Earthquakes II
G 291 Elements of Rocks and Minerals

Courses that can be used for the AAOT Sequence Requirement (Choose 2):
G 201, 202 Physical Geology and
G 203 Historical Geology

GENERAL SCIENCE

Courses that can be used for the AAOT Sequence Requirement (Choose 2 from one of the sets below.):
ESR 171 Environmental Science: Bio Perspectives
ESR 172 Environmental Sci: Chem Perspectives
ESR 173 Environmental Science: Geo Perspectives

Two of the following courses:
GS 106 Physical Science (Geology)
GS 107 Physical Science (Astronomy)
GS 108 Physical Science (Oceanography)
GS 109 Physical Science (Meteorology)

MATHEMATICS

MTH 105 Explorations in Mathematics
MTH 111B, 111C College Algebra
MTH 112 Elementary Functions
MTH 211, 212, 213 Foundations of Elementary Math I, II, III
MTH 231, 232 Elements of Discrete Mathematics I, II
MTH 241 Calculus for Management, Life and Social Science
MTH 243, 244 Statistics I, II
MTH 251 Calculus I
MTH 252 Calculus II
MTH 253 Calculus III
MTH 254 Vector Calculus I II
MTH 256 Differential Equations II
MTH 261 Applied Linear Algebra II

PHYSICS

Courses that can be used for the AAOT Sequence Requirement (Choose 2 from one of the sets below.):
PHY 101, 102, 103 Fundamentals of Physics
PHY 121, 122, 123 Elementary Astronomy
PHY 201, 202, 203 General Physics
PHY 211, 212, 213 General Physics (Calculus)

OTHER SCIENCE

FN 225 Nutrition 2

ACADEMIC REGULATIONS

www.pcc.edu/about/catalog/academic_regs.pdf

GRADING GUIDELINES

GRADED SYSTEM

The traditional graded system uses A, B, C, D, and F, as defined under "Grade Definitions." Degree or certificate requirements may designate certain courses as pass/no pass only.

PASS/NO PASS SYSTEM

To take a class on a pass/no pass basis, students must make arrangements with the instructor during the first 8 weeks of class. A pass grade does not satisfy the prerequisite of C or better required for entry into some courses — the English Composition sequence, for example. Transfer students should be aware that four-year institutions limit the number of pass/no passes credits that may be applied to a degree. Degree or certificate requirements may prohibit taking certain courses on a pass/no pass basis.

GRADE DEFINITIONS

A Superior

Honor grade indicating excellence. Earned as a result of a combination of some or all of the following as outlined by the instructor in the course handout: superior examination scores, consistently accurate and prompt completion of assignments, ability to deal resourcefully with abstract ideas, superior mastery of pertinent skills, and excellent attendance. Probable success in a field relating to the subject or probable continued success in sequential courses.

B Above Average

Honor grade indicating competence. Earned as a result of a combination of some or all of the following as outlined by the instructor in the course handout: high examination scores, accurate and prompt completion of assignments, ability to deal well with abstract ideas, commendable mastery of pertinent skills, and excellent attendance. Probable continued success in sequential courses.

C Average

Standard college grade indicating successful performance earned as a result of a combination of some or all of the following as outlined by the instructor in the course handout: satisfactory examination scores, generally accurate and prompt completion of assignments, ability to deal with abstract ideas, fair mastery of pertinent skills, and regular attendance. Sufficient evidence of ability to warrant entering sequential courses.

D Substandard but receiving credit.

Substandard grade indicating the student has met only minimum requirements as outlined by the instructor in the course handout. Earned as a result of some or all of the following: low examination scores, generally inaccurate, incomplete or late assignments, inadequate grasp of abstract ideas, barely acceptable mastery

of pertinent skills, irregular attendance, insufficient evidence of ability to make advisable the enrollment in sequential courses. Does not satisfy requirements for entry into courses where prerequisites are specified.

F Failure

Non-passing grade indicating failure to meet minimum requirements as defined by the instructor in the course handout earned as a result of some or all of the following: non-passing examination scores, inaccurate, incomplete or late assignments, failure to cope with abstract ideas, inadequate mastery of pertinent skills, repeated absence from class. Does not satisfy requirements for entry into courses where prerequisites are specified.

P Pass

Acceptable performance. A grade of "P" represents satisfactory achievement which would have been graded "C" or better on the regular grading scale, but is given instead of a letter grade. By the end of the eighth (8th) week of class (or equivalent) students shall choose the graded or pass option. If they don't choose the pass option, the class will be letter graded. By the end of the eighth (8th) week of class (or equivalent), students may rescind an earlier request of the pass option. Instructors who deny a grading systems option request through the eighth (8th) week (or equivalent) must provide reasons in writing to their Dean for the denial.

NP No Pass

Unacceptable performance or does not satisfy requirements for entry into courses where

prerequisites are specified. This grade may be used in situations where an instructor considers the "F" grade to be inappropriate. An "NP" mark is disregarded in the computation of grade

POINT AVERAGE

MARK DEFINITIONS

SC Satisfactory Completion

Mark used when a student satisfactorily completes continuing education units (CEUs).

NSC Not Satisfactory Completion

Mark used when a student does not satisfactorily complete Continuing Education Units (CEUs).

I Incomplete

When the quality of work is satisfactory, but some minor, yet essential, requirement of the course has not been completed, and for reasons acceptable to the instructor, a report of "I" may be made and additional time granted for completion of the work. If the course is not completed within a year, the "I" will be administratively changed to an "NP" unless the instructor submits another grade. The conditions for completion of work should be stated in writing, signed by the instructor and the student, and kept on file in the department or program office. An "I" may not be assigned as a withdrawal. An "I" does not entitle a student to repeat a course without paying tuition. It may be impossible to receive an "I" in some courses where, for example, equipment usage is required.

W Withdrawal

This mark is to be used only by the Student Records Office when the student has followed established school policies and procedures for properly withdrawing from class within the specified time limits.

CIPR Course In Progress Re-register.

A mark used only for designated classes. To receive credit, students must re-register because equipment usage is required. This may include courses in modular or self-paced programs. This mark may also be used in a skills-based course to indicate that the student has not attained the skills required to advance to the next level. If

the course is not completed within a year, the "CIPR" changes to an "AUD" (Audit) on the transcript unless the course was repeated and a grade earned.

CIP Course In Progress

A mark used only for designated classes in modular programs or in self-paced programs that do not conform to the normal academic calendar. If the course is not completed within a year, the "CIP" changes to a "NP" (No Pass) on the transcript unless the course was repeated and a grade earned. A student does not need to re-register for the course.

AUD Audit

Some courses may allow students to attend a course without receiving a grade or credit for the course. Tuition must be paid, and instructor permission must be obtained during the first three weeks of class. Instructors are expected to state on their course handouts any specific audit requirements. Does not satisfy requirements for entry into courses where prerequisites are specified.

Repeated Courses

Courses with grades of "D," "F," "NP," "I," or "CIP" and "CIPR" may be repeated for a higher grade. All grades earned will appear on the transcript. The first earned grade of "C," "P," or better will count in the accumulated credit total. The first grade of "C" or better will be used for the GPA calculation.

COMPUTING GRADE POINT AVERAGES

Grade points are computed on the basis of four points for each credit of "A", three points for each credit of "B", two points for each credit of "C", one point for each credit of "D", and zero points for each credit of "F". Grades of "P" and "NP" and marks of "SC," "NSC," "I," "W," "X," "CIP," "CIPR," "R," and "AUD" are disregarded in the computation of the grade point average. The grade point average is the quotient of the total points divided by the total credits in which "A," "B," "C," "D,' and "F" are received .

ATTENDANCE

Students are expected to attend all classes in which they are enrolled. Repeated absences will affect a student's grade. Students must follow the published guidelines for dropping/withdrawing from class. If a student has excessive absences and fails to drop/withdraw from class by the published deadlines, a grade of "F" may be assigned. Faculty members are not required to drop students

for non-attendance. In addition, students who do not attend or stop attending classes and fail to drop will be responsible for the associated tuition and fees.

GRADE CHANGES

If a student feels that there has been a mistake in a grade, the instructor should be contacted immediately. If a grade dispute cannot be resolved with the instructor, the student may follow the student grievance procedure within one year after receiving a grade. Note that requests for grade changes after one year following receipt of a grade will not be considered unless the instructor who issued the grade agrees to such consideration.

WITHDRAWAL POLICY

Responsibility for withdrawal from a class within the specified withdrawal time lines resides with the student. To have tuition charges removed, students must withdraw from the class within the first two weeks of the term (or equivalent*). If a student withdraws from the class in the first four weeks, the class will not appear on the transcript. A withdrawal in the fifth through the eighth week will show as a W on the transcript. Students must withdraw before the end of the eighth week, or a grade or mark will be assigned by the instructor.

Faculty may deny registered students access to a class if they do not attend the first class session or stop attending class anytime through the end of the fourth week. Faculty denial of access will not remove student tuition charges. From the fifth week on, faculty may withdraw a student for lack of attendance. Faculty must indicate the last date of attendance to withdraw a student; that date must be within the first eight weeks of the term, although paperwork may be processed later. A faculty-initiated withdrawal does not result in tuition charges being removed.

*Time lines stated here refer to an 11-12 week term-length class. Equivalent deadlines must be substituted for classes offered in shorter formats.

STANDARDS FOR STUDENT ACADEMIC PROGRESS

Portland Community College is open to any citizen of the PCC district who can benefit from the instruction offered. Students who are not making satisfactory progress will be provided with counseling, academic advising, and instruction. These services will be aimed at maximizing opportunities for students to benefit from their learning experience at PCC.

Any individual may be denied admission or continued admission if the appropriate college procedure indicates that the individual cannot benefit from the instruction desired. The procedure may be based on, but is not limited to, an evaluation of educational experiences, work history or appropriate testing.

ACADEMIC STANDARDS AND STUDENT PROGRESS POLICY

1. Students enrolling for a degree, certificate or diploma must achieve Satisfactory Academic Progress; i.e., must achieve a minimum 2.00 GPA.
2. Student failing to achieve satisfactory progress shall be assisted by program faculty or student development staff. Progress interventions will be as follows:

   Academic Alert—At the end of the first term of unsatisfactory progress, students will be notified that they are in academic alert status. They will be encouraged to seek assistance to prevent a recurrence of the problem.

   Academic Probation—At the end of the second consecutive term of unsatisfactory progress, students will be notified that they have been placed on academic probationary status. They will not be allowed to register without the permission of an academic advisor, counselor, or program faculty member.

   Academic Suspension—At the end of the third consecutive term of unsatisfactory progress, students will be notified that they are suspended from the institution for one year.
3. In addition, students are expected to complete at least half of all credits attempted. Currently enrolled, degree-seeking students who: a) attempted 24 or more credits during the previous academic year and b) failed to complete 50% of those credits will be

identified annually. Those students will receive information about college resources and assistance from the dean of student development. No sanctions will be imposed.

HONOR RECOGNITION

HONOR ROLL

The College will recognize academic excellence in students who have earned a 3.25 or higher GPA in a given term on a minimum of six graded credits, excluding pass/no pass, in a given term. The following honors will be awarded:

Honor's List: 3.25 - 3.49

Dean's List: 3.50- 3.74

President's List: 3.75 - 4.00

Highest Honors: 3.75 - 4.00 PCC cumulative average awarded upon graduation.

HONOR SOCIETIES

PHI THETA KAPPA

Phi Theta Kappa is an honorary society designed for students in two-year colleges who have established a 3.5 or higher grade point average. Membership forms are available through the Associated Students of PCC (ASPCC).

www.pcc.edu/resources/phi-theta-kappa/

DISCLOSURE OF STUDENT RECORDS AND DIRECTORY INFORMATION

PORTLAND COMMUNITY COLLEGE BOARD POLICY STUDENT RECORDS B4O7

The PCC district shall follow all applicable state and federal laws, rules, and regulations which apply to student records. All information contained in the college records which is personally identifiable to any student shall be kept confidential and not released except upon prior written consent of the subject student or upon the lawful subpoena or other order of a court of competent jurisdiction. Student information may be shared among college faculty and staff on an official (need to know) basis

EDUCATIONAL RECORDS POLICY

The PCC district follows all applicable state and federal laws, rules and regulations that apply to Student Records. The Family Educational Rights and Privacy Act (FERPA) affords students certain rights regarding their educational records. They are:

- The right to inspect and review the student's records. The student may request to review his/her records by submitting a written request to the Records Office or other school official having custody of such records;
- The right to seek amendment of the student's records that the student believes are inaccurate, misleading or otherwise in violation of the student's privacy rights. Requests for amendment of records must be in writing and must describe the specific portions or specific record(s) the student wishes to have amended, instructions as to the change desired, and reasons why the change is justified;
- The right to consent to disclosure of personally identifiable information contained in the student's education records, except for when consent is not required by FERPA. FERPA does not require a student's consent when disclosure is to other school officials with legitimate educational interests. A school official is a person employed by the college in an administrative, supervisory, academic or research, or support staff position; a person or company with whom the college has contracted or appointed as its agent; or a student serving on an official committee or assisting another school official in performing the official's tasks. A school official has a legitimate educational interest if the official needs to review an educational record in order to fulfill his/her professional responsibilities.
- The right to file a complaint with the Department of Education, Family Compliance Office, concerning alleged failures by the college to comply with the requirements of FERPA.

SOLOMON ACT

Federal law requires PCC to provide student name, address and telephone number to the military for recruiting purposes.

BUCKLEY AMENDMENT

The Family Educational Rights and Privacy Act of 1974 (Statute: 20 U.S.C. 1232g; Regulations: 34CFR Part 99) also known as the Buckley Amendment is a Federal Law which states (a) that a written institutional policy must be established and (b) that a statement of adopted procedures covering the privacy rights of students be made available. The law provides that the institution will maintain the confidentiality of student education records. Certain directory information is excluded from this law and may be disclosed at the discretion of the college.

STUDENT RIGHTS AND RESPONSIBILITIES

INTRODUCTION

This handbook supersedes all previous student handbooks and student grievance procedures and applies to all conduct and activities effective fall 2008. This handbook shall be made available to all students in the PCC College Catalog, on the PCC website at www.pcc.edu, and in printed form.

This handbook is not a contract between a student and PCC, and PCC reserves the right to modify or revise the contents of this handbook at any time. This handbook is to be construed in a manner that is consistent with other College policies and regulations.

COLLEGE/STUDENT RESPONSIBILITIES

Portland Community College provides students with broad, comprehensive programs of general education, developmental/remedial programs, and vocational/technical curricula. The College also provides cultural, recreational, and community service activities.

It is, in turn, the responsibility of the student to observe campus rules and regulations and to help maintain appropriate conditions in the classroom, on the campus, and in the community.

A student's registration obligates him/her to comply with the policies and regulations of the College. PCC will restrict a student's admission to or registration with the College and will withhold degrees and academic transcripts as prescribed by the College and/or state guidelines if a student fails to meet financial obligations to the College or other legal reasons.

Portland Community College is granted the right by law to adopt

such rules as are deemed necessary to govern its operations.

STUDENT RIGHTS

RIGHT TO PARTICIPATE IN FORMULATING POLICIES AND RULES PERTAINING TO STUDENT CONDUCT

Students have the right to participate in formulating and reviewing policies and rules pertaining to student conduct and, to the extent permitted by law and as provided by this handbook, in the enforcement of all such rules.

RIGHT TO FREEDOM FROM HARASSMENT AND DISCRIMINATION

The College's goal is to provide an atmosphere that encourages individuals to realize their potential. Therefore, it is against the College's policy for any manager, supervisor, faculty, staff, or student to engage in harassment or discrimination of any member of the College community based on his/her race, color, religion, ethnicity, use of native language, national origin, age, sex, marital status, height/weight ratio, disability, or sexual orientation. The prohibition against harassment or discrimination based on the use of native language does not require the College to offer classes in any language other than English. Under the College's policy, harassing or discriminatory behaviors will not be tolerated. The College also prohibits retaliation against any person who makes a good faith complaint of discrimination or harassment and retaliation against any person who in good faith cooperates in an investigation of alleged harassment or discrimination.

Therefore, it is the responsibility of every member of the College community to strictly comply with the policy. This includes notifying each employee/student of his or her rights and responsibilities under PCC's Nonharassment Policy. Management staff will be held accountable for taking reasonable action to maintain work sections and educational environments free of conduct that causes, or reasonably could be considered to cause, intimidation, hostility, or discrimination.

Any person who believes he or she has been discriminated against or harassed by a College employee, representative or student is encouraged to file a complaint through the Affirmative Action Office, SSB 301 Cascade, 503-978-5840, or online at www.pcc.edu/about/affirmative-action/. Non-affirmative action complaints are to be filed in accordance with the Student Grievance Procedure or Complaint Form.

RIGHT TO PROTECTION OF FREEDOM OF EXPRESSION

Students shall be free to take reasoned exception to the data or views offered in any course of study and to reserve judgment about matters of opinion, but they are responsible for learning the content of any course of study in which they are enrolled.

As constituents of the academic community, PCC students shall be free, individually and collectively, to express their views on issues of institutional policy and procedures which shall include the examination and discussion of issues of interest to them and expression of opinions both publicly and privately. They shall be free to invite and to hear persons of their choosing and to support causes by orderly means that do not substantially disrupt the regular and essential operations of the College.

Demonstrations are a legitimate mode of expression, whether politically motivated or directed against the college administration, and will not be prohibited. Demonstrators, however, have no right to deprive others of the opportunity to speak or be heard, take hostages, physically obstruct the movement of others, or otherwise substantially disrupt educational or institutional processes in a way that interferes with the safety or freedom of others. Students may be subject to disciplinary action when their acts or actions cause, or are likely to, or do cause substantial disruption or interference with the regular and essential operation of the College.

RIGHT TO PROTECTION FROM IMPROPER ACADEMIC EVALUATION AND IMPROPER DISCLOSURE OF STUDENTS' VIEWS, BELIEFS, ASSOCIATIONS

Student academic performance shall be evaluated solely on an academic basis (which may include attendance and the ability to apply skills), not on the student's opinions or conduct in matters unrelated to academic standards. The course syllabus shall contain and articulate the evaluation standards and grading criteria by which student performance is measured. Students shall have the right to grieve their academic evaluation under the Grievance Procedure only if the student believes that these standards and criteria were not followed by the instructor, or were not fairly and consistently applied to all students.

At the same time, students are responsible for meeting standards of academic performance established for each course in which they are enrolled.

Information about student views, beliefs, and political associations which staff members acquire in the course of their association with students is considered confidential.

RIGHT OF ACCESS TO, AND PROTECTION FROM IMPROPER DISCLOSURE OF, STUDENT RECORDS

To minimize the risk of improper disclosure, academic and disciplinary records shall remain separate. Transcripts of academic records shall contain only information about academic status.

Information from disciplinary or counseling files shall not be available to unauthorized persons on campus or to individuals off-campus without the written consent of the student involved, except under legal compulsion, in cases where the safety of persons or property is involved, or other disclosures that comply with the Family Educational Rights and Privacy Act, Board Policy, and Oregon laws pertaining to education records.

In order to assist students to benefit from courses, programs, and activities, the College provides limited guidance and counseling services which students are encouraged to make use of on a voluntary basis. The confidentiality of student record information obtained by counseling and advising services will be strictly maintained, except when PCC is legally permitted to disclose student record information.

RIGHT TO FORM STUDENT ORGANIZATIONS

Students may form student clubs and organizations under the provisions of the ASPCC constitution and campus by-laws. Any chartered student club or officially recognized student organization acting through the Associated Students of Portland Community College may invite any person of their own choosing to the campus, provided the invitation and arrangements are in compliance with established policies of the College.

College procedures must be followed to ensure orderly scheduling of facilities, adequate preparation for the event, and that activities are conducted in a manner appropriate for an academic community.

RIGHT TO SELL AND DISTRIBUTE MATERIALS AND ENGAGE IN FUND-RAISING ACTIVITIES

Students have the right to engage in legal incidental sales of personal property in private transactions. PCC has not designated any facilities for this purpose, however, except for the use of designated College bulletin boards.

All fund-raising activities for ASPCC must be approved by the Campus Student Leadership Coordinator.

All merchandise, periodicals, magazines, and books offered for commercial sale may be sold only through the College bookstores or College food services except when within district policy and approved by the Campus President or designee.

All free publications not in violation of state laws, federal laws, and/or College rules, such as books, magazines, newspapers, handbills, leaflets, and similar materials may be distributed on campus. Any persons desiring to distribute publications shall first register with the Campus President or designee on the campus at which distribution is contemplated so that reasonable areas and times can be assured and the activities of the College will not be interfered with.

All handbills, leaflets, newspapers, and similar materials must bear the name and address of the organization and/or individual distributing the materials.

Printed materials shall not be placed on any vehicle parked on campus.

RIGHT TO ACCESS COLLEGE FACILITIES

Students have the right of access to College facilities, subject to ordinary schedules and policies and regulations governing the use of each facility. When using these facilities, the student has the responsibility to respect these regulations and to comply with the spirit and intent of the rules governing facility use. Chartered ASPCC student clubs have free access to facilities unless additional services (custodial, Campus Safety, etc.) are required.

When faced with a situation which he/she determines is likely to or does disrupt the order of the College, threatens the health and welfare of the College community, or that interferes with the ingress and/or egress of persons from College facilities, the Campus President or designee shall have the authority to:

1. Prohibit the entry of any person or persons, or to withdraw the license or privilege of any person or group of persons to enter or remain upon any portion of a College facility; or
2. Give notice against trespass by any manner specified by law to any person, persons, or group of persons against whom the license or privilege has been withdrawn or who have been prohibited from entering into or remaining within a College facility.

Any student (s) disobeying a directive given by the Campus President or designee, pursuant to the statements above, shall be subject to disciplinary action, and/or criminal trespass laws.

CODE OF STUDENT CONDUCT

GENERAL POLICIES

Admission to Portland Community College carries with it the presumption that the student will conduct him/herself as a responsible member of the College community. Thus, when a student is admitted to and/or enrolled at Portland Community College, the student likewise assumes the obligation to observe standards of conduct which are appropriate to the pursuit of educational goals.

Students shall generally have an opportunity to participate in the formulation of policies and rules pertaining to student conduct and, to the extent legally permitted, in the enforcement of such rules. PCC administration and its Board, however, retain the authority to create and enact College policy.

Programs based on contracts with government agencies or external funding sources operated outside of the comprehensive campuses may adopt separate conduct procedures consistent with Portland Community College's Code of Student Conduct, the program's goals, and the principle of due process for all parties.

Portland Community College may take appropriate disciplinary action when student conduct deemed by the Dean of Student Development or designee to be disruptive to the operation of the College, or constitutes one or more of the behaviors identified below.

VIOLATIONS

Disciplinary action may result from the commission of any of the actions listed herein, or any violation of civil or criminal law while on College property or while engaged in any College activity.

1. Academic cheating or plagiarism or aiding or abetting cheating or plagiarism, which may also result in academic penalties under the College's Academic Integrity Policy.
2. Furnishing false information to the College with the intent to deceive the College or any person or agency.
3. Forgery, alteration, or misuse of College documents, records or identification cards whether in written or electronic form.
4. Unauthorized use or access of College electronic communications media, equipment, files, or data, or failure to comply with the "PCC Technical Terms of Usage Policy": **www.pcc.edu/library/policies/aup.htm**
5. Abuse, harassment, intimidation, or threats by any means toward a student, staff member, vendor, visitor, or invited guest of the college.
6. Malicious destruction, damage, or misuse of College or private property.
7. Theft or conversion of College property.
8. Failure to comply with the College's Service and Assistance Animal Guidelines. www.pcc.edu/resources/disability/animal.htm
9. Failure to comply with the lawful directions of College personnel acting in performance of their duties.
10. Unwanted contact or communication of any nature with another student or a staff member after being advised by a College official or the other student that such contact or communication is unwelcome.

11. Any behavior that is disruptive to the educational or administrative processes of the College as determined by a College official.
12. Interference by force or by violence (or by threat of force or violence) with any administrator, faculty or staff member, or student at the College who is in the discharge or conduct of his/her duties or studies.
13. Possession, consumption, being under the influence, or furnishing of alcoholic beverages (as identified by federal or state law) on College-owned or controlled property or at College or student organization supervised functions, except as provided by rules and procedures of the Portland Community College Board of Directors.
14. Possession, consumption, being under the influence, or furnishing of any narcotic or dangerous drug, as defined by ORS 475 and ORS 167.203 to 167.252 [as now law or hereinafter amended], except when use or possession is lawfully prescribed by an authorized medical doctor or dentist.
15. Failure to disperse when an assembly is ordered to disperse by College officials.
16. Failure to comply with a notice against trespass.
17. Failure to comply with the following rules regarding firearms and weapons:

    a. The use, carrying, exhibiting, or displaying of any weapon (as defined by Oregon Revised Statute 161.015), or facsimiles thereof, is prohibited on or in College facilities, except as provided by Oregon law or when approved by College administration for official College activities.

    b. Explosives, incendiary devices, or any facsimiles thereof are prohibited on or in College facilities, except as provided by Oregon law, or when approved by College administration for official College activities.

    c. The above rules do not apply to equipment or materials owned, used, or maintained by the College, used by the College or under College direction, nor to law enforcement officers or campus security personnel.
18. Violations of published College regulations, including those related to entry and use of College facilities, the rules in this Section, and any other College regulations which may be enacted.
19. Conduct that substantially interferes with the College's educational responsibility of ensuring the opportunity for all members of the College community to attain their educational objectives, or the College's subsidiary responsibilities, which may include, but are not limited to: record-keeping, providing miscellaneous services, and sponsoring out-of-class activities, such as lectures, concerts, athletic events, and social functions.

If a student is charged or convicted of an off-campus violation of the law, the matter shall be no cause for disciplinary action by the College unless there is a reasonable possibility, as determined by the Dean of Student Development or designee, that the behavior is substantially likely to disrupt the educational process of the College.

SANCTIONS

The District Board has directed the College President, pursuant to ORS 341.290, to establish administrative rules to govern the College and its students, and to administer disciplinary action. Board Policy B213

Each faculty member is responsible for class conduct and is authorized to take such steps as are necessary when behavior of a student interrupts the normal class procedure. When behavior is so serious as to result in expulsion from the class, the faculty member may remove the student from one class session or the equivalent. For non-classroom environments, conduct violation will be handled expeditiously. Violations may also require a conference among the student, the instructor and/or Division Dean to identify and set conditions for his/her return to the class. Permanent removal of a student from a class or classes may only be imposed by the Dean of Student Development or designee pursuant to the provisions of the Code of Student Conduct.

The Dean of Student Development or designee may impose the following sanctions for violations of the Code of Student Conduct:

1. Expulsion from Portland Community College (i.e., permanent removal of the privilege to attend Portland Community College);
2. Suspension from Portland Community College for a definite period of time and/or pending the satisfaction of conditions for re-admission, (i.e., suspension of the privilege to attend Portland Community College).
3. Removal from class(es) for which the student is currently registered;
4. Restitution for damages;
5. A specified period of college and/or community service;
6. Disciplinary probation with or without the loss of privileges for a definite period of time. The violation of the terms of the disciplinary probation or the breaking of any College rule during the probation period may be grounds for suspension or expulsion from the College;
7. Disciplinary admonition and warning.
8. Any other sanction the College deems educationally appropriate.

The parents or guardian of any student under 16 years of age who receives a sanction under the Code of Student Conduct shall be notified.

DISCIPLINARY DUE PROCESS HEARING PROCEDURES

In keeping with the educational purposes of the College, disciplinary actions other than those requiring expulsion are intended to be remedial rather than punitive. Often disciplinary proceedings will be conducted informally between the student(s) and the Dean of Student Development or designee.

1. Students in violation of institutional regulations or civil or criminal law shall be so informed.
2. During investigation of the charges, the status of the student shall not be altered nor shall his/her right to be present on the campus and to attend classes be suspended except for reasons related to the safety and well-being of students, faculty,

staff, or College property, or which relate to or interfere with the orderly operation of the College, as determined by the Dean of Student Development or designee.

3. The student has the right to appeal any disciplinary (as distinct from academic) action to the Campus President or designee solely on the basis of alleged procedural violation(s). If a violation is found to have occurred, the Campus President or designee will remand the case to the Dean of Student Development or designee for reprocessing.

No disciplinary sanction shall be imposed unless the student has been notified of the charges against him/her and the nature and source of the evidence. In cases in which the College does not intend to suspend or expel a student, the source of information may be kept confidential if, in the discretion of the Dean or his/her designee, he/she believes that revealing the source would create a risk of physical or emotional harm to the source, or might otherwise have a chilling effect on enforcement of these rules. A student subject to these sanctions will be allowed to present his/her case to an appropriate College official and to have an advisor of his/her choice present. Advisors are not permitted to present the case but may advise the student.

Both the College and the student may seek legal advice at their own expense, but, to avoid an adversarial situation, neither the College nor the student will be represented by a lawyer during any meeting or hearing involving the College and the student. The student may withdraw from College of his/her own volition at any time during the disciplinary process. Disciplinary sanctions may still be assessed, however, if the student withdraws from the College prior to the completion of the disciplinary process, or elects not to participate in disciplinary proceeding.

In cases that are not resolved informally, the Dean of Student Development or designee shall use the following hearing procedure:

Step 1: At an initial conference with the Dean of Student Development or designee, the student will be informed verbally and in writing of the charges and the maximum penalty which might result from consideration of the disciplinary matter. The College retains the right, upon learning new information and giving notice to the student, to revise the proposed maximum penalty.

Step 2: The student must submit all of his/her evidence within 7 calendar days of the initial conference.

Step 3: After considering the evidence in the case and interviewing persons as appropriate, the Dean of Student Development, or designee, may take one of the following actions:

a. Terminate the proceedings, exonerating the student.

b. Dismiss the case after appropriate counseling and advice.

c. Impose an appropriate sanction as described above.

The student will be notified in writing of the decision of the Dean of Student Development or designee. If the student decides to appeal the decision on the basis of alleged violation of due process, he or she may do so by filing a written appeal with the Campus President or designee within 7 calendar days of the decision. The Campus President or designee shall render a decision regarding the alleged violation of due process within 7 calendar days of its filing.

READMISSION AFTER SUSPENSION

A student suspended from the College may be readmitted only on written petition to the campus Dean of Student Development or designee. Petitions must, if applicable, indicate how specific reinstatement conditions have been met and reasons which support reconsideration. The Dean of Student Development or designee shall convey his/her decision in writing to the student; and in the case of non-readmission, shall express his/her reasons in writing. The decision of the Dean of Student Development or designee is final.

RECORDS

Records of all disciplinary actions shall be kept by the campus Dean of Student Development in accordance with the state archival policies.

ACADEMIC INTEGRITY POLICY

INTRODUCTION

Students of Portland Community College are expected to behave as responsible members of the college community and to be honest and ethical in their academic work. PCC strives to provide students with the knowledge, skills, judgment, and wisdom they need to function in society as educated adults. To falsify or fabricate the results of one's research; to present the words, ideas, data, or work of another as one's own; or to cheat on an examination corrupts the essential process of higher education.

GUIDELINES FOR ACADEMIC INTEGRITY

Students assume full responsibility for the content and integrity of the coursework they submit. The following are guidelines to assist students in observing academic integrity:

- Students must do their own work and submit only their own work on examinations, reports, and projects, unless otherwise permitted by the instructor. Students are encouraged to contact their instructor about appropriate citation guidelines.
- Students may benefit from working in groups. They may collaborate or cooperate with other students on graded assignments or examinations as directed by the instructor.
- Students must follow all written and/or verbal instructions given by instructors or designated college representatives prior to taking examinations, placement assessments, tests, quizzes, and evaluations.
- Students are responsible for adhering to course requirements as specified by the instructor in the course syllabus.

FORMS OF ACADEMIC DISHONESTY

Actions constituting violations of academic integrity include, but are not limited to, the following:

Plagiarism: the use of another's words, ideas, data, or product without appropriate acknowledgment, such as copying another's work, presenting someone else's opinions and theories as one's

own, or working jointly on a project and then submitting it as one's own.

Cheating: the use or attempted use of unauthorized materials, information, or study aids; or an act of deceit by which a student attempts to misrepresent academic skills or knowledge; unauthorized copying or collaboration.

Fabrication: intentional misrepresentation or invention of any information, such as falsifying research, inventing or exaggerating data, or listing incorrect or fictitious references.

Collusion: assisting another to commit an act of academic dishonesty, such as paying or bribing someone to acquire a test or assignment, taking a test or doing an assignment for someone else, or allowing someone to do these things for one's own benefit.

Academic Misconduct: the intentional violation of college policies, such as tampering with grades, misrepresenting one's identity, or taking part in obtaining or distributing any part of a test or any information about the test.

PENALTIES FOR ACADEMIC DISHONESTY

If a student is found guilty of violating academic integrity, any one or a combination of the following penalties may be imposed by the faculty member:

- Verbal or written warning
- A grade of "F" or "NP" for the assignment, project, or examination

The following penalty may be imposed by the faculty member only after a hearing conducted by the division dean:

- A grade of "F" or "NP" for the course, overriding a student withdrawal from the course

The Dean of Student Development may also issue the following disciplinary sanctions, in accordance with the Code of Student Conduct:

- Disciplinary admonition and warning
- Disciplinary probation with or without the loss of privileges for a definite period of time. The violation of the terms of the disciplinary probation or the breaking of any college rule during the probation period may be grounds for suspension or expulsion from the college.
- Suspension from Portland Community College for a definite period of time. (i.e., suspension of the privilege to attend Portland Community College)
- Expulsion from Portland Community College (i.e., removal of the privilege to attend Portland Community College)

ACADEMIC DISHONESTY COMPLAINT AND HEARING PROCEDURES

1. The faculty member observing or investigating the apparent act of academic dishonesty documents the commission of the act, usually by writing down the time, date, place, and a description of the act.
2. The faculty member collects evidence, often by photocopying the plagiarized assignment and creating a paper trail of all that occurs after the alleged act of academic dishonesty. Often the evidence will include various samples of the student's work showing a radical disparity in style or ability.
3. The faculty member provides the student an opportunity to explain the incident.
4. The faculty member explains to the student the procedures and penalties for academic dishonesty and gives the student a copy of the Portland Community College Academic Integrity Policy.
5. The faculty member may resolve the matter informally by determining an appropriate course of action, which may include a verbal or written warning, or a grade of "F" or "NP" on an assignment, project, or examination, or no further action. If the accused student contests the faculty member's decision, a hearing with the division dean may be requested in writing to the division dean within 10 days of the time the student is notified of the faculty member's decision. A hearing requested by a student under this section is informally conducted by the division dean, who may take steps he or she deems appropriate to resolve the conflict.
6. If the faculty member wishes to initiate further action (e.g. assign a lower grade or a grade of "F" or "NP" for the course), the student is entitled to a hearing with the division dean. The faculty member submits a copy of the Academic Dishonesty Report form and any additional evidence to the division dean within 10 days of the alleged act of academic dishonesty, which initiates the hearing process.
7. Within 10 days of receiving an Academic Dishonesty Report form, the division dean notifies all parties in writing of the date, time and location of the hearing. At the hearing, the faculty member and division dean present charges and allow the student to present his/ her side of the case. The student may bring an advisor, who may advise the student but not present the case. If the student misses the hearing, the faculty member and division dean may proceed with the process to completion. The division dean will consider any evidence submitted within seven days of the hearing, and interview persons as warranted. The division dean determines if the action recommended by the faculty member is appropriate.
8. Within 10 days of the hearing, the division dean sends written notification of the results to the student and faculty member.
9. Within 10 days of the notification, the student may submit a written appeal to the dean of instruction. The decision of the dean of instruction is final.
10. The division dean sends a final report to the dean of student development. The dean of student development may also issue the following disciplinary sanctions, in accordance with the Code of Student Conduct:

- Disciplinary admonition and warning.
- Disciplinary probation with or without the loss of privileges for a definite period of time. The violation of the terms of the disciplinary probation or the breaking of any college rule during the probation period may be grounds for suspension or expulsion from the college.
- Suspension from Portland Community College for a definite period of time. (i.e., suspension of the privilege to attend Portland Community College).

- Expulsion from Portland Community College (i.e., removal of the privilege to attend Portland Community College).

SOURCES

With permission, contents of this policy were adapted from "Academic Honesty" and "Academic Dishonesty," Oregon State University, Corvallis, Oregon; and "Student Rights & Responsibilities: Scholastic Ethics Code," Pima Community College, Tucson, Arizona.

GRIEVANCE PROCEDURE INTRODUCTION

Students enrolled at Portland Community College may use the Grievance Procedure to challenge decisions and/or actions taken by college faculty and staff that are alleged to violate their rights as defined in the Student Rights Section of the Student Rights and Responsibilities Handbook. This procedure does not apply to any other dispute.

The student will be allowed to have an advocate of his/her choice (such as a PCC Counselor or Advisor, or student government representative) present in meetings throughout the grievance process. Advocates are not permitted to present the case, but may advise the student. Both the College and the student may seek legal advice at their own expense; however, neither the College nor the student shall be represented by a lawyer during any grievance meeting or hearing involving the College and the student.

Programs based on contracts with government agencies or external funding sources operated outside of the comprehensive campuses may adopt separate grievance procedures consistent with Portland Community College's Grievance Procedure, the program's goals, and the principle of due process for all parties.

Concerns involving harassment or discrimination by a college staff member on the basis of race, color, religion, sex, sexual orientation, age, national origin, disability, or veteran status should be directed to the College's Affirmative Action Officer. Concerns involving harassment or discrimination by a student on the basis of race, color, religion, sex, sexual orientation, age, national origin, disability, or veteran status should be directed to the campus Dean of Student Development.

Any other complaint about college services, programs, or activities not addressed in the Student Rights Section of the Student Rights and Responsibilities Handbook should be put in writing and sent to the campus Dean of Student Development or designee, who will forward it to the appropriate administrator. Complaint Forms are available at any campus ASPCC Office, Information Booth, or Admissions Office.

GRIEVANCE PROCEDURE

Step 1: Communicate with the Faculty/Staff Member:

a. **The student must directly communicate with the faculty/staff member involved within 3**0 calendar days of the event that is the subject of the grievance. Otherwise the student forfeits the right to grieve the issue. The student is encouraged to put the grievance in writing, including a specific description of the problem, the reasons the student believes his/her rights have been violated as defined in the Student Rights Section of the Student Rights and Responsibilities Handbook, and a proposed remedy.

Step 2: Submit a Grievance Form to the Dean of Student Development:

a. **In cases where the problem is not resolved through direct communication with the faculty/staff member involved, the student will submit a Grievance Form, with supporting evidence, to the campus Dean of Student Development or designee within 1**4 calendar days of the communication with the faculty/staff member. The Dean of Student Development or designee will review the grievance and refer it to the appropriate Administrator. Grievance Forms are available at campus ASPCC and Dean of Student Development Offices and online at **www.pcc.edu**.

b. Within 14 calendar days, the Administrator will objectively investigate the grievance, consult and share appropriate information with all involved parties, consider relevant evidence, and render a decision in writing to the student and the campus Dean of Student Development.

Step 3: Appeal to Dean of Instruction or Dean of Student Development

a. **The student may appeal the decision in Step 2** if (1) PCC procedures were not followed or (2) there is relevant evidence that was not available during Step 2. An appeal must be made within 14 calendar days to the campus Dean of Instruction for academic evaluation grievances, or to the campus Dean of Student Development for other grievances as defined in the Student Rights Section of the Student Rights and Responsibilities Handbook. The student must submit written justification for further review and provide evidence that there are grounds for the appeal.

b. **The Dean will objectively investigate how the grievance process was conducted in Step 2**, consult with all involved parties, consider relevant evidence that was not available or not considered during Step 2, and render a decision in writing. The decision will be final and not subject to appeal.

REPORTING, RECORDING, AND MAINTAINING RECORDS

When the grievance is concluded, all documentation shall be forwarded to the campus Dean of Student Development, who will maintain them in accordance with the state archival policies.

CONSENSUAL RELATIONSHIP STATEMENT

Portland Community College's mission is to offer an atmosphere that encourages the full realization of each individual's potential. This mission is promoted by professionalism in the relationships that faculty and staff have with students. These relationships are intended to foster free and open exchange of ideas, productive learning, and the work that supports it.

In addition, those who supervise or evaluate the work of students must be perceived to be making their decisions fairly and without favoritism. This mission is potentially jeopardized when faculty/staff enter into consensual romantic relationships with their students.

Faculty and staff are cautioned that consensual romantic relationships with their students can prove to be unwise and problematic,

and should be avoided. When consensual romantic relationships occur, questions of fairness, favoritism, and coercion arise:

- Such relationships may undermine the real or perceived integrity of the supervision provided, and the particular trust inherent in the student-faculty relationship.
- Relationships in which one party is in a position to review the work, or influence the career of the other may provide grounds for complaint when that relationship appears to give undue access or advantage, restricts opportunities, or creates a hostile and unacceptable environment for others.
- Such relationships may, moreover, be less consensual than the individual whose position confers power believes. The relationship is likely to be perceived in different ways by each of the parties to it, especially in retrospect. While some relationships may begin and remain harmonious, they are susceptible to being characterized as unprofessional and disrespectful to others.

Therefore, faculty/staff should not engage in consensual romantic relationships with their

CURRENT STUDENTS.

If a faculty or staff member has a pre-existing consensual romantic/sexual relationship with a student, the student should be discouraged from enrolling in courses taught by the instructor or entering into work situations in which she/he would be supervised by the staff member. If the student does enroll in the course or work for the staff member, the faculty/staff member should remove him/herself from academic or professional decisions concerning the student.

Should a romantic/sexual relationship between a faculty/staff member and his/her student lead to a sexual harassment charge, the College is obligated to investigate and resolve the charge in accordance with the complaint procedure in the Nonharassment Policy.

CHILDREN ON PCC PROPERTIES

Children are welcome on Portland Community College campuses and properties in appropriate situations and while actively supervised by a parent, guardian, or responsible adult. This policy outlines the College's approach to ensuring that reasonable steps are taken to protect the study and work environment of the College, and the health, safety, and liability issues associated with children on PCC properties.

SCOPE

This policy applies to minor children under the age of 16 who are not officially enrolled in classes or employed by the College. This policy does not apply to organized activities such as attending a registered child care facility, after school care activities, school field trips, and approved programs including, but not limited to, athletic events, theater productions, art programs, and other events targeted to children.

Students under the age of 16 who are officially enrolled, and for whom an authorized Underage Release form is on file with the Admissions Office, have the same rights, responsibilities and privileges of any other student in the classroom and on college properties.

APPLICATION

The College seeks to provide an environment which is conducive to study and work. Children must be actively supervised by their parent, guardian, or responsible adult at all times when they are on college properties.

College staff, faculty and administrators have the responsibility to direct the removal of a child in accordance with section 3.6 of this policy.

UNACCOMPANIED CHILDREN

Due to safety and liability issues, except as otherwise defined in this policy, under no circumstances may unsupervised children be on college properties, including playing, roaming, and occupying campus grounds or buildings.

Any College employee who finds an unaccompanied child on college properties should inform Public Safety of the location of the child.

RESTRICTED AREAS

Children cannot be allowed in areas where their presence is disruptive or where health, safety, and liability risks are identified. Areas in which children are NOT permitted include:

- Testing centers
- Classrooms (when the Instructor determines that the presence of children would be unsuitable)
- Laboratories and laboratory preparation areas
- Scientific, technical and maintenance work spaces
- Fine or performing arts work spaces or studios
- Areas that contain hazardous chemicals, machinery or equipment
- Commercial kitchens and other food preparation areas
- Fitness centers

Other areas may be identified as unsuitable for children as a result of a risk assessment and supervisors of the respective areas are required to inform staff and students of requirements or restrictions.

PCC TRANSPORTATION SERVICES

When children are passengers in any PCC vehicle, including shuttle buses, the operators of these vehicles are not responsible for ensuring that child passengers meet child safety requirements. It is the responsibility of the care provider to ensure that any child accompanying them meet the child safety requirements. Where safety restraints are not available, the care provider will ensure the child is properly seated to minimize possible accident or injury. Failure to conform to these guidelines will result in child and care provider being denied transport (as applicable to ORS 811.210).

RESPONSIBILITY OF THE COLLEGE

- To provide an environment conducive to study and work for all students, staff and visitors.
- To provide a healthy and safe study and work environment for all students, staff and visitors and to comply with legislative requirements.
- To take reasonable steps to assist students, staff and visitors who may have special needs to enable access to facilities and services.

RESPONSIBILITIES OF PEOPLE BRINGING CHILDREN INTO THE COLLEGE

- To take reasonable steps to safeguard the health and safety of the children in their care while on college properties.
- To consider the potential risk to the health and safety of others that may come with bringing children into the College environment and to take reasonable steps to safeguard against those risks.
- To be responsible for the behavior of the children in their care, so as not to disrupt, inconvenience or endanger staff, students or other visitors.

RESPONSIBILITIES OF PCC STAFF AND INSTRUCTORS:

To direct removal of a child in accordance with this policy if:

- The child's health or safety is at risk;
- The child is presenting a health, safety or liability risk to property or others;
- The child's behavior is causing undue disruption to the work of students or staff; or
- The presence of a child is unsuitable.

Instructors are responsible to direct the removal of children from their classroom. In the case of public areas, any member of staff on duty has the authority to direct that children be removed from the area.

Students who wish to appeal a specific situation, or who fail to comply, may follow the Code of Student Conduct hearing process as outlined in the PCC Student Rights and Responsibilities Handbook.

STUDENT PROFILE

Portland Community College serves a total of 88,000 students through credit and noncredit instruction each year. The following reflect characteristics of students enrolled fall 2007.

	Credit	Non-Credit
Average Age	28 years	39 years
Female	57%	62%
Male	43%	38%
Caucasian	74%	71%
African-American	5%	4%
American Indian/ Alaskan Native	1%	1%
Asian, Pacific Islander	9%	9%
Hispanic	7%	13%
International	3%	3%

During the fall semester of 2004, 1,108 first time, fulltime, certificate or degree seeking students entered PCC. After three years, 9.3% of these students had graduated from PCC and 20.7% had transferred to other higher education institutions.

EQUAL OPPORTUNITY STATEMENT

NONDISCRIMINATION

Portland Community College does not discriminate on the basis of race, color, religion, national origin, sex, veteran status, age, or disability. The college complies with the Civil Right Act of 1964 (as amended), related Executive Orders 11246 and 11375, Title IX of the Education Amendments Act of 1972, Sections 503 and 504 of the Rehabilitation Act of 1973, Section 402 of the Vietnam Era Veteran's Readjustment Act of 1974 and all civil rights laws of the City of Portland and the State of Oregon. Accordingly, equal opportunity for employment, admission, and participation in the college's benefit and services shall be extended to all persons, and the college shall promote equal opportunity and treatment through a positive and continuing affirmative action plan.

Unlawful discrimination by race, color, religion, age, sex, national origin, marital status, physical or mental disability, creed, sexual orientation, height/weight ratio, organizational affiliation, or political affiliation shall not exist in any area, activity or operation of the district.

Director, Affirmative Action: Sylvia E. Welch, CA SSB 301,

503.978.5841

District Section 504 Coordinator: Maria Mendez, CA SSB 300, 503.978.5851

Title IX Coordinator: Dick Magruder, CA PE 101, 503.978.5513

CORE OUTCOMES

COMMUNICATION

Graduates of Portland Community College should be able to communicate effectively by determining the purpose of communication; analyzing audience and context to use appropriate language and modality; and by responding to feedback to achieve clarity, coherence and effectiveness.

COMMUNITY AND ENVIRONMENTAL RESPONSIBILITY

Graduates of Portland Community College should be able to apply scientific, cultural and political perspectives in understanding the natural and social world and in addressing the consequences of human activity both globally and locally by demonstrating an understanding of social change and social action.

CRITICAL THINKING AND PROBLEM SOLVING

Graduates of Portland Community College should be able to think critically and creatively solve problems by understanding and using various methods of reasoning and evaluating information.

CULTURAL AWARENESS

Graduates of Portland Community College should be able to demonstrate an understanding of the varieties of human cultures, perspectives and forms of expressions as well as their own culture's complexities.

PROFESSIONAL COMPETENCE

Graduates of Portland Community College should demonstrate mastery in a discipline or profession at a level appropriate to program and transfer requirements through the application of concepts, skills, processes and technology in the performance of authentic tasks that enhance community involvement and employability.

SELF-REFLECTION

Graduates of Portland Community College should be self-appraising in applying the knowledge and skills they have learned, examining and evaluating personal beliefs and comparing them with the beliefs of others.

AAS DEGREE AND CERTIFICATES

OUTCOMES

Please see: www.pcc.edu/resources/academic/degree-outcome/index.html

PORTLAND COMMUNITY COLLEGE

Portland Community College is the largest institution of higher learning in Oregon, serving more than 900,000 residents in a five-county, 1,500 square mile area in northwest Oregon. The district includes the state's largest city, Portland, and the most rapidly growing population areas in the state. PCC enrolls close to 88,000 students annually.

The college is governed by a seven-member board of directors, elected by zones for four-year terms. The board selects the president and approves the hiring of other staff and faculty, approves the college budget and establishes policies which govern the operation of the college.

They meet monthly, usually on the third Thursday. For meeting information, call 503-977-4334.

COLLEGE HISTORY

Portland Community College began as the adult education program of the Portland Public Schools. On May 15, 1961, the school district established the college as a separately operating entity. Because the college included students from many areas outside the Portland school district, in 1965 the school board appointed an advisory council to supervise the college and to give representation to areas beyond the school district boundaries.

As the advisory council and the school board developed programs and plans for the rapidly growing college, it became evident that the college needed to be a separate governmental unit with its own elected board to represent the areas from which students came.

In 1968, voters of the five-county area approved the formation of a new college district named the "Metropolitan Area Education District." It included the school districts of Portland, Sauvie Island and Riverdale in Multnomah County; Lake Oswego in Clackamas County; St. Helens, Scappoose and Vernonia school districts in Columbia County; Newberg school district in Yamhill County and all of Washington County. At this time the voters also elected the first college board of directors and approved a tax base, providing the college with funds for the local share of operation and building construction. In 1971, the name of the district was changed to "Portland Community College District."

District residents showed continuing support for their college in 1980, and again in 1986 as they voted to increase the PCC tax base. Enrollment growth of 25 percent since 1986 led voters to approve a $61.4 million bond measure in 1992 to expand facilities at all campuses, and repair and upgrade existing buildings. In 2000, voters approved another bond measure for $144 million.

As a result of the bond measure, the college opened new buildings at all three comprehensive campuses in 2003 and 2004, and built a new Southeast Center on SE 82nd and Division in January 2004. Dr. Preston Pulliams was hired as PCC's fifth president in 2004.

PCC CAMPUSES

The college has three comprehensive campuses which provide lower-division college transfer courses, two-year associate degree programs, and career/technical training programs. The Extended Learning Campus provides adult basic education, job training and retraining, small business development and life enrichment courses for residents in more than 200 district locations. Campuses and centers are strategically located throughout the district to be within easy access of residents.

Cascade Campus
Campus President: Dr. Algie Gatewood
705 N Killingsworth
Portland, Oregon, 97217

PCC's Cascade Campus is located in the urban heart of the city of Portland and serves about 6,600 students each year. Its neighborhood is diverse, lively and close-knit. The campus offers a full array of educational offerings, including the first two years of the university courses where students can earn an associate degree and 27 career/technical degree and certificate offerings.

Rock Creek Campus
Campus President: Dr. Katherine Persson
17705 NW Springville Road
Portland, Oregon, 97229-1744

While Rock Creek has a Portland address, it sits about 12 miles west of downtown in the rapidly growing Beaverton-Hillsboro area of Washington County. The 256-acre campus provides a beautiful setting for both college transfer and career/technical programs and annually serves 8,600 students. The campus provides a model for partnerships with area high schools. A new Science and Technology building houses classroom and laboratory instruction.

Sylvania Campus
Campus President: Dr. Linda Gerber
12000 SW 49th Avenue
Portland, Oregon, 97219-7132

Sylvania is located in suburban Southwest Portland between Lake Oswego, Tigard and downtown Portland. It is the largest campus, serving more than 26,000 students annually and is home for numerous PCC programs. Sylvania provides college transfer, career/technical and developmental education. The library and theater facilities are a focal point of the campus.

Hillsboro Education Center
102 SW Washington Street
Hillsboro, OR 97123
503-615-6801

www.pcc.edu/hec

Located in downtown Hillsboro, the center houses four classrooms with state-of-the-art audio/visual equipment and a 30-station computer lab.

Classes are offered mornings, afternoons, evenings and Saturdays. A variety of transfer courses are offered along with classes in computers and graphic design. Pre-college reading, writing and math are also offered. English for Speakers of Other Languages (ESOL) classes are scheduled year round.

Academic advising and placement testing are available during normal business hours.

Extended Learning Campus
Campus President: Dr. Nan Poppe
2305 SE 82nd
Portland, Oregon 97216

PCC's Extended Learning Campus (ELC) serves students districtwide by offering a wide variety of programs at locations throughout the PCC service district. The programs include credit transfer programs, Workforce Training and Development, Adult Basic Skills, English for Speakers of Other Languages (ESOL), Community Education, Career Pathways and alternative high school programs.

The ELC has four main sites:

Southeast Center
2305 SE 82nd and Division
Portland, Oregon 97216

The center serves as the hub for all Extended Learning Campus programs. Students at this site can complete the first year of a college transfer degree and courses range from art, history, writing and math, to business administration, economics and general science. Career technical programs in Management and Supervisory Development and Occupational Skills are also offered. Other programs include alternative high school programs, Gateway to College, Adult Basic Skills (ABE, GED, ESL) and the Regional Dislocated Workers Program.

A variety of Community Education activities and courses take place in the dance studio, fitness center, ceramics studio and photography darkroom.

The Central Portland Workforce Training Center
1626 SE Water Avenue
Portland, Oregon 97214-3336

This center houses the Institute for Health Professionals, which provides continuing education for professionals in a variety of health related fields. An array of Community Education courses are also offered at this downtown location. Other programs and courses include continuing education in computer training and vendor certification, Small Business Development courses, English for Speakers of Other Languages (ESOL) and the Senior Studies Institute.

Washington County Workforce Training Center
18624 NW Walker Road

(in the CAPITAL Center complex)
Beaverton Oregon 97006

The Washington County Workforce Training Center, part of the CAPITAL Center, provides a one-stop system for training and employment services for unemployed workers. The center, situated in Washington County, provides a variety of short-term training, including computer classes, Community Education, customized courses for industry, professional development and small business counseling

Portland Metropolitan Workforce Training Center
5600 NE 42nd
Portland, Oregon 97218

The Portland Metropolitan Workforce Training Center is located in urban northeast Portland and primarily houses Workforce Network, a department of professionals committed to finding solutions to optimize workforce performance. Workforce Network specializes in helping businesses meet human resources needs and job seekers with career development.

The programs of Workforce Network including Steps to Success, Dislocated Worker and Metro One Stop, provide a comprehensive array of employment and training. Instruction is available in Adult Basic Education; English for Speakers of Other Languages, job readiness preparation; job development; short-term training; internships; alcohol and drug/mental health assessment and referral and computer education. The center also provides Gateway to College and Community Education classes.

PCC CONTRACTED EDUCATIONAL SERVICE DISTRICTS:

Tillamook Bay Community College
2510 First Avenue
Tillamook, Oregon 97141
503-842-8222

Columbia Gorge Community College
400 E Scenic Drive
The Dalles, Oregon 97058
541-296-6182

ACCREDITATION

Portland Community College is accredited by the Northwest Commission on Colleges and Universities, the accrediting agency for this region. Many programs within the college have accreditation from professional associations. Documents describing Portland Community College's accreditation and licensing are available for review in the college library. Information regarding accreditation from professional associations may be obtained by contacting the department chairperson of the individual program.

The PCC Foundation
503-977-4382

www.pcc.edu/about/foundation

"Enhancing Lives and Strengthening Communities"

Created in 1982, the PCC Foundation encourages private support to enrich PCC's educational programs, promote staff and faculty excellence and provide scholarships and emergency aid to students. Following the values of ethical stewardship, accessible education, community involvement and inclusiveness, the Founda-

tion serves as the college's primary advocate to the community. It is led by a volunteer board of trustees that represents a wide range of business and community interests. The Foundation manages close to 300 named funds and endowments created from private contributions, events, bequests and grants.

Endowment as of May 1, 2007: $2.4 million. A total of 307 scholarships were awarded for the 2006-07 year.

BOARD OF TRUSTEES

Peter Bauer, President

Betty Duvall, Vice President

Cheryl Burgermeister, Secretary and Treasurer

Ron Wilkinson, past President

Ella Booth

Thane Cleland

Tom Fahey

Michael J. Gentry

Norma Jean Germond

Jim Harper, ex-officio

Ken Madden

Matt Morton

Vanessa Nelson

Sarah Petrone

Harvey Platt

Preston Pulliams, ex-officio

Barbara Raz

Mary Savage

Jeff Van Radan

Kristin Watkins, ex-officio

Alex Zatarain

PCC is committed to offering instruction providing students with the opportunity for self-improvement, entry level employment skills and to complete the first two years of a baccalaureate degree. The following prefixes describe the primary intent of the courses offered:

SUPPORT COURSES

ALC: Alternative Learning Center 163
DE: Developmental Education 187
ESOL: English for Speakers of Other Languages 199

CAREER TECHNICAL COURSES*

AB: Auto Collision Repair Technology 162
AD: Alcohol and Drug Counselor 162
AM: Automotive Service Technology 164
AMT: Aviation Maintenance Technology 164
APR: Apprenticeship 166
ARCH: Architectural Design and Drafting 167
ASEP: Automotive Service Educational Program 170
AVS: Aviation Science 172
BA: Business Administration *(only 141)* 173
BCT: Building Construction Technology 174
BIT: Bioscience 177
CAS: Computer Applications 178
CIS: Computer Information Systems *(except 120, 121, 122)* 181
CJA: Criminal Justice *(only 230, 244)* 183
CMET: Civil and Mechanical Engineering Technology 185
DA: Dental Assisting 187
DH: Dental Hygiene 188
DRF: Drafting Technology and Design 188
DS: Diesel Service Technology 189
DST: Dealer Service Technician 189
DT: Dental Technology 190
ECE: Early Education and Family Studies 191
ED: Education *(only 101-105, 109, 111-116, 151, 171, 260, 290)* 193
EET: Electronic Engineering Technology 194
ELT: Electrical Trades 195
EM: Emergency Management 196
EMT: Emergency Medical Technician 197
ETC: Emergency Telecommunicator/911 Dispatcher 202
FMT: Facilities Maintenance Technology 203
FN: Foods and Nutrition *(except 225, 270)* 203
FP: Fire Protection 203
FT: Fitness Technology 207
GD: Graphic Design 208
GRN: Gerontology 211
HEC: Consumer and Family Studies *(except 226, 250, 280A)* 212
HIM: Health Information Management 213
HR: Culinary Assistant 214
ID: Interior Design 215
INSP: Building Inspection Technology 216
ITP: Sign Language Interpretation 217
LA: Paralegal 219
LAT: Landscape Technology 220
MA: Medical Assisting 221
MCH: Machine Manufacturing Technology 221
MLT: Medical Laboratory Technology 224
MM: Multimedia 225
MP: Medical Professions 226
MRI: Magnetic Resonance Imaging 226
MSD: Management & Supervisory Development 227
MT: Microelectronic Technology 230
MUC: Professional Music 233
NUR: Nursing 236
OMT: Ophthalmic Medical Technology 237
OS: Office Systems 238
PST: Occupational Skills Training 243
RAD: Radiography 243
RE: Real Estate 245
VT: Veterinary Technology 251
WLD: Welding Technology 252

*Many professional and technical courses are applicable to the baccalaureate degree. Check with the BA-granting institution.

LOWER DIVISION COLLEGIATE COURSES
(only course numbers 100-299 are LDC at PCC)

ART: Art 168
ASL: American Sign Language 170
ATH: Anthropology 171
BA: Business Administration** *(except 141)* 173
BI: Biology** 176
CG: Counseling and Guidance** *(except 101, 102)* 180
CH: Chemistry 181
CHLA: Chicano/Latino Studies 181
CIS: Computer Information Systems *(only 120, 121, 122)* 181
CJA: Criminal Justice *(except 230, 244)* 183
CS: Computer Science 186
CSS: Crop Soil Science 186

D: Dance 186
EC: Economics 190
ED: Education** *(only 121-126, 129-136, 200-258, 268-281, 292-298E)* 193
ENG: English 197
ENGR: Engineering 199
ESOL: English for Speakers of Other Languages 199
ESR: Environmental Studies 201
FN: Foods and Nutrition *(only 225 and 270)* 203
FR: French 205
G: Geology 208
GEO: Geography 209
GER: German 209
GS: General Science 212
HE: Health 212
HEC: Consumer & Family Studies *(only 226, 250, 280A)* 212
HOR: Horticulture 213
HPE: Health and Physical Education 213
HST: History 214
HUM: Humanities 215
J: Journalism 217
JPN: Japanese 218
MTH: Mathematics** 230
MUP: Applied Music 234
MUS: Music 235
PE: Physical Education *(exclude PE 10)* 238
PHL: Philosophy 241
PHY: Physics 242
PS: Political Science 242
PSY: Psychology 243
R: Religious Studies 243
RD: Reading** (RD 116, RD 115) 245
RUS: Russian 246
SOC: Sociology 247
SP: Speech 248
SPA: Spanish 249
TA: Theatre Arts 250
WR: Writing** 254
WS: Women's Studies 256

** A number below 100 indicates a support course and a number above 299 indicates a vocational supplementary course. These courses are not usually transferable

Auto Collision Repair Technology

AB 100 Autobody Basic Skills 12.00: Introduces oxy-acetylene welding, use of hand tools, equipment, and procedures in replacing and aligning auto body components including the use of MIG welders in auto body repair. Develops skills in repair of auto body metals. Discusses damage analysis and how dents are reshaped to original contours.

AB 101 AB Basic Skills I 6.00: Introduces oxy-acetylene welding, use and care of hand tools and shop equipment, types and placement of currently used auto body steels, type of construction and repair procedures including procedures used in replacing and aligning hoods, fenders and other body components.

AB 102 AB Basic Skills II 6.00: Develops skills in use of and maintenance of MIG welders as applied to auto body repair. Develops skills in repair of auto body metals. Damage analysis is discussed and small dents are reshaped to the original contour of the auto body panel. AB 103 Panel Repair I Panel Repair I Develops skills in repair of small dents. Safe use of grinders, sanders, and assorted hand tools will be practiced. Paint preparation also discussed. Prerequisites: AB 101, AB 102.

AB 104 Panel Repair II 6.00: Develop skills in repair of damaged panels on program and customer vehicles. Safe use of grinders, sanders, and assorted hand tools will be practiced. Prerequisites: AB 101, AB 102. AB 105 Frame Analysis & Repair Frame Analysis & Repair Covers structural misalignment analysis, use of measuring systems, structural repair procedures, and wheel alignment. Prerequisites: AB 100 or AB 101 and AB 102.

AB 106 Panel Repair 12.00: Develop skills in repair of practice panels, school owned vehicles, and customer cars. Safe use of grinders, sanders, assorted hand tools, and pulling equipment will be applied and practiced. Paint fundamentals, preparation, and application will be discussed.

AB 110 Auto Painting IA 6.00: Introduces care and use of all paint equipment, shop safety and surface preparation for solid color materials. Emphasizes urethane undercoats, spot repair, color matching, and blending with urethane base coat. Covers masking techniques.

AB 111 Auto Painting IB 6.00: Introduces care and use of all paint equipment, shop safety and surface preparation for metallic color materials. Emphasizes urethane undercoat, spot repair, color matching, and blending with urethane base coat. Covers masking techniques.

AB 112 Auto Painting IIA 6.00: Introduces safe use of solid color enamel and single stage urethane systems. Emphasizes spot repair, color matching and blending. Covers surface preparation and proper masking techniques for these products.

AB 113 Auto Painting IIB 6.00: Introduces safe use of metallic enamel and single stage metallic urethane systems. Emphasizes spot repair, color matching and blending. Covers surface preparation and proper masking techniques for these products.

AB 114 Auto Painting IIIA 6.00: Introduces safe use of Base coat/Clear coat, Pearl coat, and Tri-coat urethane systems. Emphasizes spot repair, color matching and blending. Covers surface preparation and proper masking techniques for these products.

AB 115 Auto Painting IIIB 6.00: Review and practice all previously learned painting skills on customer and school-owned cars.

AB 116 Auto Painting I 12.00: Develops knowledge and skills in care and use of all painting equipment, shop safety, conservation of materials, surface preparation for application of paint, application techniques, color matching and basic taping techniques.

AB 117 Auto Painting II 12.00: Introduces safe use of single stage urethane, advanced masking techniques, small dent repair and detailing. Review and practice of all previously learned painting skills on customer and school owned cars. Prerequisite: AB 116.

AB 118 Auto Painting III 12.00: Introduces safe use of pearl and tri-coat urethane base coat/clear coat systems. Emphasizes spot repair, color matching, blending and plastic part refinishing. Covers surface preparation and proper masking techniques for these products. Prerequisites: AB 116, 117.

AB 121 Estimating 3.00: Damage appraisal relating to collision repair and use of crash estimating guides are applied to major and minor vehicle damage.

AB 201 Panel Replacement 12.00: Covers replacing new and used weld-on panels, such as rocker panels, quarter panels and rear body panels. Includes preparation and installation of cosmetic and structural weld-on panels.

AB 205 Technical Skills and Collision Repair 12.00: Develops knowledge and manipulation skills required for the complete repair of a collision damaged vehicle by understanding and testing the safety and comfort features found on current vehicles. Prerequisites: AB 100, 105, 106 and 201.

AB 280A CE / Auto Body 1.00–10.00: Focuses on demonstrating knowledge of auto body repair. Observe and obtain hands-on experience matching their learning objectives. Credits are determined by total clock hours spent on site during the term. Must be coordinated with supervisor, instructor and cooperative education specialist. Department permission required.

AB 280B CE / Auto Body Repair - Seminar 1.00–2.00: Provides opportunity to share work experiences and receive feedback from students and instructors. Department permission required.

AB 9120 Auto Body Restoration 3.00: Develops knowledge and manipulation skills required for vehicle restoration by understanding the processes used in welding, metal forming and finishing, rust repair, and panel alignment.

AB 9121 Vintage Auto Restor Process 2.00: Introduces restoration of antique and vintage automobiles. Develops knowledge in the process of researching, purchasing, and restoring all components pertaining to vintage vehicles.

Alcohol and Drug Counselor

AD 101 Alcohol Use and Addiction: 3.00: Basic overview of addiction with emphasis on alcohol addiction. Considers physiology, psychology, treatment, prevention, recovery and relapse. Required for students wishing to enter the Alcohol and Drug Counselor Program. AD 102 Drug Use and Addiction Drug Use and Addiction Considers current drug use and psychological/behavioral aspects of client misuse or addiction. Includes drug chemistry, physiological effects of drug use upon the body and specific treatment formats and techniques.

AD 103 Women and Addiction 3.00: Investigates patterns of alcohol and drug use and abuse by women in our society. Explores models of treatment and recovery specific to the needs of women and the relationship of substance abuse to social issues.

AD 104 Multicultural Counseling 3.00: Focuses on diversity of populations using addiction counseling services. Emphasizes developing sensitivity to relevant cultural differences and building skills in addressing them.

AD 105 Aging & Addiction 3.00: Covers drug and alcohol addiction among older adults, including prescription and other drugs and alcohol, used either along or in combination. As tolerance to the effects of alcohol and other drugs decline, aging adults have higher risk factors. Addresses issues specific to aging, including late onset addiction, effects of use on performance of activities of daily living, treatment issues and co-occuring disorders such as depression or other chronic illnesses. A multicultural perspective is used, including the role of social class and gender issues.

AD 150 Basic Counseling and Addiction 3.00: Introduces basic skills required for establishing an effective professional helping relationship. Emphasizes in-class practice and feedback. Prerequisite: AD 101. Prerequisite/concurrent: WR 122.

AD 151 Basic Counsel Skills Mastery 1.00: Provides an opportunity to demonstrate a minimum level of facilitative skills required for initial practicum placement. Demonstrate mastery in responding to client behavior, content, feelings and meaning, through in-class practice and videotape review. Offered on a pass/no pass basis only. Prerequisite: AD 101. Prerequisite/concurrent: WR 122.

AD 152 Group Counsel and Addiction 3.00: Provides exposure to the concepts of group process, group development and leader facilitation skills. Special emphasis on group therapy and the addiction counselor. Prerequisite: AD 101. Prerequisite/concurrent: WR 122.

AD 153 Theories of Counseling 3.00: Basic theories of counseling, emphasizing treatment of addiction. Developmental model of recovery is used as a basis for discussion and comparison of the various theories. Prerequisite: AD 101.

AD 154 Client Record Management and Addiction 3.00: Provides the student the knowledge and skills needed to plan treatment and manage client records. Explores methods for making decisions regard-

ing goals and objectives to be reached by clients during and after treatment. Covers all aspects of client record management including federal and state regulations and American Society of Addiction Medicine (ASAM) placement criteria. Prerequisite: AD 101. Prerequisite/ concurrent: WR 122.

AD 155 Motivational Interviewing & Addiction 3.00: Designed to facilitate the acquisition of motivational interviewing counseling skills as applied to the arena of addiction counseling. Prerequisites: AD 101, AD 150, AD 151, WR 121. Prerequisite or concurrent: WR 122.

AD 156 Ethical and Professional Issues 3.00: Covers ethical and legal issues relevant to the alcohol and drug counselor. Prerequisite: AD 101. Prerequisite/ concurrent: WR 122.

AD 184 Men & Addiction 3.00: Provides an in-depth view of the biological, cultural, and sociological origins of male roles and behavior and explore the implications of this for understanding mental health, sexuality, addiction, and criminal behavior of men. Course develops a framework for the essential elements of gender-specific treatment for boys and men.

AD 201 Families and Addiction 3.00: A comprehensive survey of all topics related to family work, from intervention to recovery, covering the scope of family work with a special population of families impacted by addiction, whether current or intergenerational. Covers the initial contact with a family, defining and describing all of the possible dynamics, needs and interventions defined in current literature. Prerequisite: AD 101.

AD 211 Alcohol & Drug: Special Studies 1.00: Not required for degree and may not be substituted for any required program courses.

AD 212 Alcohol & Drug: Special Studies 2.00: Not required for degree and may not be substituted for any required program courses.

AD 213 Alcohol & Drug: Special Studies 3.00: Not required for degree and may not be substituted for any required program courses.

AD 241 Prevention Theory and Practice 3.00: Provides knowledge of prevention basics including history, Risk/Protective Factors, research-based best practices, the prevention continuum of care, resiliency and assets. Builds skills in identifying community needs and planning comprehensive prevention programs. Includes professional responsibilities, scope of practice, cultural factors and ethics. Explores and evaluates alcohol, tobacco and other drug curriculums. Investigates how to match programs to target audiences.

AD 242 Community Organization3.00: Provides knowledge of comprehensive community prevention planning. Focuses on developing competencies in effective planning, program design, evaluation and grant administration. Develops capacity to review and apply current research and integrate research-based best practices into planning and evaluation. Emphasizes skills needed to work with diversity.

AD 243 Planning & Evaluating Outcomes 3.00: Explores methods of influencing public policy. Shows how to apply current research to advocacy efforts. Demonstrates ways to communicate credible evaluation results to policy makers, funding sources and the media. Considers how to advocate for prevention resources and include research based best practices.

AD 250 Advanced Counseling and Addiction 3.00: Designed to enhance the professional knowledge and skills of counselors preparing to enter the field. It focuses on current evidence-based practice/best practice models in addiction counseling, integrating a variety of conceptual theories into a comprehensive framework for human behavior, addiction, and change. Prerequisites: AD 101, AD 150, AD 151, WR 121. Prerequisite or concurrent: WR 122. Co-requisite: AD 251.

AD 251 Advanced Counseling Skills Mastery 1.00: Focuses on increasing counselor empathy and communication skills. Demonstrate skills through in-class practice and videotape review. Offered on a pass/no pass basis only. Co-requisite: AD 250.

AD 255 Multiple Diagnoses 3.00: Covers assessment of chemical dependency clients for communicable diseases and co-existing mental disorders, effective intervention, and referral of clients to optimum resources for resolving coexisting diagnoses. Develops clear ethical guidelines for alcohol and drug counselors practicing within an area of competence. Prerequisites: AD 101, AD 102, AD 151, WR 121. Prerequisite or concurrent: WR 122, PSY 239.

AD 278 Practicum Preparation 1.00: Provides student with the opportunity to demonstrate facility with the documentation required for the A/D practicum course, and develop an individualized plan for success in practicum. Prerequisite/Concurrent: AD 101, 102, 150, 151, 156, and WR 121.

AD 280A Practicum: Addiction 1.00–6.00: Field placement in an addiction counseling or DUII educational facility. Students are required to complete a minimum of two six month placements for a total of 18 credits. Prerequisites: AD 102, 150, 151, 152, 153, 154, 155, 156. Corequisite: AD 280B.AD 280B Practicum: Addiction-Seminar Practicum: Addiction - Seminar Focuses on the integration and synthesis of academic preparation with "real world" addiction counseling experience. Includes consideration of counselor self-care, healthy work practice, professional ethics and ongoing professional development. Corequisite: AD 280A.

AD 280C CE / Prevention Practicum 3.00: Works with a prevention professional mentor to achieve knowledge of Addiction Counselor Certification Board of Oregon (ACCBO), Alcohol, Tobacco and Other Drug Abuse Prevention Domains. Learns professional responsibilities and growth, cultural sensitivity and ethics. Prerequisites: AD 101, AD 102, AD 241, AD 242, WR 121. Prerequisite or concurrent: WR 122. Corequisite: AD 280D. Students must document two years of not abusing alcohol and other drugs, and pass the criminal history check as outlined in ACCBO Certified Prevention Specialist certification standards, and department approval.

AD 280D CE / Prevent Practicum: Seminar 2.00: Focuses on prevention specialist's supervised learning experience including professional growth and responsibility, prevention specialist ethics, five professional domains of prevention, and integration of academic preparation with "real world" experience. Prerequisite: AD 101, AD 102, AD 241, AD 242, WR 121. Prerequisite or concurrent: WR 122. Corequisite: AD 280C. Student must document two years of not abusing alcohol and other drugs, and pass the criminal history check as outlined in ACCBO Certified Prevention Specialist certification standards, and department approval.

Alternative Learning Center

ALC 50 Basic English Skills Lab 1.00: Self-paced, individualized reading, writing and English instruction in lab setting. Content varies depending upon interest and diagnosed needs. May include computer-assisted instruction, tutoring, use of textbook-workbook for assignments and other media.

ALC 51 Basic English Skills Lab 1.00: Self-paced, individualized reading, writing instruction in lab setting. Content varies depending upon interest and diagnosed needs. May include computer assisted or small group instruction; tutoring; textbook/workbook assignments; or audio/video. May be taken three times. Prerequisite: Placement into WR 80, RD 80, ESOL 250 or ESOL 252.

ALC 52 Basic English Skills Lab 2.00: Self-paced, individualized reading and writing instruction in lab setting. Content varies depending upon interest and diagnosed needs. May include computer assisted or small group instruction; tutoring; textbook/workbook assignments; or audio/video. May be taken three times. Prerequisite: Placement into WR 80, RD 80, ESOL 250 or ESOL 252.

ALC 53 Basic English Skills Lab 3.00: Self-paced, individualized reading and writing instruction in lab setting. Content varies depending upon interest and diagnosed needs. May include computer-assisted or small group instruction; tutoring; textbook-workbook assignments; or audio/video. May be taken three times. Prerequisites: Placement into WR 80, RD 80, ESOL 250, or ESOL 252.

ALC 55 Basic Study Skills Lab 3.00: Self-paced, individualized study skills instruction in lab setting. Topics may include notetaking, time management, concentration and memory, reading texts, test taking, self advocacy and PCC resources.

ALC 56 Basic Study Skills Lab 0.5: Self-paced, individualized study skills instruction in lab setting. Topics may include notetaking, time management, concentration and memory, reading texts, test taking, self advocacy and PCC resources. ALC 60 Basic Math Skills Lab Basic Math Skills Lab In conjunction with the instructor, students choose a limited number of topics in Arithmetic (MTH 20) and/or Introductory Algebra (MTH 60 and 65) to review over the course of one term. Instruction and evaluation are computer-based and self-guided. Completion of this course does not meet prerequisite requirements for other math courses.

ALC 61 Basic Math Skills Lab 1.00: In conjunction with the instructor, students choose a limited number of topics in Arithmetic (MTH 20) and/or Introductory Algebra (MTH 60 and 65) to review over the course of one term. Instruction and evaluation are computer-based

and self-guided. Students must spend a minimum of 30 hours in the lab. Completion of this course does not meet prerequisite requirements for other math courses.

ALC 62 Basic Math Skills Lab 2.00: In conjunction with the instructor, students choose a limited number of topics in Arithmetic (MTH 20) and/or Introductory Algebra (MTH 60 and 65) to review over the course of one term. Instruction and evaluation are computer-based and self-guided. Students must spend a minimum of 60 hours in the lab. Completion of this course does not meet prerequisite requirements for other math courses.

ALC 63 Basic Math Skills Lab 3.00: In conjunction with the instructor, students choose a limited number of topics in Arithmetic (MTH 20) and/or Introductory Algebra (MTH 60 and 65) to review over the course of one term. Instruction and evaluation are computer-based and self-guided. Students must spend a minimum of 90 hours in the lab. Completion of this course does not meet prerequisite requirements for other math courses.

ALC 70 Technical Math Support 2.00: Supports existing math courses by providing an opportunity for students to develop and refine beginning math skills applicable to many technical programs. It provides practical exercises in arithmetic, geometry, measurement skills, problem-solving techniques and calculator functions with emphasis on applying functional math to the work world. Prerequisites: Pre-Algebra COMPASS score 21-48 or successful completion of MTH 10 or MTH 11 with a "C" or better and Reading COMPASS score 44-65 or successful completion of RD 80 or ESOL 250 with a "C" or better.

Automotive Service Technology

AM 101 Unit 1 — Engine Repair I 4.00: Studies basic theory, design and operation of automotive engines. Engine components are covered in detail including purpose, inspection and repair. Disassemble and reassemble school owned engines to gain experience in hand tool use and proper engine repair and evaluation procedures. Compression and leakage tests are included. Prerequisite: AM 108.

AM 102 Unit 2 — Electrical Systems I 4.00: Covers electrical theory, schematic symbols, battery and starter theory, operation, diagnosis and repair.

AM 103 Unit 3 — Engine Performance I 4.00: Covers use of automotive scan tools, operation and testing electronic ignition systems, ignition secondary oscilloscope patterns, electronic advance, engine knock control systems, basic timing adjustment and distributor removal and replacement. Prerequisites: AM 108, 101, 102, 112.

AM 104 Unit 4 — Steering and Suspension Systems I 4.00: Covers basic principles of steering, suspension and wheel alignment for passenger cars and light duty trucks. Familiarization with tire construction, types and sizing. Practice disassembly and re-assembly of steering and suspension system components. Familiarization and practice in using computerized 4-wheel-alignment equipment and tire balancing machines. Prerequisites: AM 108 and 102.

AM 105 Unit 5 — Brake Systems I 4.00: Studies principles of automotive brake systems. Practice disassembly/assembly of system components using school owned equipment. Includes proper measuring and machining of brake drums and discs. Prerequisites: AM 108, 102.

AM 106 Unit 6 — Heating and Air Conditioning Systems 4.00: Covers theory, operation and repair of automotive heating and air conditioning systems. Work on approved customer automobiles. Includes testing and repair of electrical and vacuum circuits. Prerequisites: AM 108, AM 102, AM 101 and AM 112.

AM 107 Unit 7 — Manual Drive Train and Axles I 4.00: Introduces various designs of manual transmissions and transaxles and to the driveline components of an automobile. Each component is covered in detail including purpose, application, operation, inspection, diagnosis and repair. Disassemble, inspect and assemble school owned units to obtain hands-on experience and familiarization. Prerequisite: AM 108.

AM 108 Unit 8 — Introduction to Automotive Systems I 4.00: Orientation to PCC Automotive Service Technology program. Introduces automotive tools, fasteners, precision measurement, service manuals and shop procedures. Perform basic automotive service and inspection procedures. Includes the practical application of mathematics for the automotive trade.

AM 112 Unit 12 — Electrical II 4.00: Read schematics and work on charging systems and accessories. Prerequisites: AM 108, 102.

AM 113 Unit 13 — Engine Performance II 4.00: Study the causes of air pollution, the use of the five gas analyzer, air injection systems, catalytic converters, crankcase ventilation systems, evaporation control systems and federal and state emission control laws. Prerequisite: AM 108, AM 101, AM 102, AM 103 and AM 112.

AM 114 Unit 14 — Steering and Suspension Systems II 4.00: The capstone class in a 2-class sequence covering steering system service, suspension system service and 4-wheel alignment. Practice learned skills repairing real steering, suspension and wheel alignment problems. Jobs assigned by instructor, drawing from a pool of customer vehicles, or school owned vehicles. Prerequisites: AM 108, 102, 104.

AM 115 Unit 15 — Brake Systems II 4.00: Brake diagnosis and repair of base brakes and anti-lock systems in a laboratory/shop setting. Covers how to do complete brake inspections and determine what repairs are needed. Ordering parts and completing repairs under close instructor supervision. Prerequisites: AM 108, 102, 105.

AM 117 Unit 17 — Manual Drive Train and Axles II 4.00: Work on approved customer automobiles diagnosing and servicing components of standard transmissions/transaxles. Provides realistic understanding of procedures which take place in an automotive repair facility each day. Prerequisites: AM 108, 107.

AM 122 Unit 22 — Electrical III 4.00: Work on approved automobiles and study how to diagnose electrical problems, read schematics, use test equipment, perform satisfactory wire connections, test, repair, and/or replace electrical units. Prerequisites: AM 102, 108 and 112.

AM 123 Unit 23 — Engine Performance III 4.00: Study the operation, servicing and testing of electronic fuel injection systems, on board diagnostics I and II, idle control systems. Students will diagnose failed fuel injection vehicles. Prerequisites: AM 108, AM 101, AM 102, AM 103, AM 113 and AM 112.

AM 125 25 — Brake Systems III 4.00: Work on approved customer automobiles to diagnose customer complaints, analyze costs, repair and/or replace faulty brakes or related parts and use safety check sheets. Prerequisites: AM 108, 102, 105, 115.

AM 127 Unit 27 — Automatic Transmission/ Transaxle I 4.00: Work on automatic transmissions/transaxles and study how to trace the power flow, diagnose problems, disassemble, inspect and evaluate, clean and layout components. Reassemble and adjust transmission, and test the unit for its proper operation. Prerequisites: AM 108, 102.

AM 133 Unit 33 — Engine Performance IV 4.00: Continuation of Unit 23. Prerequisites: AM 108, AM 101, AM 102, AM 103, AM 113, AM 123 and AM 112.

AM 137 Unit 37 — Automatic Transmission/ Transaxle II 4.00: Work on approved customer automobiles diagnosing and servicing components of the automatic transmission/transaxle. Provides specific understanding of shop procedures that take place in an automotive repair facility. Prerequisites: AM 108, 102, 127.

AM 143 Unit 43 — Engine Performance 5 4.00: Work on approved customer vehicles and perform maintenance and/or drivability hands on work much the same as would be done in the repair industry. Prerequisites: AM 108, 101, 102, 103, 113, 123, 133.

AM 153 Unit 53 — Engine Performance VI 4.00: Continuation of AM 143. Prerequisites: AM 108, 101, 102, 103, 113, 123, 133, 143.

AM 280A CE / Automotive Service Cooperative Education 1.00–12.00: Work outside of the classroom at a job performing diagnostic and repair work under the supervision of a professional automotive technician. Department permission required.

Aviation Maintenance Technology

AMT 101 Introduction to A&P (Airframe & Powerplant) 1.00: Familiarization with aviation maintenance technology, including: program requirements, safety, aircraft and engines, general-purpose common hand tools, work ethics and career opportunities. This course is a prerequisite for all other AMT courses.

AMT 102 Aircraft Electricity I 4.00: Includes basic electrical theory, interpretation of electrical schematics, principles of component operation, and alternating current theory. Prerequisites: Placement into RD 90 or higher; WR 90 or higher; AMT 101 with a minimum grade of "C" or higher. Prerequisite or concurrent registration: MTH 60 or with AMT Department Chair permission, the department Math test with 70% or higher.

AMT 105 Aviation CFRs and Related Subjects 4.00: Presents federal aviation regulations as they pertain to the aircraft mechanic, plus some "action" learning on servicing and operation of the aircraft on the ground. Prerequisites: Placement into RD 90 or higher; WR 90 or higher; AMT 101 with a minimum grade of "C" or higher. Prerequisite or concurrent registration: MTH 60 or with AMT Department Chair permission, the AMT Department Math test with a 70% or higher.

AMT 106 Aircraft Applied Science 4.00: Covers aircraft weight and balance procedures and associated record keeping. Also covers aircraft drawings, precision measuring tools and some basic principles of physics. Prerequisites: Placement into RD 90 or higher; placement into WR 90 or higher; AMT 101 with a minimum grade of "C" or higher. Prerequisite or concurrent registration: MTH 60 or with AMT Department Chair permission, the AMT Department Math test with a 70% or higher.

AMT 107 Materials & Processes 4.00: Covers several general aircraft maintenance subjects including power tools, shop equipment, aircraft hardware, fluid lines and fittings, non-destructive testing methods, heat treatment, aircraft cleaning, and corrosion control. Prerequisites: Placement into RD 90 or higher; placement into WR 90 or higher; AMT 101 with a minimum grade of "C" or higher. Prerequisite or concurrent registration: MTH 60 or with AMT Department Chair permission, the AMT Department Math test with a 70% or higher.

AMT 109 Assembly & Rigging 4.00: Covers methods of assembly and rigging commonly used in preparing both fixed and rotary wing aircraft for a safe test flight. Includes analysis of test flight reports and recommended rigging corrections necessary to produce a safe and efficient aircraft. Prerequisites: AMT 203, AMT 204, MTH 60 or with AMT Department Chair permission, the AMT department Math test with 70% or higher.

AMT 115 Aircraft Structures & Inspection 4.00: Examines structural designs and methods of inspecting the aircraft to assure continued operation in the "as engineered" configuration. Emphasizes the interpretation of airworthiness directives, service bulletins and other maintenance documents. Technical writing skills required to complete FAA forms and records. Prerequisites: AMT 203, AMT 204, MTH 60 or with AMT Department Chair permission, the AMT department Math test with 70% or higher.

AMT 117 Reciprocating Engine Theory & Maintenance 4.00: Covers aircraft reciprocating engine theory and various maintenance procedures and techniques. Includes the use of manufacturer's publications. Prerequisites: AMT 203, AMT 204, MTH 60 or with AMT Department Chair permission, the AMT department Math test with 70% or higher.

AMT 120 Propellers and Engine Installation 4.00: Examines propeller theory and repair within limitations imposed by FAA Regulation Part 65, plus control and auxiliary systems, such as anti-ice and synchronization.Unducted fan systems are explored and engine removal and installation are accomplished. Prerequisites: AMT 203, AMT 204, MTH 60 or with AMT Department Chair permission, the AMT department Math test with 70% or higher.

AMT 121 Turbine Engine Theory and Maintenance 4.00: Presents theory for all turbine engines, but does not build expertise in any one design. Maintenance includes inspection, checking, servicing and repairing turbine engines and turbine engine installations. Prerequisites: AMT 203, AMT 204, MTH 60 or with AMT Department Chair permission, the AMT department Math test with 70% or higher.

AMT 123 Ignition Systems 4.00: Covers reciprocating and turbine engine ignition system theory and overhaul practices, plus the relationships of the complete ignition system to the powerplant and its operation. Prerequisites: AMT 203, AMT 204, MTH 60 or with AMT Department Chair permission, the AMT department Math test with 70% or higher.

AMT 124 Fuel Metering Systems 4.00: Examines the many methods used to move air and fuel into and through an engine in a ratio producing safe and efficient engine operation under widely varying conditions. Prerequisites: AMT 203, AMT 204, MTH 60 or with AMT Department Chair permission, the AMT department Math test with 70% or higher.

AMT 126 A&P Self Study/Tutorial 1.00–4.00: Optional module offered to Aviation Maintenance Technology students who have special needs in developing math and other skills necessary for success in the required courses to follow. Under very special circumstances, this course title is used to substitute for certain required courses that are not offered at a time that meets student scheduling needs. This carefully coordinated and supervised independent study method must be well planned in advance.

AMT 203 Aircraft Electricity II 4.00: Presents basic electronic theory; inspection and servicing of aircraft batteries; study of electrical system components; the installation and servicing of airframe/engine electrical wiring, controls, switches, indicators and protective devices; and electrical system inspection and troubleshooting. Prerequisites: Placement into RD 90 or higher; WR 90 or higher; AMT 101 with a minimum grade of "C" or higher. Prerequisite or concurrent registration: MTH 60 or with AMT Department Chair permission, the AMT Department Math test with a 70% or higher.

AMT 204 Aircraft Electricity III 4.00: Covers airframe/engine electrical components; inspection, check, service and repair of alternating and direct current electrical systems; the application of electrical principles used in sensing, indicating and control of airframe and powerplant systems. Prerequisites: Placement into RD 90 or higher; WR 90 or higher; AMT 101 with a minimum grade of "C" or higher. Prerequisite or concurrent registration: MTH 60 or with AMT Department Chair permission, the AMT Department Math test with a 70% or higher.

AMT 208 Aircraft Systems 4.00: Study of various airframe systems including ice and rain, cabin atmosphere, position and warning, and fire protection. Prerequisites: AMT 203, AMT 204, MTH 60 or with AMT Department Chair permission, the AMT department Math test with 70% or higher.

AMT 211 Composite Structures 4.00: Covers modern bonded structures such as honeycomb and laminated components. Includes discussion of inspection and limited repairs to wood structures. Examines methods of removing finishes, corrosion proofing and painting aircraft and aircraft components. Includes inspection and recovering operations for fabric covered aircraft. Prerequisites: AMT 203, AMT 204, MTH 60 or with AMT Department Chair permission, the AMT department Math test with 70% or higher.

AMT 212 Sheet Metal 4.00: Covers methods for sheet metal repairs to aircraft and methods of forming repair parts for damaged aircraft. Prerequisites: AMT 203, AMT 204, MTH 60 or with AMT Department Chair permission, the AMT department Math test with 70% or higher.

AMT 213 Hydraulics, Pneumatics and Landing Gear 4.00: Covers inspection and repair of aircraft landing gear and hydraulic system components. Prerequisites: AMT 203, AMT 204, MTH 60 or with AMT Department Chair permission, the AMT department Math test with 70% or higher.

AMT 214 Instruments, Communication & Navigation Systems 4.00: Presents basic functions, internal workings and maintenance procedures for instruments, communication, navigation and autopilot systems used on complex, modern aircraft. Prerequisites: AMT 203, AMT 204, MTH 60 or with AMT Department Chair permission, the AMT department Math test with 70% or higher.

AMT 216 AMT Practicum/Airframe 4.00: Provides further development of students' skills through practical application before graduating from the FAA-approved airframe curriculum. Used as a comprehensive tool to evaluate student and program strengths and weaknesses. Prerequisites: AMT 203, AMT 204, MTH 60 or with AMT Department Chair permission, the AMT department Math test with 70% or higher; completion of all General and Airframe courses, or FAA permission granted under 14 CFR Part 65 to take mechanic certification testing on an experience basis, or permission obtained from the Department Chair.

AMT 218 Powerplant Inspection 4.00: Covers proper inspection of the entire engine installation, including exhaust systems, engine instrumentation, lubrication systems and control systems. Prerequisites: AMT 203, AMT 204, MTH 60 or with AMT Department Chair permission, the AMT department Math test with 70% or higher.

AMT 219 Turbine Engine Overhaul 4.00: Covers removing, disassembling, cleaning, inspecting, reassembling and reinstalling a turbine engine. Emphasizes engine manufacturer's publications. Prerequisites: AMT 203, AMT 204, MTH 60 or with AMT Department Chair permission, the AMT department Math test with 70% or higher.

AMT 222 Reciprocating Engine Overhaul 4.00: Covers machining and overhaul processes for reciprocating engines. Prerequisites: AMT 203, AMT 204, MTH 60 or with AMT Department Chair permission, the AMT department Math test with 70% or higher.

AMT 225 A&P Practicum/Powerplant 4.00: Provides further development of students' skills through practical application before graduating from the FAA-approved powerplant curriculum. Used as a comprehensive tool to evaluate student and program strengths and weaknesses. Prerequisites: AMT 203, AMT 204, MTH 60 or with AMT Department Chair permission, the AMT department Math test with 70% or higher; completion of all General and Airframe courses, or FAA permission granted under 14 CFR Part 65 to take mechanic certification testing on an experience basis, or permission obtained from the Department Chair.

AMT 227 A&P Makeup 1.00–4.00: This optional course becomes required when a student has successfully completed all required airframe or powerplant courses but has not attended sufficient hours to qualify for graduation. Under some circumstances the course titled A&P Shop Practice may be more appropriate. Completion of all airframe or powerplant courses is usually required; however, if attendance problems are indicated and schedule openings are apparent in the student's record, the A&P Make-up course could be scheduled one or two modules prior to completion of required courses.

AMT 228 A&P Shop Practice 1.00–4.00: Some students feel the need for more shop experience in areas of choice. When it is within the practical capabilities of the department to offer that experience, the student may take one or more shop practice modules. The module may, under some circumstances, be substituted for the A&P Make-up course. Completion of most of the required A&P courses is desirable.

AMT 229 Rotary Wing Maintenance 4.00: Examines many specialized techniques and practices used in the maintenance of rotary wing aircraft. APP 9124 Inside Electrician 1 Inside Electrician 1 Introduction to the structure of the Oregon State Apprenticeship program and the electrical field to include tools of the trade, history, mathematical review and basic laws of physics as they relate to the electrical trades.

Apprenticeship

APR 100 Exploring Trades & Apprenticeship 2.00: Explores career opportunities within the Trades. Includes traditional careers and new opportunities in fields such as Renewable Energy and Sustainability. Introduces resources for assisting students in identifying skills needed to succeed in these fields.

APR 101 LME / Electrical Theory Fundamentals 3.00: Covers electrical theory and math for computing the values of voltage, amperage, resistance and power. Also covers various types of electrical circuits (series, parallel, combination) when applying Ohm's Law. Introduces electrical safety, conductors, wire sizes and their application as per the American Wire Gauge (AWG) Table. The principles of voltage drop, efficiency and cost of electrical energy will also be covered.

APR 102 LME / DC Motors 3.00: Covers the principles of magnets, magnetism and electromagnetism; AC/DC generators and the process of generating a voltage; DC motors and alternating current principles, including the components of an AC since wave/ waveform. Electrical safety, principles of inductance, inductive reactance, capacitance and capacitive reactance, various types of capacitors, capacitor testing and their use an industria environment will also be discussed. Prerequisites: APR 101 and TE 9631.

APR 103 LME / AC Motors & Transformers 3.00: Covers the construction, theory and application of transformers, three phase AC motors and single phase AC motors, includes theory and application of three phase windings namely the Delta and Wye connection. Introduces power factor as applied to an electrical circuit, deciphering motor name plate data, and electrical safety standards. Prerequisites: APR 102 or TE 9632.

APR 104 LME / Luminaries & Equipment 3.00: Introduces lighting fundamentals and their application in the industrial environment. Also covers fuses, receptacles, wiring methods, blueprints, batteries and some solid state components related to their use.

APR 121 Introduction to Electricity and Circuits 3.00: Covers general atomic theory, electron flow in conductors, calculations of Ohms law when determining the values of voltage, current, resistance and power in series, parallel and combination electrical circuits. Covers sizing and the application of conductors and the concept of Voltage Drop in electrical circuits.

APR 122 AC/DC Motors Principles 3.00: Covers the basic principles of alternating current, direct current, and electromagnetism as applied to generators, and alternating current and direct current motors, including the concepts of inductance, inductive reactance, capacitors, capacitive reactance, and their effects upon alternating current circuits. Prerequisites: APR 121 or TE 9610.

APR 123 AC Theory for Motors and Transformers 3.00: Focueses on alternating current power distribution, transformers, motors, storage cells, solid state semiconductor devices and three phase motor winding connections (Delta and Wye) as they apply to a heavy industrial environment. Prerequisites: APR 122 or TE 9611.

APR 124 Electrical Systems Operations 3.00: Covers alternating current measure instruments, test equipment, advanced motor theory, blueprint reading, electrical related materials, AC systems, advanced transformer theory, lighting, grounding and bonding, contactors, relays and general installation requirements to meet code specifications. Prerequisites: APR 123 or TE 9612.

APR 125 Electrical Circuits and Wiring Methods 3.00: Covers residential and commercial lighting, fixtures, and ballast in detail. Includes conductor selection, overcurren protection, motor maintenance, calculations, controls, troubleshooting, services, construction upgrades, wire methods, tagout, lockout and appliances. Covers series, branch, and parallel circuits in detail, and the basic use of a multimeter to check for voltage, current, and resistance. Prerequisites: APR 124 or TE 9613.

APR 126 Electrical Systems Installation per NEC 3.00: Covers standby electrical systems, temporary electrical services, fire alarm systems, specialty systems, advanced controls, heat tracing, freezing protection, installation practices, and what constitutes a low voltage and limited energy circuit as per the NEC and the requirements for each. Prerequisites: APR 125 or TE 9614.

APR 131 Refrigeration I 2.00: Covers refrigeration principles and different basic cycles which include heat transfer, termperature, and basic physics and gas laws. Lab includes the use of tools and instruments used for charging and evacuationand recovery methods. APR 131 and FMT 101 both cannot be taken for credit. Prerequisites: MTH 20; (WR 90 or ESOL 262); (RD 90 or ESOL 260).

APR 132 Refrigeration II 2.00: Cover and analyze the operation of refrigeration system components. Includes compressors, condensers, evaporators, refrigerants and metering devices. Lab includes system components and compressor testing methods, focusing on charging, evacuation and recovery methods. APR 132 and FMT 102 cannot both be taken for credit. Prerequisites: APR 131 or FMT 101 or TE 9242.

APR 133 Refrigeration III 2.00: Covers the operation of refrigeration HVAC systems, emphasizing maintenance and controls. Lab includes troubleshooting systems along with evacuation and charging techniques. APR 133 and FMT 103 cannot both be taken for credit. Prerequisites: APR 132 or FMT 102 or TE 9243.

APR 200 Trades Preparation 8.00: Includes Pre-Apprenticeship Construction Trade topics such as industry orientation, hazardous materials, general on-the-job questions, material handling, scaffolding, rigging, fire protection, hand and power tool use, fall protection, and electrical basics. Covers safety procedures that apply to each topic. Also covered will be related terminology, task planning, methods and functions of construction, apprenticeship application process, program requirements, resume and interview skills and OSHA 30-hour safety training. Recognized by the Oregon Bureau of Labor and Industry: Apprenticeship and Training Division's Council as an approved Pre-Apprenticeship program. Prerequisite: MTH 60 or Department Permission.

APR 201 Electrical Motor Controls 2.00: Provides knowledge and skills needed to design, install, maintain, service and troubleshoot electric motors. Focuses on the operation and installation of control Systems, specifically motor starters and controllers. Electromagnetic controls, motors and transformers will also be covered. Lab activities will utilize electrical test equipment to analyze electric motor control malfunctions. This class can be used towards Continuing Education Units for Oregon State electrical licensing purposes. APR 201 and ELT 201 cannot both be taken for credit.

APR 202 LME / Electrical Code Level I 4.00: Provides a working knowledge of the NEC. Assists LME apprentices in preparing for the state electrical exam. Topics include definitions, requirements for electrical installation, identification and use of electrical conductors, wiring, cicuit-protection, wiring methods, materials, and electrical safety standards. Prerequisites: APR 104 or TE 9634.

APR 203 LME / Electrical Code / Level II 4.00: Provides a working knowledge of the NEC. Topics include installation code requirements for the following: electrical equipment for general use such as motors,

luminaries, air conditioners, cords, switchboards and panel boards. Also covers special occupancies which will assist students in locating and understanding electrical code requirements for hazardous locations such as gas stations, spray paint booths, aircraft hangars, health care facilities, places of assembly, theaters, manufactured buildings, mobile homes, temporary locations, etc. Electrical standards will be emphasized. Prerequisites: APR 202 or TE 9636.

APR 204 LME / Electrical Code / Level III 4.00: Provides a woking knowledge of the NEC. Assists LME apprentices in preparing for the state electrical exam. Topics include: Special Equipment including electric signs, cranes, hoists, elevators, electric welders, information technology equipment, pools, and foundations; Special Conditions including emergency systems, Class 1, 2, and 3, low voltage control circuits, fire alarm systems, and fiber optics; and Communication Systems. Covers state of Oregon statutes governing electrical installations, building code division administrative rules covering license requirements and responsibilities, states of Oregon amendments, supplemental code reference materials, safety standards and practice exams. Prerequisites: APR 204 or TE 9637.

APR 221 Advanced AC Circuitry 3.00: Includes the theory of alternating current and power. Also includes alternating current, resistance in AC circuits, inductance and inductive reactance, capacitance and capacitive reactance, power factor correction, power in AC circuits, vector analysis and three phase connections and calculations. Prerequisites: APR 124 or TE 9615.

APR 222 Hazardous Locations 3.00: Includes introduction to hazardous locations, Class I, II, III installations, commercial garages-repair and storage, aircraft hangers, gasoline dispensing and service stations, bulk storage plants, finishing processes and health care facilities. Prerequisites: APR 221 or TE 9616.

APR 223 Motor Control Operations including PLC's 3.00: Reviews basic motor controls and progresses to moderately complex machine controls. Includes fundamentals of motor control, control of motor starting, control components, programmable controllers, pilot devices, control circuit diagrams, solid state logic and diagrams, development of control circuits and troubleshooting electrical controls. Prerequisites: APR 222 or TE 9617.

APR 224 Electrical Code / Level I 4.00: Emphasizes the use and understanding of the National Electrical Code. Assists plant maintenance electricians in preparing for the state electrical exam. Topics include grounding, motors, wiring methods, overcurrent protection, branch circuits, calculations, feeders and speciality codes. Prerequisites: APR 223 or TE 9618.

APR 225 Electrical Code / Level II 4.00: Emphasizes the use and understanding of the NEC. Topics include cable, raceway, busway, cablebus, switches, panel boards, lighting, heating equipment, transformers and the taking of practice exams. Prerequisites: APR 224 or TE 9619.

APR 226 Electrical Code / Level III 4.00: Emphasizes the use of understanding of the NEC. Topics includes code articles, OAR's, supplemental code reference materials, calculations and practice exams. Completion of the series prepares the student apprentice to become a licensed Manufacturing Plant Electrician Journey person. Prerequisites: APR 225 or TE 9620.

APR 230 National Electrical Code 3.00: Instructs the electrical professional where and how to find required information in the NEC book, demonstrating how the various articles work together to provide complete information on a subject. Most code articles (90 through 450) will be explained in detail. This class can be used towards Continuing Education Units for Oregon State electrical licensing purposes. APR 230 and ELT 230 cannot both be taken for credit.

APR 231 National Electrical Code II 3.00: Prepares electricians for state examination as prescribed by Oregon State Building Codes Division. Includes code explanations and applications. This class can be used towards Continuing Education Units for Oregon State electrical licensing purposes. APR 231 and ELT 231 cannot both be taken for credit.

Architectural Design and Drafting

ARCH 100 Graphic Communication for Designers 3.00: Addresses the fundamentals of perspective drawings as a communicative device. Develops perspective, freehand sketching and diagramming skills, by building a graphic vocabulary and establishing a language of architectural communication.

ARCH 101 Architectural Graphics 1 – 3.00: Introduction to design process and drawing for residential design. Course will include: Programming; code/zoning/site analysis; concept diagrams; schematic design evolving into drawing of plans, elevations, section; building of a model; and creating a professional quality graphic presentation. ARCH 110 recommended for students with no previous drafting experience.

ARCH 102 Architectural Graphics 2 – 3.00: Introduction to design and drafting for commercial design. Course will include: programming; code/zoning/site analysis; concept diagrams; schematic design evolving into drawing of plans, elevations, section; building of a model; and creating a professional quality graphic presentation. ARCH 110 recommended for students with no previous drafting experience.

ARCH 110 Introduction to Architectural Drawing 2.00: Covers basic Architectural drawing skills including lettering, line quality, plans, elevations, sections and axonometric drawings.ARCH 111 Working Drawings 1 Working Drawings 1 Covers standards of architectural drafting and preparation of construction documents, for typical residential construction. Construction process will also be examined. ARCH 110 recommended for students with no previous drafting experience.

ARCH 112 Working Drawings 2 – 3.00: Covers standards of architectural drafting and preparation of construction documents for typical commercial construction. Construction process will also be examined. ARCH 110 recommended for students with no previous drafting experience.

ARCH 113 Site Planning 2.00: Covers site development, including surveying existing grades, locating existing and future buildings, driveways erosion control, storm water management, plus drawing site plans. Recommended: ARCH 126 or equivalent.

ARCH 121 Structural Systems I 2.00: An overview of residential structural systems, including identification of loads, sizing of framing, and reading of structural plans. Recommended: ARCH 124.

ARCH 122 Structural Systems 2 4.00: Covers sizing of wood structural members (rafters, joists, beams, etc.). Prerequisite: MTH 60 and ARCH 121. ARCH 123 Structural Systems 3 Structural Systems 3 Covers retaining walls, concrete foundations, structural steel framing, and sizing for wind and seismic loads. Prerequisite: MTH 65 and ARCH 122.

ARCH 124 Introduction to Building Systems 3.00: An overview of residential building systems, including building construction, and heating, cooling, plumbing, electrical, and passive solar systems.

ARCH 126 Introduction to AutoCAD 3.00: Introduces AutoCAD software as a design tool. Instructions will be given in the operation of both hard disk and flexible disk data storage, and plotting. Class covers creation, retrieval and modification of drawings that meet industry standards using basic AutoCAD commands. This course is 30 total contact hours and is also worth 60 LU credits to AIA members.

ARCH 131 Sustainable Structures 4.00: This course will focus on creating buildings that are sited, designed, constructed, operated and maintained for the health and well being of the occupants, while minimizing impact on the environment.

ARCH 132 Residential Building Codes 2.00: Introduction to land use zoning and international residential building codes. Selected portions of the code will be discussed, with application to sample building plans. Prerequisite: ARCH 124 or BCT 103.

ARCH 133 Commercial Building Codes 2.00: Introduction to land use zoning and Oregon Building Codes for commercial buildings, using International Building Code. Selected portions of the code will be discussed, with application to sample buildings. Prerequisite: ARCH 124 or BCT 103.

ARCH 136 Intermediate AutoCAD 3.00: In-depth study of computer-aided-drafting using AutoCAD software and its applications to architecture. This course is 30 total contact hours and also worth 60 LU credits to AIA members. Prerequisite: ARCH 126.

ARCH 137 AutoCAD Architecture 3.00: Introduction to Architectural Desktop, which offers a variety of tools not available in the base AutoCAD drafting package. It includes a collection of objects representing the most common architectural components such as walls, doors, windows, stairs and roofs. Prerequisite: ARCH 136 or DRF 136.

ARCH 140 Introduction to CHIEF ARCHITECT 3.00: Introduces CHIEF ARCHITECT software as a design and drafting tool, its applications to architecture, and covers creation, retrieval and modification of draw-

ings using basic commands. Course is also worth 60 LU credits to AIA members.

ARCH 161 Blueprint Reading-Part 1 – 2.00: Teaches non-drafting students to read architectural blueprints.

ARCH 162 Blueprint Reading-Part 2 – 2.00: Teaches advanced techniques in reading architectural blueprints. Recommended: ARCH 161 or equivalent.

ARCH 191 Special Projects 1 – 2.00: Course content will be jointly developed by the student and the instructor. The course may be repeated for longer projects.

ARCH 192 Special Projects 2 – 2.00: For larger special projects the same term or projects that require a second term to complete. Course content will be jointly developed by the student and the instructor. Recommended: ARCH 191.

ARCH 193 Special Projects 3 – 2.00: For larger special projects that require a third term to complete. Course content will be jointly developed by the student and the instructor. Recommended: ARCH 191, 192.

ARCH 200 Introduction to Architecture 4.00: Introduces concepts, theories, and practices of the discipline of architecture. Includes study of perceptual, environmental, technical and organizational concepts through lectures and individual projects in observing architectural spaces and forms.

ARCH 201 Design Studio 1 – 6.00: Covers design of single family buildings and preparing a complete set of residential working drawings. Recommended: Completion of all first year courses. Prerequisites: ARCH 100, 101, 111, 113, 121, 122, 124, 126, 132, 136, 137, 200 and ART 215.

ARCH 202 Design Studio 2 – 6.00: Covers design of special and general use commercial buildings and preparing a set of commercial working drawings. Recommended: Completion of all first year courses. Prerequisites: ARCH 100, 102, 112, 121, 122, 124, 126, 133, 136, 137, 200.

ARCH 203 Design Studio 3 – 6.00: Covers design and preparing a set of remodel/addition working drawings. Recommended: Completion of all first year courses. Prerequisites: ARCH 100, 101, 111, 113, 121, 122, 124, 126, 132, 136, 137, 200 and ART 215.

ARCH 204 Sustainable Building Design Studio 4.00: Advanced study of sustainable building design and systems, and applied to residential buildings. Includes site analysis passive technologies, and use of sustainable building materials. Concepts will be applied to an actual house design in a studio format. Prerequisite: ARCH 101 or department approval for similar experience. Prerequisite or concurrent registration: ARCH 131 and 224, and ID 121 and BCT 206; or instructor permission.

ARCH 224 Active and Passive Building Systems 4.00: Advanced study of structural systems, mechanical systems, specifications, and building codes in residential and small commercial buildings. Prerequisite: ARCH 124.

ARCH 231 Specifications 3.00: Covers basic contracts and construction specifications for residential and commercial projects. Recommended: Completion of all first year courses.

ARCH 232 Estimating 3.00: Estimating material and labor costs of construction. Recommended: Completion of all first year courses.

ARCH 237 Introduction to Autodesk Revit 3.00: Introduces Autodesk Revit, a parametric 3D modeling software, and its applications to architecture and covers the creation, retrieval and modification of drawings using basic Revit commands.

ARCH 246 AutoCAD 3D and Solid Modeling 3.00: Provides thorough coverage of 3-dimensional drafting and design procedures. Concepts examined will include 3D primitives, User Coordinate Systems, 3D V points, complex extrusions, regions, shading and rendering, 3D models and supportive AutoCAD 3D databases. This course is 30 total contact hours and is also worth 60 LU credits to AIA members. Prerequisite: ARCH 136.

ARCH 256 Advanced AutoCAD 3.00: Examines customization of AutoCAD menu files. Includes buttons, pop, icon, screen and tablet sections, creation and implementation of user defined AutoLISP functions and basic file management techniques. This course is 30 total contact hours and is also worth 60 LU credits to AIA members. Prerequisite: ARCH 136.

ARCH 280 CE / Architectural Design and Drafting 1.00–4.00: Work or observe on approved job sites. Student receives as varied and complete an experience as possible under job conditions. Credits are variable and based on the number of clock hours student spends on job site. Must be coordinated with the supervisor, instructor, and cooperative education specialist. Department permission required.

Art

ART 101 Introduction to Art 4.00: Addresses seeing, experiencing and appreciating the urban world as a reflection of human interaction with the socio-political and physical environment, such as with architecture, gardens, fountains, malls and public spaces. Examines how cities express the values, technology, geography and economic structure of many cultures in the light of aesthetic, historic, and critical factors. The Introduction to Art series 101, 102, 103 may be taken in any order. Recommended: ART 102 and ART 103. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

ART 102 Introduction to Art 4.00: Addresses issues of fine art, particularly painting, sculpture and drawing, in terms of experiencing, appreciating and understanding their role in our lives. Art is examined in the light of aesthetic, historic, and critical issues. The Introduction to Art series 101, 102, 103 may be taken in any order. Prerequisite: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

ART 103 Introduction to Art 4.00: Addresses issues relating to design in our daily lives, particularly graphic design, and may include commercial, industrial, crafts, and product design. Examines how design expresses the values, technology, economy and taste of our culture in light of aesthetic, historic and critical issues. The Introduction to Art series 101, 102, 103 may be taken in any order. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

ART 115 Basic Design 3.00: Black and white design foundations studio experience centers on creative problem-solving, developing perceptual awareness and understanding and establishing critical skills and personal artistic vision. Use a broad range of materials, techniques and projects to design concepts with reference to historical and contemporary perspectives. Basic Design series 115, 116, 117 may be taken in any sequence.

ART 116 Basic Design 3.00: Color and design foundations studio experience centers on creative problem-solving, developing perceptual awareness and understanding, and establishing critical skills and personal artistic vision. Use a broad range of materials, techniques and projects to explore color and design concepts with reference to historical and contemporary perspectives. Basic Design series 115, 116, 117 may be taken in any sequence.

ART 117 Basic Design 3.00: Three-dimensional foundations studio experience centers on creative problem-solving, developing perceptual awareness and understanding and establishing critical skills and personal artistic vision. Use a broad range of materials, techniques and projects to explore three-dimensional design concepts with reference to historical and contemporary perspectives. Basic Design series 115, 116, 117 may be taken in any sequence.

ART 131 Introduction to Drawing 3.00: A studio experience exploring basic drawing techniques, materials and concepts while addressing historical and contemporary issues. A conceptual framework for critical analysis is presented along with basic art theory. May be taken three times for credit.

ART 140 Digital Photography 3.00: Introductory course emphasizing knowledge of the camera, development of computer skills in preparing and outputting images, and exploration of visual design and composition. Recommended: Basic computer skills and WR 115.

ART 141 Introduction to Photography (Non-darkroom) 3.00: Covers camera operation, selection and use of film, filters, lenses, flash units and other accessories. Students shoot 35mm color slides and have them processed commercially. Must own, or have access to a 35mm camera with adjustable exposure controls.

ART 142 Introduction to Photography (Darkroom) 3.00: Introductory course in black and white photography, emphasizing knowledge of the camera, development of darkroom skills, and exploration or visual design and composition. Should own or have access to a 35mm camera with adjustable exposure controls. May be adjustable exposure controls. May be taken three times. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

ART 143 Photography II 3.00: Course follows ART 142 in sequence, and is devoted to further the development of technical photographic skills, and to the continued exploration of visual design theory and

the conceptual approaches involved in making art. May be taken three times for credit. Prerequisites: ART 142 and its prerequisites.

ART 181 Painting I 3.00: A studio experience exploring basic painting techniques, materials, and concepts while addressing historical and contemporary issues. A conceptual framework for critical analysis is presented along with basic art theory. May be taken three times for credit.

ART 197 Artist's Skills/Practical Issues 3.00: Professional practices relevant to emerging artists' careers. Workshop/lecture format includes resume and portfolio preparation, developing resources and community, gaining exposure and representation for artwork, creating publicity, basic marketing and exhibition strategies, presenting and installing art work, business concerns, art market dynamics, art collecting. Field trips to local galleries and/or guest lectures. Practical experience gained in PCC gallery, through internships, and/or through Service Learning Projects.

ART 198 Special Topics in Art 1.00–5.00: A variable topics course offering special classes and workshops in art and in art history. Course affords novel opportunity to explore out-of-the-ordinary skills, themes, and subjects, including art travel.

ART 204 History of Western Art 4.00: Examines visual art and architecture as a reflection of human interaction with the socio-political and physical environment of a particular era. Objectives center on viewing, analyzing and comparing many art forms in an historical context, and covers the Paleolithic, Ancient Near Eastern, and Aegean cultures, beginning about 30,000 BCE. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

ART 205 History of Western Art 4.00: Examines visual art and architecture as a reflection of human interaction with the socio-political and physical environment. Objectives center on viewing, analyzing and comparing many art forms in an historical context, and covers Late Antiquity, Early Christian and Medieval periods, beginning about 500 BC. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

ART 206 History of Western Art 4.00: Examines visual art and architecture as a reflection of human interaction with the socio-political and physical environment. Objectives center on viewing, analyzing and comparing many art forms in an historical context, and covers the Renaissance and Baroque periods, beginning about 1300 AD. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

ART 207 History of Asian Art 4.00: Explores and analyzes the visual arts in relation to the culture of India from the Neolithic through the modern period. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

ART 208 History of Asian Art 4.00: Explores and analyzes the visual arts in relation to the culture of China from the Neolithic through the modern period. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

ART 209 History of Asian Art 4.00: Explores and analyzes the visual arts in relation to the culture of Japan from the Neolithic through the modern period. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

ART 210 Women in Art 4.00: Covers the work of women artists from antiquity to the present. The works of the most important women artists from each period will be studied in relation to the changing roles of women in society and to the art produced contemporaneously by men. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

ART 211 Modern Art History / 19th Century Art in Europe 4.00: The Nineteenth Century saw the beginning of the modern world and modern societies in Europe. Examines and analyzes the visual arts to reveal some effects of those changes, and to gain insight into our modern world. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

ART 212 Modern Art History / Early 20th Century Art 4.00: The turn of the Twentieth Century witnessed revolutions in science and technology, psychology and philosophy. Examines and analyzes the visual arts to reveal some effects of those changes, and to gain insight into our modern world. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

ART 213 Modern Art History / Art Since 1945 4.00: World War II ended the supremacy of Europe in the visual art world and focused attention on America. Examines and analyzes art since 1945 to explore the ideas behind it, to reveal our culture and values, and to gain a greater understanding and appreciation of contemporary art. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

ART 215 History of American Residential Architecture 3.00: Examines the historical origins and elements of American house styles in order to develop insights into the residential architecture of our own era.

ART 217 Understanding Comic Art 3.00: Examines comics art as a medium of visual communication. Aesthetic qualities unique to comic books and graphic novels analyzed in artistic, historical, and narrative contexts using seminal texts. Strongly recommend: Placement into WR 121 and RD 115.

ART 218 Lettering Calligraphy I 2.00: Covers practical and creative uses of calligraphy, lettering principles, techniques and functions, and discusses the traditions and historical development of letters. Fall term: Roman alphabet, lower and upper case. Winter term: Italic alphabet, lower and upper case. Spring term: Carolingian and uncial alphabet styles. Each term may be taken once for a maximum of six credits.

ART 220 Advanced Lettering and Seminar 2.00: Basic calligraphic scripts studied in ART 218 are reviewed and a variety of additional styles studied. Layout and design principles are presented, and students work through the process of designing and completing both broadsides and commercial kinds of work. Students study the lettering techniques and shop practices necessary for actual production of calligraphic and drawn letters on a commercial basis. Work involves problem-solving activities the professional calligrapher is likely to encounter on the job.

ART 231 Drawing 3.00: A studio experience exploring ways of seeing and basic drawing techniques, materials and concepts while addressing historical and contemporary issues. A conceptual framework for critical analysis is presented along with basic art theory. May be taken three times for credit.

ART 237 Life Drawing 3.00: Students study and draw the human form from professional models. Applying various drawing techniques and concepts, students study the structure, form and proportions of the human figure. Emphasis is upon personal progress as an artist with attention to composition. May be taken three times for credit.

ART 243 The Photographic Portfolio 3.00: Provides framework within which students may pursue their unique photographic vision. Explores role of photography in the arts, and rights and responsibilities of the photographic artist. Work in black and white and/or color (color processed at student expense). May be taken three times. Prerequisite: ART 143.

ART 253 Ceramics I 3.00: An introductory studio experience exploring ceramic form, processes, techniques and concepts while addressing historical and contemporary issues. Students will use a variety of techniques to develop and encourage creative problem solving. Critiques, discussions, and ceramic presentations establish critical skills necessary to evaluate ceramics, explore artistic intent, examine and structural solutions, and expand perceptual awareness. Course includes demonstrations, lectures, slides and audiovisual materials. May be taken three times for credit.

ART 256 Ceramics II 3.00: Allows further exploration in all aspects of clay processes: development of ideas, care and preparation of clay, skills and understanding related to clay work on and off the potter's wheel, glazes and firing procedures. May be taken three times.

ART 270 Printmaking 3.00: Laboratory course in print art focusing on specific techniques and materials each term as well as standards for critical analysis. References the history of the print and the diverse historical and cultural context of the visual arts. Primarily a studio experience with supporting slide lectures and other visual media. Critiques of student work are held regularly. Recommended: ART 115, 116 and 131. May be taken three times for credit.

ART 271 Printmaking II 3.00: A studio experience in printmaking, the more advanced level in a succession of classes exploring relief printing, monotype, intagilio, and other processes. Students will use both direct and indirect methods of imagery development. References the history of the print and the diverse historical and cultural context of the visual arts. Personal critiques of student work of the visual arts. Personal critiques of student work are held regularly. May be taken up to three times for credit. Prerequisite: ART 270.

ART 277 Life Painting 3.00: Students study and paint the human form from professional models. Apply-

ing various painting techniques and concepts, students study the structure, form and proportions of the human figure. Emphasis is on personal progress as an artist with attention to composition. Students will paint from a nude model. May be taken three times for credit.

ART 279 Experimental Media 3.00: Students introduced to and explore ways of seeing and creating that acknowledge personal artistic intentions. Studio experience examines various 2-D and 3-D experimental media and processes used to develop and encourage creative problem solving. The conceptual framework for critical analysis is structured with regard to contemporary and historical art making. Course intended for students willing to formulate their own artistic directions. May be taken 3 times.

ART 281 Painting II 3.00: A studio experience exploring ways of seeing and basic painting techniques, materials, and concepts while historical and contemporary issues. A conceptual framework for critical analysis is presented along with basic art theory. May be taken three times for credit. Recommended: ART 116 and ART 181.

ART 284 Watercolor I 3.00: A studio experience exploring basic watercolor painting techniques, materials, and concepts while addressing historical and contemporary issues to become more visually literate. A conceptual framework for critical analysis is presented along with basic art theory. May be taken three times for credit.

ART 287 Watercolor II 3.00: A studio experience exploring basic and more advanced watercolor painting techniques, materials, and concepts while addressing historical and contemporary issues to become more visually literate. A conceptual framework for critical analysis is presented along with basic art theory. May be taken three times for credit. Prerequisite: ART 284 or instructor permission.

ART 290 Sculpture / Plaster / Clay 3.00: A studio experience exploring sculptural form, processes, techniques, and concepts while addressing historical and contemporary issues. Students will develop creative problem solving while using clay and plaster to create sculptures. Critiques, discussions, and sculpture presentations establish critical skills necessary to evaluate sculpture, explore artistic intent, examine aesthetic and structural solutions, and expand perceptual awareness. May be taken three times for credit. Recommend: ART 290, 291, 292, or 293.

ART 291 Sculpture / Carving 3.00: A studio experience exploring sculptural form, processes, techniques, and concepts while addressing historical and contemporary issues. Students will develop creative problem solving while using the reductive process of carving to create sculptures. Critiques, discussions, and sculpture presentations establish critical skills necessary to evaluate sculpture, explore artistic intent, examine aesthetic and structural solutions, and expand perceptual awareness. May be taken three times for credit.

ART 292 Sculpture / Mixed Media 3.00: Studio experience exploring sculptural form, processes, techniques, and concepts while addressing historical and contemporary issues. Uses a variety of materials and techniques to develop and encourage creative problem solving. Critiques, discussions, and sculpture presentations establish critical skills necessary to evaluate sculpture, explore artistic intent, examine aesthetic and structural solutions, and expand perceptual awareness. Course emphasizes the use of mixed media in sculpture. May be taken three times for credit.

ART 293 Figure Sculpture 3.00: A studio experience exploring sculptural form, processes, techniques, and concepts while addressing historical and contemporary issues relating to figure sculpture. Students study and sculpt the human form from professional models, nude and clothed. Applying various sculpting techniques and concepts, students study the structure, form and proportions of the human figure. Critiques, discussions, and sculpture presentations establish critical skills necessary to evaluate figure sculpture and explore the expressive potential of the human form. May be taken up to three times for credit.

ART 294 Sculpture / Welding 3.00: A studio experience exploring sculptural form, processes, techniques, and concepts while addressing historical and contemporary issues. Students will develop creative problem solving skills through making sculpture with welded steel. Introduces oxy-acetylene welding and cutting and mig welding. Critiques, discussions, and sculpture presentations establish critical skills necessary to evaluate sculpture, explore artistic intent, examine aesthetic and structural solutions, and expand perceptual awareness. May be taken three times for credit. Recommended: ART 291 or ART 293.

Automotive Service Educational Program

ASEP 100 Introduction to ASEP 8.00: Provides overview of automotive systems and the automotive industry. Studies use of service manuals, tool use and purchase, precision measurement, shop safety procedures and basic vehicle service, such as, lube, oil and filter (LOF) and pre-delivery inspections (PDI). Also spend nine weeks at the dealership on a trial basis. Placement into MTH 55 or higher, WR 121 and attainment of a Dealership sponsor required.

ASEP 101 Electrical Systems and Air Conditioning 16.00: Study and work with General Motors Electrical Systems, basic electrical, components, series, parallel and series parallel circuits, voltage, current, amperage, resistance, ohms, mhos, batteries, starters, alternators, wiper motors, wiring, small motors, semiconductors, lights, meters, scopes, wiring diagrams, SIR (Supplemental Inflatable Restraint System), radios, BCM (Body Control Module), and instrumentation. Covers heating and air conditioning systems, components, compressors, air conditioning control systems, vacuum systems, electrical systems, diagnosing, repairing, recycling and the proper handling of R-12, 134A, and antifreeze. Prerequisite: ASEP 100.

ASEP 102 Engine Repair and Drive Train 16.00: Study and work with gasoline and diesel engines used on General Motors vehicles; components, engine blocks, cylinder heads, pistons, valves, cam, crankshaft, gaskets, oil, coolant, repair, diagnosis, and some areas of machining. Manual drive train and axles on and off the car; components, gears, bearings, clutches, CV joints, transfer cases, differentials, axle shafts, drive lines, seals, bushings, flywheel, leakage, gaskets, cables, cylinders and fluids. Work with automatic transmissions and transaxles used on General Motors vehicles, trace the power flow, diagnose problems, disassemble, inspect and evaluate, clean and layout components. Reassemble and adjust transmission and test the unit for proper operation. Work on approved customers vehicles diagnosing, servicing and repairing as needed. Provides specific diagnostic guidelines and covers procedures that take place in a dealership. Prerequisite: ASEP 100.

ASEP 103 Engine Performance 16.00: Studies operation, diagnosis and testing of systems used to deliver spark ignition and air/fuel to the combustion chamber of the engine, reduce vehicle emission levels and diesel engine operation. Prerequisite: ASEP 100.

ASEP 104 Steering, Suspension and Brakes 12.00: Studies and works with suspension systems used on General Motors vehicles; components, steering gears, wheel bearings, alignment angles, rear wheel tracking, adjustments and correction, wheel balance and factors contributing to vehicle handling and tire wear. Studies principles of automotive brake systems on General Motors vehicles. Practices disassembly and assembly of system components using school owned equipment. Includes proper measuring and machinery techniques of brake drums and rotors. Prerequisite: ASEP 100.

ASEP 280A CE / Automotive Service Education Program 12.00

American Sign Language

ASL 101 First Year American Sign Language I – 3.00: Emphasizes active conversational competence in ASL. Includes visual readiness skills, vocabulary, culture and grammar used for meeting communication needs. For beginners. Proficiency target level: Novice high.

ASL 102 First Year American Sign Language II – 3.00: Continues work of ASL 101. Emphasizes active communication in ASL. Proficiency target level: Intermediate low. Sign Language Proficiency Interview may be required. Prerequisite: ASL 101. Prerequisite course must have been completed within one year of class enrollment; proficiency interview within one term.

ASL 103 First Year American Sign Language III – 3.00: Continues work of ASL 102. Emphasizes active communication in ASL. Proficiency target level: Intermediate mid. Sign Language Proficiency Interview may be required. Prerequisite: ASL 102. Prerequisite course must have been completed within one year of class enrollment; proficiency interview within one term.

ASL 130 Deaf Studies 3.00: Introduces two perspectives of Deaf community, past and current perspectives on education, services, employment, legislation, signers vs interpreters, signaling devices, terminology, communication system and attitudes toward language.

ASL 150 Accelerated American Sign Language 4.00: For beginners. Covers the material of ASL 101 and half of ASL 102 in an accelerated format. Emphasizes active conversational competence in ASL. Includes visual readiness skills, vocabulary, culture and grammar

used for meeting communication needs. Recommended to the highly motivated student. Proficiency target level: Intermediate low.

ASL 151 Accelerated American Sign Language 5.00: Covers the material of half of ASL 102 and ASL 103 in an accelerated format. Emphasizes active communication in ASL. Proficiency target level: Intermediate mid. Sign Language Proficiency Interview may be required. Prerequisite: ASL 102 or ASL 150. Prerequisite course must have been completed within one year of class enrollment; proficiency interview within one term.

ASL 201 Second Year American Sign Language IV 3.00: Continues work of first year ASL, reviewing, expanding, and perfecting expressive skill, structure, and vocabulary for the purpose of active communication. Emphasizes active communication in ASL. Proficiency target level: Intermediate mid. Sign Language Proficiency Interview may be required. Prerequisite: ASL 103. Prerequisite course must have been completed within one year of class enrollment; proficiency interview within one term.

ASL 202 Second Year American Sign Language V 3.00: Continues work of ASL 201. Emphasizes active communication in ASL. Increased emphasis on exploring, analyzing the rules and presenting ASL stories and literature. Proficiency target level: Intermediate mid. Sign Language Proficiency Interview may be required. Prerequisite: ASL 201. Prerequisite course must have been completed with one year of class enrollment; proficiency interview within one term.

ASL 203 Second Year American Sign Language VI 3.00: Continues work of ASL 202. Emphasizes active communication in ASL. Increased emphasis on exploring, analyzing the rules, discussing, developing and presenting ASL literature and poetry. Proficiency target level: Intermediate high. Sign Language Proficiency Interview may be required. Prerequisite: ASL 202. Prerequisite course must have been completed within one year of class enrollment; proficiency interview within one term.

ASL 250 Accelerated American Sign Language 4.00: Covers the material of ASL 201 and half of ASL 202 in an accelerated format. Emphasizes active communication in ASL. Increased emphasis on exploring, analyzing the rules, discussing, developing and presenting ASL literature and poetry. Proficiency target level: Intermediate mid. Sign Language Proficiency Interview may be required. Prerequisite: ASL 103 or ASL 151. Prerequisite course must have been completed within one year of class enrollment; proficiency interview within one term.

ASL 251 Accelerated American Sign Language 5.00: Covers the material of half of ASL 202 and ASL 203 in an accelerated format. Emphasizes active communication in ASL. Continues emphasis on the ASL literature, poetry and other topics. Proficiency target level: Intermediate high. Sign Language Proficiency Interview may be required. Prerequisite: ASL 202 or ASL 250. Prerequisite course must have been completed within one year of class enrollment; proficiency interview within one term.

Anthropology

ATH 101 Introduction to Physical Anthropology 4.00: Presents physical anthropology and the study of human biological evolution in the context of modern genetics and primate behavior studies. Examines human fossil record, as well as the diversity and commonality of present and past populations of humankind. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

ATH 102 Introduction to Archaeology and Prehistory 4.00: Introduces methods and techniques used by archaeologists to study the development of human culture. Provides a survey of world prehistory, while emphasizing the development of social complexity and the origins of agriculture that precede both new and old world civilizations. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

ATH 103 Introduction to Cultural Anthropology 4.00: Examines modern human cultures. Analyzes a variety of ethnographic examples from various world societies to understand the diverse aspects of language, technology, economy, social structure, governance, religion, world views and expressive aspects of life. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

ATH 207 Cultural Anthropology / Culture Concepts 4.00: Examines different schools of anthropological thought and the concept of culture from a historical perspective. Emphasis placed upon the importance of culture in explaining similarities and differences in our evolving world system. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

ATH 208 Cultural Anthropology / Cultures of the World 4.00: Introduces ethnographic descriptions of a representative sample of the cultural variations among contemporary peoples. Compares various subsistence systems and levels of socio-political integration. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

ATH 209 Cultural Anthropology / Cultural Growth & Change 4.00: Examines processes of cultural growth and change, the development of contemporary anthropological theory and the rapidly growing fields within applied anthropology. Ethnographic techniques presented so students may use them to examine the changing culture of our complex society. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

ATH 210 Selected Topics Ethnology 4.00: Introduces life styles and interactions with their environments of peoples in a selected part of the world. Uses ethnographic and other information for concentrated study of the cultural diversity and environmental adaptations of those peoples. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

ATH 211 Selected Topics in Anthropology 4.00: Focuses on a specific anthropological topic and explores it in detail. Topics are drawn from the four sub-fields of anthropology and provide an in depth examination and analysis of the chosen subject. Topic specific theories and methods also highlighted.

ATH 212 Introduction to Shamanism 4.00: Examines shamanism as it is practiced in various cultures around the world. Students will be introduced to the shamanic cosmologies, values and world views of different tribal societies and use participant-observation to explore different styles of shamanic journeying. Core shamanism and the interface of shamanism and modern medicine and psychotherapy will be explored. Prerequsite: WR 121 and MTH 20 or equivalent placement test scores, and ATH 103 or instructor's permission.

ATH 214 Human Environments: Ecological Aspects 4.00: Examines ecological relationships between human societies and their natural environments. Clarifies the human's biological relatedness to the world's natural ecosystems and then presents a look at the ensuing disruptions in nature and in human cultures. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

ATH 230 Native Americans of Oregon 4.00: Presents the history of anthropological research and the prehistory, languages and culture areas of Oregon's native peoples. Individual native groups are studied to better depict the life ways of Oregon's major cultural and geographic divisions. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

ATH 231 Native Americans of the Northwest 4.00: An in-depth survey of the native peoples of Oregon, Washington, Alaska, and Southwest Canada. Individual native groups are studied to depict cultural variation within the region. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

ATH 232 Native North Americans 4.00: Surveys anthropology and distribution of the native North American peoples. Presents history of anthropological research and the prehistory, languages and culture areas of native North America. Specific native groups will be surveyed to better depict the life ways of the major cultural and geographic divisions. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

ATH 234 Death / Crosscultural Perspectives 4.00: An interdisciplinary study into cross-cultural variations regarding human responses to death and the differing cosmological implications these suggest. Death, a cultural universal, is addressed in its diversity from both anthropological and sociological perspectives. The subject of death as experienced by several major regions and cultures of the world is explored, including Asia, India, Bali, Middle East, Melanesia and Native American; historical trends in Western Europe and Americas are assessed regarding the evolution of contemporary perspectives on mortality. ATH 234 and SOC 234 cannot both be taken for credit. Recommend: A course in Anthropology or Sociology.

ATH 235 Survey of Prehistoric Mexico and Central America 4.00: Study of the development, form and history of pre-Columbian Indian civilizations, surveying the achievements of the Maya, the Aztec and their neighbors.

ATH 298 Independent Study / Anthropology 3.00: Individualized, advanced study in areas of anthropology not considered in other courses, to meet special interests or program requirements. Complete

a term project and readings approved by the instructor. Recommended: prior study in anthropology and instructor permission.

Aviation Science

AVS 110 Helicopter Private Pilot Ground School 4.00: Covers fundamentals of flight, helicopter systems, aeronautical publications, Federal Aviation Regulations, navigation, flight planning, radio procedures and weather. Presents sufficient knowledge to prepare for the FAA Private Pilot Rotocraft knowledge test.

AVS 115 Helicopter Private Pilot Flight 3.00: Familiarizes student with the operation of helicopters. Fundamentals of flight, emergency procedures, air traffic control and operational procedures are explored. Prepares student for the FAA Private Pilot Rotocraft Helicopter practical test. Corequisite: AVS 110.

AVS 120 Airplane / Private Pilot Ground School 4.00: Covers fundamentals of flight, aeronautical publications, Federal Aviation Regulations, navigation, flight planning, radio procedures and weather. Presents sufficient knowledge to prepare for the FAA Private Pilot knowledge test. Open to the general public.

AVS 125 Airplane / Private Pilot Flight 3.00: Familiarizes student with operation of single engine aircraft. Fundamentals of flight, air traffic control and operational procedures are explored. Prepares student for the FAA Private Pilot Airplane practical test. Corequisite: AVS 120.

AVS 127 Introduction to Aviation 4.00: Examines aviation from early flight to future potentials. Introduces career opportunities in all fields of aviation and outlines career advancement possibilities. Provides general overview of pilot certificates and ratings and training aircraft used. May include visits to area aviation facilities. Open to general public.

AVS 130 Instrument Ground School 4.00: Covers fundamentals of instrument flight planning, use of flight and navigation instrumentation, air traffic control procedures, radio navigation systems including the concepts of instrument flight. Presents sufficient knowledge to prepare for the FAA Instrument Rating knowledge test. NOTE: Course not recommended without prior flight experience. Prerequisite: AVS 120.

AVS 135 Airplane / Instrument Flight 3.00: Receive training in instrument flight operations. Prepares student for the FAA Instrument Rating - Airplane practical test. Prerequisite: AVS 125 and FAA Private Pilot Certificate. Corequisite: AVS 130.

AVS 137 Applied Aerodynamics 4.00: Introduces aerodynamics. Explores various concepts and theories relevant to modern aviation. Open to the general public (no math prerequisite.)

AVS 140 Airplane / Commercial Pilot Ground 4.00: Covers advanced concepts of flight maneuvers, Federal Aviation Regulations, weight and balance, and other aeronautical skill topics. Presents sufficient knowledge to prepare for the FAA Commercial pilot knowledge test. Prerequisite: AVS 130.

AVS 145 Introduction to Commercial Airplane 3.00: Begins commercial pilot training activities and includes cross-country flight operations and a review of previous items learned during private pilot training. Students will learn how to plan and execute a cross-country flight as a commercial pilot. Prerequisites: AVS 135 and FAA Private Pilot Certificate with Instrument Rating. Corequisite: AVS 140.

AVS 150 Helicopter / Commercial Ground 3.00: In depth study of aerodynamics systems, performance, aeronautical charts, regulations, and flight maneuvers all relating specifically to helicopters. Presents sufficient knowledge to prepare for the FAA Commercial Pilot Rotocraft helicopter written test.

AVS 155 Helicopter / Introduction to Commercial Flight 3.00: Begins the commercial pilot training activities. Cross- country flight procedures and emergency maneuvers are the focus. Students must hold a private pilot certificate prior to enrollment.

AVS 157 Aircraft Systems & Structures I / Airframe 3.00: Designed to give students the background in aircraft systems and structures, with an emphasis on airframe components, that will enable them to progress into more advanced aircraft. Provides understanding of the safe and efficient operation of aircraft systems. Prior flight experience recommended.

AVS 167 Aircraft Systems 3.00: Powerplant Designed to give students the background in aircraft systems and structures, with an emphasis on powerplant components, that will enable them to progress into more advanced aircraft. Provides understanding of the safe and efficient operation of aircraft systems. Prior flight experience recommended.

AVS 205 Helicopter / Commercial Flight A 3.00: Continues the Commercial Pilot Rotorcraft Helicopter training activities and includes cross-country flight operations and a review of previous items learned during the introduction to Commercial Pilot training. Increase knowledge about efficiently planning and executing cross-country flights as well as off airport operations required for commercial pilots. Prerequisite: AVS 155. Corequisite: AVS 150.

AVS 215 Helicopter / Commercial Flight B 4.00: Continues the Commercial Pilot Rotorcraft Helicopter training activities and includes instrument flight training, cross-country flight operations and a review of previous items learned during the introduction to Commercial Pilot training. Learn to operate the aircraft under instrument flight rules in simulated instrument flight conditions. Increase knowledge about efficiently planning and executing cross-country flights as well as off airport operations required for commercial pilots. Prerequisite: AVS 155. Corequisites: AVS 130, 150.

AVS 225 Airplane / Commercial Flight 4.00: Concludes commercial pilot training activities and includes complex flight operations, multi-engine operations, advanced systems and performance maneuvers. Students will be prepared to take the Commercial Pilot single-engine land practical test and the multi-engine land additional class rating practical test upon successful completion of the course. Prerequisites: AVS 145; FAA private Pilot Certificate w/Instrument Rating.

AVS 227 Aviation Careers 4.00: Designed to prepare students for a career in aviation. Explores aviation employment opportunities. Includes interview and resume preparation. Intended for second year AVS students.

AVS 230 Airplane / Flight Instructor Ground 4.00: Includes flight instruction fundamentals, evaluation techniques, and related skills necessary for a Flight Instructor certificate. Emphasizes instruction techniques and presents sufficient knowledge to prepare for the FAA Fundamentals of Instructing and CFI knowledge tests. Prerequisite: AVS 140.

AVS 235 Airplane / Flight Instructor Flight 2.00: Provides a structured environment to learn to fly the aircraft from the instructor's seat. Learn to explain, demonstrate and to assess flight performance. Prepares students for the FAA Flight Instructor practical test. Prerequisites: AVS 225; FAA Commercial Pilot certification. Corequisite: AVS 230.

AVS 237 Aviation Law and Regulations 4.00: Explores the applicable Federal Aviation Regulations through case law and current events. The FAA's role in the development and regulation of the industry is examined. Covers how to reference, interpret and explain aviation law and regulations.

AVS 240 Airplane / CFII/MEI Ground3.00: Includes Instrument and Multi-Engine subject areas for a Flight Instructor certificate. Presents sufficient knowledge to prepare for the Certified Flight Instructor Instrument knowledge test. Prerequisite: AVS 230.

AVS 241 Airplane / CFII Ground/Flight 3.00: Includes subject areas for an Instrument Airplane rating on a Flight Instructor certificate. Presents sufficient knowledge to prepare for the Certified Flight Instructor - Instrument knowledge test. Prepares students to obtain the aeronautical skill and knowledge necessary to apply for the FAA Flight Instructor - Instrument practical test. Prerequisites: AVS 230, AVS 235, and FAA Commercial Pilot Certificate with Instrument Rating: CFI certificate.

AVS 242 Airplane / MEI Ground/Flight 2.00: Includes subject areas for Multi-Engine Airplane rating on a Flight Instructor certificate. Prepares student to obtain the aeronautical skill and knowledge necessary to apply for the FAA Flight Instructor - Multi-Engine practical test. Prerequisites: AVS 230, 235, and FAA Commercial Pilot Certificate with Instrument, CFI ratings.

AVS 245 Airplane / CFII/MEI Flight 2.00: Instruction, flight training and practice teaching that will allow the student to obtain the aeronautical skill and knowledge necessary to apply for the FAA Flight Instructor Instrument and Multi-Engine practical test. Prerequisites: AVS 235 and FAA Commercial Pilot Certificate with Instrument, CFI ratings. Corequisite: AVS 240.

AVS 255 Airplane / Pilot Performance 1.00: Designed to expose students to Cockpit Resource Management. Focuses on workload management and check list usage. Prerequisites: AVS 225 and FAA Commercial Pilot Certificate with Multi-engine Land and Instrument rating.

AVS 260 Helicopter / CFI Ground 4.00: Includes flight instruction fundamentals, evaluation techniques,

and related skills necessary for a Flight Instructor certificate. Emphasizes instruction techniques and presents sufficient knowledge to prepare for the FAA Fundamentals of Instructing and CFI knowledge tests. Prerequisite: AVS 150.

AVS 265 Helicopter / CFI Flight 3.00: Provides a structured environment to learn to fly the helicopter from the instructor's seat. Learn to explain, demonstrate and to assess flight performance. Prepares students for the FAA Flight Instructor practical test.

AVS 267 Economics of Flight Operations 4.00: Examines management philosophies and accounting procedures as they apply to general aviation. Includes business aspects of maintaining and flying aircraft, operating airport facilities, and managing passenger/cargo activities. Guest speakers from the industry may be featured.

AVS 275 Airplane / Professional Pilot 3.00: Provides further post-commercial instruction and PIC flight time in single and multi-engine aircraft for those not selecting the flight instructor option. Prerequisites: AVS 225 and FAA Commercial Pilot Certificate with Instrument rating.

Business Administration

BA 98 Business Administration / Skills and Issues 1.00: Increases academic skills and deepens understanding of business administration as a discipline while supporting work performed in BA 101. Includes 1) a tutorial relating to course concepts and content, 2) academic skill building, including discipline-specific vocabulary, concepts, study skills, investigative techniques, and research mechanics, and 3) a brief community-related learning project to allow for direct application of learning. The overarching goal is to develop a deeper understanding of business practices. Corequisite: BA 101.

BA 101 Introduction to Business 4.00: Survey course in the field of business including topics such as management, finance accounting, marketing, production, computers, international business, small business, investments and other areas of general business interest.

BA 111 Introduction to Accounting 3.00: Presents double-entry accounting as related to service and merchandising business. Covers accounting cycle, including journalizing, posting to the general ledger, preparation of financial statements, petty cash, bank reconciliations, combined journal , special journals and payroll.

BA 131 Computers in Business 4.00: Course in computer literacy that covers computer concepts and typical activities computers are used for in business. Includes introduction to hardware and software, operating systems, word processing, spreadsheet, database and electronic mail. Appreciate the value of ethical conduct in a business/computer environment.

BA 141 Introduction to International Business Law 3.00: Surveys international aspects of traditional business law subjects (sales, commercial paper, corporate law, agency, etc.) and related subjects (antitrust law, administrative law, trade regulation, etc.).

BA 177 Payroll Accounting 3.00: Learn fundamental skills and basic knowledge in the area of business payroll. The focus of the course is primarily in the following areas: payroll and personnel record keeping, calculation of gross pay using various methods, calculation of Social Security and Medicare taxes, calculation of federal and state income taxes, calculation of federal and state unemployment taxes, journalizing and posting payroll entries, and completing various federal and state forms. Prerequisites: BA 111 Introduction to Accounting or BA 211 or instructor permission. Recommended: MTH 30 Business Mathematics, and Microcomputer experience.

BA 203 Introduction to International Business 3.00: Explores processes of international trade, whether the company is an importer, exporter, or a multinational firm. Forms a basis for further study and specialization in the international business field.

BA 205 Solving Communication Problems with Technology 4.00: Focuses on using current technology to create, revise, and design business documents: letters, memos, e-mail, reports, minutes, simple instructions, and resumes. Students will use library and Internet resources to collect information. In addition, students will deliver oral presentations using presentation tools. Recommended: WR 121, BA 131, CAS 133, or computer literacy.

BA 206 Management Fundamentals 3.00: Introduces business management theory, including the basic functions of planning, organizing, directing, leading, and controlling as well as factors contributing to change in current management approaches. Recommended: BA 101, Introduction to Business.

BA 207 Introduction to E-Commerce 4.00: Presents concepts and skills for the strategic use of e-commerce and related information technology from three perspectives: business to consumers, business-to-business, and intra-organizational. Examination of e-commerce in altering the structure of entire industries, and how it affects business processes including electronic transactions, supply chains, decision making and organizational performance.

BA 210 Advanced Accounting Spreadsheet Application 3.00: Presents the advanced functions of electronic spreadsheets as related to the accounting profession. Also applies to finance, marketing, operations, and other business occupations. Recommended: (CAS 170 or 174) or CIS 125S, and BA 95, BA 96 or BA 111 or BA 211.

BA 211 Principles of Accounting I 3.00: Introduces financial accounting theory, including the accounting cycle, analysis and recording of transactions, and reporting financial information in accordance with generally accepted accounting principles. Strongly recommended: MTH 60 and BA 111.

BA 212 Principles of Accounting II 3.00: IContinues the presentation of fundamental issues begun in BA 211. Introduces statement of cash flows and financial statement analysis. Prerequisite: BA 96 or BA 211.

BA 213 Principles of Accounting III 3.00: IStudy Managerial Accounting. Covers cost/volume relationships, manufacturing costs, cost decisions, management planning, budgeting, and responsibility accounting. Prerequisites: BA 211, Principles of Accounting I.

BA 215 Basic Cost Accounting 3.00: ICovers cost accounting concepts, application, and techniques employed in the accumulation and reporting of manufacturing cost data. Particular attention shall be paid to job order costing, process costing, joint and by-product costing, standard costs, budgeting and analysis of variances. Recommended: BA 96 or BA 211.

BA 218 Personal Finance 3.00: IStudies role of the consumer in our economy, problems of financing family and individual needs, including budgeting, banking relationships, charge accounts, installment buying, insurance, wills, real estate investing and personal taxes.

BA 222 Financial Management 3.00: ICovers basic financial concepts and practices and includes analysis of company resources, types and sources of financing, forecasting and planning methods, and the roles of the money and capital markets. Recommended: BA 212; MTH 60.

BA 223 Principles of Marketing 3.00: IProvides a general knowledge of marketing with emphasis on the marketing mix elements and target markets for consumer and industrial products. Marketing strategies, customer behavior, and international marketing are topics addressed. Recommended: BA 101.

BA 224 Human Resource Management 3.00: IAttention is given to human behavior, employment, employee development, performance appraisal, wage and salary administration, employment and job rights, discipline and due process, and labor-management relations.

BA 226 Business Law I 4.00: Discusses fundamental concepts, principles, and rules of law that apply to business transactions. Includes the function and operation of the courts, business crimes, torts, contract law, intellectual property, the application of the Uniform Commercial Code to business activities and recent developments in business law, such as cyberlaw and electronic commerce.

BA 227 Business Law II 3.00: Discusses fundamental concepts, principles and rules of law that apply to business organizations. Includes agency, property law, sales transactions, partnerships, corporations and government regulations. Recommended: BA 226.

BA 228 Computer Accounting Applications 3.00: Introduces double-entry, fully integrated computerized general ledger software. Topics include general ledger, accounts receivable, accounts payable, payroll, fixed assets, bank reconciliations, and inventory. Recommended: BA 111 or BA 211; CAS 133.

BA 234 International Marketing 3.00: Covers nature and concepts of international marketing including techniques for identifying potential markets and assessing uncontrollable elements such as economic, political and sociocultural environmental factors. International marketing strategies related to product/service, pricing, promotion and distribution are examined.

BA 237 Fundamentals of Import/Export 3.00: Examines motivations and procedures for the import and export of goods and services. Emphasizes U.S. import/export regulations, documentation, logistics, community resources and customer services.

BA 238 Sales 3.00: Offers a blend of practicality and theory on industrial, commercial and retail sales. Demonstrates and practices basic sales techniques, explores communication and motivation as they relate to selling and examine the function of sales relative to the total marketing program.

BA 239 Advertising 3.00: Covers the basics of planning, creating, using, and placing advertising in the business world. Reviews entire field of advertising as basis for students who select advertising as a career or as an integral part of a marketing program.

BA 240 Governmental Accounting 3.00: Develops conceptual foundation underlying the accounting procedures, records and statements used to summarize and disclose the results of non-profit and governmental activities. Recommended: BA 95 or BA 96 or BA 111.

BA 242 Introduction to Investments 3.00: Study popular investment vehicles--what they are, how they can be utilized and the risk and return possibilities. Emphasizes stocks and bonds, mutual funds, options and real estate. Examines securities exchanges and the functions of the broker. Recommended: MTH 20

BA 244 Introduction to Records Management 3.00: Offers a study of the life cycle of records on all types of media from creation through disposition. Considers responsibilities of the records manager as they relate to each subsystem of the total records management program and to the needs of all types of organizations.

BA 249 Principles of Retailing and E-tailing 3.00: Covers analyzing target market, developing retail marketing mix elements, and reviewing store planning techniques used by retailers. Includes discussions of changing retailing environment and impact of government regulations.

BA 250 Small Business Management 3.00: Designed for students and prospective small business owners and managers. It emphasizes the general functions, procedures, and specific subject areas related to initiating, organizing, and operating a successful small business. It specifically prepares the student to develop a business plan for opening a business. Recommended: BA 101, Introduction to Business

BA 251 Office Management 3.00: Introduces organizing, planning, leading, and controlling functions of an office and the resulting role and responsibilities of the office manager. Recommended: BA 206. Prerequisite: BA 101 or instructor permission.

BA 256 Income Tax 3.00: Introduces preparation of federal individual and sole proprietorship income tax returns. Provides brief overview of partnership and corporate returns.

BA 270 Global Business Management 3.00: This course explores the contemporary issues and the unique challenges businesses face when moving into the int'l marketplace. The emphasis will be on the changing nature of firms doing business outside their national borders and learn how information technology and technological changes in our society have driven the globalization of products and markets. Recommended: BA 101, BA 203, and BA 234.

BA 280A CE / Business Experience 1.00–3.00: Offers relevant field experience in business environments in one of the following areas: bookkeeping, marketing, management, international business, advertising, banking, purchasing, investment, finance and customer services (sales or credit services). Allows exploration of career options. Department permission required.

BA 280B CE / Business Experience - Seminar 1.00: Supplements on-the-job experience through feedback sessions, instruction in job-related areas, and linkages to the student's on-campus program. Department permission required.

BA 285 Human Relations-Organizations 3.00: Explores interactions in organizations by examining human perceptions, communications, small group dynamics and leadership. Includes dynamics of change, cultural diversity, substance abuse, work stress, ethics and social responsibility, and the challenges of globalization.

BA 9235 Financial Statement Analysis I 3.00: Presents techniques used in financial statement analysis from credit manager's perspective. Includes common-sizing, ratio analysis, and cash flow analysis. Recommended: BA 113.

BA 9703 Income Tax Preparation / Basic 8.00: Elements of taxation. Meets the statutory educational requirements for those wishing to be licensed income tax preparers in Oregon.

BA 9706 Income Tax Preparation / Advanced 3.00: Provides comprehensive review of federal individual income tax law for return preparers and consultants. Includes update of changes in current law. Qualifies for CPE credit.

Building Construction Technology

BCT 100 Overview to the Construction Industry 3.00: Study of management functions in the construction industry. Planning and scheduling, project organization and communications, cost control, project and contract administration, and project close out. Basic construction industry operation knowledge, or instructor's permission required.

BCT 101 Principles of Construction Surveying 3.00: Provides a collaborative learning framework in which learners practice the basic concepts of construction surveying. Includes set up and use of auto level, total station, leveling rod and steel tape. Also included are field note assembly and interpretation, and elevation and distance measuring techniques. Vertical and horizontal angle calculations are also covered. Includes grid method for generating contour maps. Prerequisite: Prior completion of BCT 104 or instructor permission.

BCT 102 Residential Printreading 3.00: Provides a collaborative learning framework from the development of printreading skills relevant to residential building construction. Students will demonstrate an understanding of print reading by analyzing, interpreting, and measuring plans for relevant construction information, and by sketching scaled plans for peer and instructor evaluation. Work will be limited to residential prints.

BCT 103 Residential Materials and Methods 3.00: Introduces function and performance characteristics of basic building materials, components, methods, and sequences in the construction process. Emphasizes residential construction.

BCT 104 Construction Math 3.00: Provides a framework for learners to apply mathematical concepts and principles to building construction situations problems through collaborative learning. Learners will also develop, articulate and document their own problem solving strategies. Exploration of construction problems will be limited to light framing, concrete, finish carpentry and cabinetmaking. Prerequisite: Placement into MTH 20A or department approval.

BCT 105 Vectorworks for Constructors 3.00: Learn to create 2D architectural working drawing using VectorWorks CAD based software. A building blocks approach will be used to help learners develop the skills and vocabulary necessary to generate their own working drawings. Suitable for both MAC and Windows operating systems. Recommended: Blueprint reading and basic computer skills.

BCT 106 Hand Tool/Power Tool Use and Safety 3.00: Develops understanding of the hand tools and power tools used in the construction trades. Identifies commonly used hand/power tools, selecting the correct tool to complete assigned projects and working in a safe and competent manner. Emphasizes safety and care of tools.

BCT 115 Introduction to Residential Greenroofing 1.00: Provides a basic understanding of local residential greenroof design and installation. Covers greenroof benefits, best practices, material selections, and appropriate plantings; includes hands-on installation.

BCT 116 Alternative Building Design 3.00: This course introduces students to natural green building principles used in the design and construction of alternative buildings such as straw bale, cobb and rammed earth. Student team will develop designs by constructing scaled models, and will then prepare and deliver presentations that defend and promote their designs.

BCT 120 Floor Framing 3.00: Covers the basic floor framing systems and principles used in residential construction. Floor systems will be installed on foundations using current building construction methods. Learning will include floor leveling, sill plate installation, floor framing material identification, joist and beam lay-out, quantity take offs, estimating and related codes. Prerequisites: BCT 106 or instructor permission.

BCT 121 Wall Framing 3.00: Covers basic residential wood wall framing methods and principles used in current residential construction. Content will include wall lay-out and assembly of studs, corners, partitions and openings. Includes material quantity take offs, estimating and related codes. Structural sheathing, interior

wall bracing, bay framing, window box, framing arched openings and stair construction will also be covered. Prerequisite: BCT 106 or instructor permission.

BCT 122 Roof Framing I 3.00: Course covers basic residential roof rafter framing. Content covers rafter math calculations for various roof slopes, lay-out, part nomenclature, assembly procedures, related codes and material take-off. Ceiling joist, collar ties, gable roof, gambrel rood and hip roof types will be covered. Prerequisites: BCT 104 and 106, or instructor permission.

BCT 123 Roof Framing II 3.00: Layout, cutting and assembly of hip, intersecting and unequal pitch roofs, and dormers. Discussions include truss roof assemblies. Prerequisite:BCT 122; or instructor permission.

BCT 127 Concrete Construction I 6.00: Covers residential concrete construction, including layout, footings, foundation walls, slabs, stairs, and the handling and curing of concrete. Explore and use different forming methods and materials to erect a concrete foundation. Prerequisite: BCT 106 or instructor permission.

BCT 128 Exterior Finish 6.00: Course covers the installation, estimation of materials and labor of various exterior siding products. Includes construction of various horizontal lap, wood shingles and vertical sidings. Covers ceiling soffits, door, window and corner trim. Roofing covers composition, shake and shingle roofing. Prerequisites: BCT 106 or instructor permission.

BCT 129 Mechanical Systems for Kitchens and Baths 3.00: Covers electrical, plumbing, HVAC systems used in residential kitchens and baths. Students will become familiar with the code requirements and restrictions through the examination of remodeling case studies. Students will design general and task lighting systems for kitchens and baths.

BCT 130 Construction Safety 3.00: Requirements for safety on the job site, Occupational Safety and Health Act and other related regulations and legislation, accident prevention and hazard identification and procedures.

BCT 132 Computer Applications for Construction 3.00: Covers information generation, processing, distribution and utilization for the management of construction projects and construction companies. Emphasizes the design of the information process, the role of information technology in construction, software selection and the ongoing evaluation of the efficiency and effectiveness of the information process.

BCT 133 Commercial Materials and Methods 3.00: Materials and Methods used in commercial construction. Techniques and methods including building systems and assemblies.

BCT 134 Construction Scheduling 3.00: Methods of planning and scheduling construction projects. Emphasis on building and efficient use of construction schedules, including critical path method and resource and cost loading. Use of computer scheduling software to build and monitor schedules. Recommended: Basic knowledge of Microsoft Windows. Prerequisite: BCT 104 or Instructor permission.

BCT 150 Mechanical, Electrical and Plumbing 3.00: Covers the principles and applications of mechanical and electrical components during the construction process and of constructed facilities; heating, ventilating, air conditioning, plumbing, fire protection, power, lighting, distribution systems, security systems and a review of the related codes.

BCT 202 Business Principles for Construction 3.00: To learn fundamental business principles and practices used in managing a construction company. Establish objectives in marketing, operations and finance, and understand the relationship between those business activities. Study planning and management methods for achieving objectives. Learn the general legal requirements, accounting and record keeping practices.

BCT 203 Interior Finish 6.00: Covers codes, materials, installation, and estimating methods in residential drywall. Includes drywall, tape, finish, texture and patching. Finish carpentry covers materials types, take-offs and estimation of interior trim. Includes the miter cuts and installation of base molding, casing, crown molding, wainscot panel molding, door installation and various other interior trim treatments. A student may not receive credit for both BCT 203 and BCT 224 or BCT 226. Prerequisite: BCT 106 or instructor approval.

BCT 204B Construction Estimating - Residential 3.00: Introductory class in construction estimating concentrating on basic residential estimating techniques. Using plans for a small house, students will learn how to organize and prepare estimates, quantity take-off and pricing, and fundamentals of bid assembly. Prerequisite: BCT 102 and BCT 104; or instructor permission.

BCT 204C Construction Estimating - Commercial3.00: Introductory class in construction estimating concentrating on basic commercial estimating techniques. Using plans for a light commercial building, students will learn: how to organize and prepare estimates, quantity take-off and pricing, and the fundamentals of bid assembly. Prerequisites: BCT 102 and BCT 104; or instructor permission

BCT 206 Sustainable Construction Practices 3.00: Introduces the environmental, economical, and human consequences resulting from conventional building practices and the need for sustainable design and construction.

BCT 207 Construction Job Costing 3.00: Traces the construction dollar flow from time sheet to balance sheet. Emphasizing microcomputer methods, students are introduced to construction related financial documents: including "schedule of values", labor and operations cost reports, and construction budgets. Concepts such as unit analysis, job costing, and development of historic costs, life cycle costing and change order analysis are explored.

BCT 211 Remodeling 6.00: Because of the variety of projects and number of specialty trades engaged in remodeling, this course will focus on business principles and construction strategies most commonly encountered by the remodeler. This course covers the business principles associated with running a successful remodeling company; the steps necessary in acquiring a building permit; communicating effectively with sub contractors and clients; hands-on remodeling projects involving framing, concrete, interior and exterior finish, and basic electrical, plumbing and mechanical ventilation. Prerequisites: BCT 102, BCT 104 and BCT 106 or instructor approval.

BCT 213 Commercial Printreading 3.00: Covers typical commercial and civil construction plans and practices. Presents skills for print reading and applying knowledge to commercial construction projects. Prerequisite: BCT 102 or instructor permission based on industry experience in print reading.

BCT 214 Advanced Construction Estimating 3.00: Advanced estimating for larger scale projects. Discussion of labor rates, specifications, budget estimating, assemble of bids bidding procedures, including use of computer estimating software. Prerequisite: BCT 204C or instructor permission.

BCT 216 Cabinetry I 2.00: Focuses on materials, hardware and techniques used to build industry standard cabinetry. Covers productive uses and safe operation of hand and power tools as well as equipment and machinery used for the production of cabinetry. Generate shop drawing and subsequently machine, mill and assemble a cabinet complete with plastic laminate countertop.

BCT 217 Cabinetry II 2.00: Covers more advanced forms of cabinet construction and joinery such as doweling, box joints, dovetail joints and lock shoulders. Machining and assembly of the five piece door will be covered. An instructor designed cabinet project will supply the frame work for learning experience. Prerequisite: BCT 216 or instructor permission.

BCT 218 Woodworking Projects 2.00: Designed for independent work on cabinet projects. Students are required to present shop drawings for instructor approval before beginning. Students must supply their own materials. Instructor will evaluate student knowledge of hand and power tool safety at first class meeting to determine whether skill level is appropriate for independent work.

BCT 219 Cabinetmaking I 6.00: Learners will become familiar with the skills, materials, hardware and equipment necessary to produce industry standard cabinets. Students will learn and demonstrate the safe use of cabinetmaking hand and power tools. Students will draw shop drawings and estimate materials for cabinetmaking jobs. Learners will develop cabinetmaking skills by constructing instructor designed cabinet projects.

BCT 220 Cabinetmaking II 6.00: Expands on the data management, materials, hardware, outsourcing alternatives, equipment and techniques necessary to produce industry standard cabinetry covered in BCT 219. Includes cabinet construction using the 32mm system, and stile & rail door making. Cabinet installation methods for kitchens and baths are covered including room preparation, cabinet layout, cabinet storage, cabinet and countertop installation, appliance installation, and mouldings. Kitchen and bath design skills will be developed by hand drafting assigned case studies. Prerequisite: BCT 219.

BCT 221 Construction Law for the Contractor 3.00: Introduces basic principles of construction law used in managing construction contracts. Gain working knowledge of construction law principles through examination of case studies.

BCT 222 Engineering for Constructors 3.00: Presents the fundamentals of analysis and design of residential construction to students with limited technical training. Investigation of basic contemporary structural systems in masonry, steel and wood framing systems will be used. Concepts such as determination of support forces, bending moments and shear, strengths and properties of materials, loads and dimensional properties are explored. Prerequisites: BCT 104, 102.

BCT 223 Finished Stair Construction 3.00: Covers the construction and finish of interior staircases, including balustrades, handrails and guardrails. Emphasizes the materials and techniques used to construct finish stairs, relevant building codes, and methods used to estimate labor and materials associated with stair and rail construction. Prerequisites: BCT 106 or instructor permission.

BCT 225 Construction Project Management 3.00: Study of management functions in construction industry. Planning and scheduling, project organization and communications, cost control, project and contract administration, and project close out. The instructional approach is based on the general contractor's point of view, and the intent is to provide a good working knowledge of construction project management procedures.

BCT 226 Finish Carpentry 2.00: Covers techniques and methods used to hang and install interior doors, install door hardware; measure, cut and install base trim, casing, crown molding wainscoting and various interior window trim treatments; and in plastic laminate countertop fabrication. Covers estimating techniques used to establish labor and material costs associated with finish carpentry. A student may not receive credit for both the BCT 223, 224 and 226 series and BCT 203.

BCT 229 Introduction to Kitchens and Baths 2.00: Explores the history and trends of the kitchen and bath industry. Focuses on basic kitchen & bath layouts and specification of specialized equipment, materials and surfaces required for safe and functional kitchens & baths. Products include cabinet systems, appliances, equipment and surfacing materials. Students will complete basic kitchen and bath designs based on case studies. Prerequisite: ARCH 110 or instructor approval.

BCT 244 Kitchen and Bath Cabinet Installation 2.00: Students will learn professional installation methods of kitchen and bath cabinetry. Room preparation, cabinet layout cabinet storage, cabinet and countertop installation, appliance installation, moldings will be covered. Customer relations and job site management techniques will be explored.

BCT 250 Construction Practice 4.00: Construction management capstone class applying knowledge gained in previous estimating, scheduling, project management, and business classes to a mock construction project. Exposed to and solve real life construction management situations and problems. Prerequisite: Prior completion of BCT 134, 213, 214, 225 and INSP 251, or instructor permission.

BCT 280A CE / Building Construction 1.00–12.00: On-the-job training at a department-designated worksite, giving students experience in real work conditions and helping determine career choices. Department permission required.

BCT 280C Cooperative Education BCT Design/ Build Remodeling 1.00–5.00: On-the-job training at a department-designated worksite, giving students experience in real work conditions and helping determine career choices. Department permission required.

Biology

BI 55 Human Biology 4.00: Surveys human body systems. Exercises include the identification of structural components of the body as well as investigations in physiology. Designed for students in the Medical Assisting and Ophthalmic Medical Technology programs. Prerequisites: Good command of the English language and Placement into RD 90.

BI 101 Biology 4.00: A laboratory science course designed for non-biology majors. Introduction to the properties of life, morphology and physiology of cells, cell chemistry, energy transformation, and the basic principles of ecology. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

BI 102 Biology 4.00: A laboratory science course designed for non-biology majors. The second term of a three-term sequence. Presents protein synthesis, cell division, genetics, reproduction and development, and evolution. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores, and BI 101 or BI 101B.

BI 103 Biology 4.00: A laboratory science course designed for non-biology majors. Presents the evolutionary relationship among the kingdoms. Includes a comparison of biological systems across kingdoms. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores, and (BI 101 or BI 101B) and BI 102.

BI 112 Cell Biology for Health Occupations 5.00: A laboratory science course designed as a prerequisite course for students who plan to take microbiology and/ or anatomy and physiology. Topics will include study of the scientific method, cellular chemistry, cell structure and function, principles of inheritance, and laboratory skills. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

BI 121 Introduction to Human Anatomy & Physiology I 4.00: Surveys anatomical terminology, basic chemistry, cell structure and function, tissues, and the following systems: integumentary, skeletal, muscular, and nervous. Lecture discussions complemented by laboratories involving physiological exercises, dissections, microscopy, and multimedia. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

BI 122 Introduction to Human Anatomy & Physiology II 4.00: Surveys the endocrine, lymphatic, cardiovascular, digestive, respiratory, reproductive, urinary, and some coverage of human development, human genetics, and immunology. Lecture discussions are complemented by laboratories which include physiological exercises, dissections, microscopy, and multimedia. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores, and BI 121.

BI 141 Habitats / Life of the Forest 4.00: Examines structure and function of Oregon forest ecosystems. Covers distribution and interactions of plants, animals, microorganisms, climate and basic geology. Laboratory emphasizes identification and environmental testing. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

BI 142 Habitats / Marine Biology 4.00: Examines marine environment and the ecology, physiology, and morphology of marine plants and animals, emphasizing Oregon. Laboratory focuses on identification and environmental testing. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

BI 143 Habitats / Fresh Water Biology 4.00: Covers environments of freshwater streams, lakes, and marshes. Includes effects of physical and chemical factors on organisms, along with the organisms, their biological interactions and nutrient cycles. Explores ecological factors of freshwater environments and the effects of human activities on them. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

BI 145 Introduction to Wildlife Conservation and Management 4.00: Introductory lecture and laboratory on fundamental wildlife conservation and management. Course will cover the basic elements of wildlife population dynamics, biodiversity, the importance of habitat, legal and social aspects of wildlife management, human impacts on wildlife, and some management techniques. Wildlife examples from Oregon will be included. Prerequisites: Placement into MTH 60 and placement into WR 115. Recommended: BI 101 or equivalent.

BI 160 Ecology/Field Biology / Coast 1.00: Field trip experience designed to introduce the relationships among plants, animals and the general geologic formation of various life zones for the Oregon Coast.

BI 161 Ecology/Field Biology / Malheur 2.00: Field trip experience designed to introduce the relationships among plants, animals and the general geologic formation of various life zones for the Malheur geographical area.

BI 163 Organic Gardening 4.00: Introduces the structure and function of soils including the soil food web, composting and compost tea, and the basics of biogeochemical cycling. Explores basic plant anatomy and growing flowers, vegetables and fruits in the Pacific Northwest. Includes organic pest control, beneficial insects and pruning and grafting. The laboratory will elucidate these concepts. An interest in plants and a basic high school biology course are recommended

BI 164 Bird ID and Taxonomy 4.00: An introductory course to the biology of birds of the Pacific Northwest. Emphasizes learning bird identification in the field by sight and sound. Aspects of avian ecology, natural history, and behavior will be studied. The student will be introduced to field techniques for identifying and studying birds. Recommended completion of WR 115

or placement into WR 121.

BI 170 Environmental Science 4.00: Examines major environmental questions facing the world today. Includes population growth, matter and energy resources, ecosystems, pollution, and environment and society. Explores broad range of environmental issues--including sustainability, the interconnection of the economy with ecosystem, short-term versus long-term gains, and the trade-offs in balancing problems and solutions. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

BI 198 Independent Study - Biology 1.00–4.00: Provides an opportunity for students to work independently on an individualized area of study within biology under the sponsorship and guidance of a biology faculty member. Prerequisite: Instructor permission.

BI 200 Principles of Ecology / Field Biology 4.00: Introduction to concepts of ecology. Includes lecture component covering the concepts of ecology and diversity of life and a field component surveying plants, animals, or other kingdoms, and interactions with their environment. May involve national or international travel. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

BI 202 Botany / An Introduction to the Plant Kingdom 4.00: A laboratory science course designed to have students develop knowledge about plant anatomy, physiology, how humans interact with plants, and particularly taxonomy with an evolutionary focus. Areas covered include mosses, ferns, conifers, and flowering plants. Recommended for students interested in agriculture, horticulture, ethnobotany, and general botany. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

BI 211 Principles of Biology 5.00: First term of a three term sequence for students majoring in biology and the sciences, including pre-medical, pre-dental, chiropractic, pharmacy, and related fields. Includes introduction to science, biochemistry, metabolism, the cell, molecular biology, and reproduction. Recommended: High school biology and chemistry in the past seven years. Prerequisites: WR 115 and RD 115 or equivalent placement test scores, and MTH 60 or higher. Prerequisite/Concurrent: CH 100 or above; or instructor permission.

BI 212 Principles of Biology 5.00: Second part of a three-quarter sequence designed for students majoring in biology and the sciences, including pre-medical, pre-dental, chiropractic, pharmacy, and related fields. Topics include: inheritance, the genetic code, modern and classical genetics, evolution, diversity, and systematics. This course may include some dissection of plants and animals. Prerequisite: BI 211 and its prerequisite requirements.

BI 213 Principles of Biology 5.00: Third term of a three term sequence for students majoring in biology and the sciences, including pre-medical, pre-dental, chiropractic, pharmacy, and related fields. Includes plant and animal anatomy and physiology, and individual, population, community and ecosystem ecology. Prerequisite: BI 212 and its prerequisite requirements.

BI 222 Human Genetics3.00: Lecture/discussion presentation of the fundamentals of human genetics. Includes physical basis of inheritance, the mechanics of inheritance, probability, sex chromosomal abnormalities, autosomal anomalies, gene structure and function, molecular genetics, behavioral genetics, twinning and contemporary issues in human genetics. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

BI 231 Human Anatomy & Physiology I 4.00: First term of three-term sequence covering: chemistry, cells, tissues; the skin, skeletal and muscular systems and nervous tissue. Lecture discussions complemented by laboratories involving microscopy, animal dissection, physiological exercises and computer work. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores, and BI 112 or (BI 211 and BI 212)

BI 232 Human Anatomy & Physiology II 4.00: Second term of a three-term sequence. Courses may not be taken out of sequence. Covers nervous, endocrine, cardiovascular and immune systems. Lecture discussions complemented by laboratories involving microscopy, animal dissection, physiological exercises and computer work such as CD-ROM-based exercises. Prerequisite: BI 231 with a "C" or better and its prerequisite requirements.

BI 233 Human Anatomy & Physiology III 4.00: Third term of a three-term sequence. Courses may not be taken out of sequence. Covers digestive, respiratory, urinary and reproductive systems; metabolism fluid and electrolyte balance; embryology and genetics. Lecture discussions will be complemented by laboratories involving microscopy, animal dissection, physiological exercises and computer work such as CD-ROM-based exercises. Prerequisite: BI 232 with a "C" or better and its prerequisite requirements.

BI 234 Microbiology 5.00: Lecture, recitation, and laboratory cover: bacterial identification, morphology, metabolism and genetics; bacterial, viral, and parasitic relationships with human health and disease; and basic immunology. Laboratory stresses aseptic technique, bacterial identification and physiology using a variety of media, culturing techniques, and staining techniques. Recommend BI 231. Prerequisites: BI 112 or (BI 211 and BI 212) and their prerequisite requirements.

BI 237 Applied and Environmental Microbiology 4.00: Highlights the medical and environmental aspects of microbiology with an emphasis on genetic engineering, forensics, immunology, epidemiology, emergent diseases, water quality, bioremediation, and food safety. Stresses molecular techniques including DNA fingerprinting, water and food analysis and the manipulation of bacterial genes. Note: this course is not intended to replace Microbiology 234. Prerequisite: (BI 101 or BI 101B) or instructor permission.

BI 241 Pathophysiology 3.00: Lecture/discussion presentation of alterations in homeostasis, alterations in cellular function; and diseases of the immune, muscular, skeletal, integumentary, nervous, cardiovascular, respiratory, digestive, endocrine, urinary, and reproductive systems. Prerequisites: BI 231 and 232. BI 233 is either a prerequisite or may be taken concurrently.

BI 280A CE / Biology Cooperative Education 1.00–10.00: Requires students to make a cooperative education training agreement with an instructor, an employer/supervisor, and a cooperative education specialist. The agreement will clearly define student, employer/supervisor, and instructor information as well as the job description (paid or unpaid) and length of job. The job should involve laboratory or field work associated with biology and/or environmental science and should extend student knowledge of Biology/Environmental Science. Prerequisite: BI 101 or BI 211, and instructor permission.

BI 298 Biology Independent Study 1.00–4.00: Provides an opportunity for students to work independently on an advanced individualized area of study within biology under the sponsorship and guidance of a biology faculty member. Recommend: Prior study in biology. Prerequisites: Instructor permission.

Bioscience

BIT 101 Introduction to Bioscience Technology 4.00: Introduction to and survey of the broad range of activities in bioscience technology. Major applications and advances in pharmaceuticals, medical devices, genomics, forensics, proteomics, agriculture, and environmental science will be covered. Includes examination and discussion of ethical, legal and hands-on activities based on authentic bioscience applications. Recommend: BI 112 or 211. Prerequisites: Placement into WR 115 and RD 115.

BIT 105 Bioscience Workplace Safety 2.00: Survey of technical and regulatory aspects of physical, chemical, radiation and biological safety in the bioscience laboratory. Topics covered include: mechanical and electrical systems, hazards due to temperature and pressure, handling and storing hazardous chemicals, personal protective equipment, chemical waste disposals and spill, ionizing radiation and control measures, biological containment, disinfection/sterilization, medical waste handling, applicable regulations and guidelines. Prerequisites: Placement into WR 115 and RD 115.

BIT 107 Bioscience Lab Math 2.00: Develops mathematics skill and problem-solving related to work in a bioscience laboratory or biomanufacturing environment. Includes calculations for solution preparation, analysis and manipulate of molecules and cells, analysis and interpretation of data and commonly used statistical methods. Recommend: Prior or concurrent college-level course in Chemistry, or BI 112 or 211, and MTH 65.

BIT 109 Basic Laboratory Techniques and Instruments 5.00: Introduces fundamental principles and practices for the bioscience laboratory. Principles of quality documentation, safety, and precise communication will be emphasized throughout, in the context of technical activities that include solution preparation, instrumentation for measurements (weight, volume, temperature, pH, conductivity and spectroscopy), assay techniques and routine laboratory maintenance. Recommend prior or concurrent college level course in Chemistry, or BI 112 or 211, and MTH 65. Prerequisite: Placement into WR 115 and RD 115. Prerequisite or concurrent enrollment in: BIT 105 and BIT 107.

BIT 110 Bioscience Technology Basics 9.00: Introduces fundamental principles and practices for the bioscience laboratory and biomanufacturing environment.

Principles of quality documentation, safety, and communication will be emphasized throughout, in the context of technical activities that include solution preparation, instrumentation for measurements (weight, volume, temperature, pH, conductivity and spectroscopy) and selected biomanufacturing activities. Recommend: concurrent enrollment in BIT 181. Recommend: MTH 65.

BIT 125 Quality Systems in Bioscience Technology 2.00: Introduction to internal and external quality systems that apply to the bioscience industry, with emphasis on working a regulated environment. Also covers various agencies that regulate the bioscience industry, FDA regulation for good laboratory and manufacturing practices (GLP and cGMP), and proecesses relating to product approval.

BIT 165 Biotechniques / Recombinant DNA 4.00: This course will give students authentic hands-on experience in recombinant DNA work. Students will learn the basic principles, strategies and techniques that are the essential tools for molecular biology. These include the preparation of plasmid vector and insert DNA, transformation, plasmid purification, and analysis of constructs from restriction patterns, Southern blot hybridization and PCR. Recommended: BI 101 or 211 and CH 100, 104 or 221.

BIT 175 Biotechniques / Protiens 4.00: Covers theory and practice in the purification and analysis of protiens. Techniques commonly used in reasearch labs and biotechnology settings will be covered, including protein assay, SDS-PAGE, enzyme assay, chromatography and protein purification principles and practices. Recommended BI 101 or 211 and CH 100, 104 or 221, and MTH 95

BIT 181 Exploring Bioscience 2.00: Overview and exploration of bioscience technology, from research and development to manufacturing. Covers career options and pathways, and guides students in the development of skills to identify potential internships, entry-level positions and education and training opportunities that fit the student's goals and trends in the field. Participation in field trips is essential. Prerequisite: Concurrent enrollment in BIT 110 or instructor permission.

BIT 201 Immunochemical Methods 5.00: Introduces the general properties adn uses of antibody molecules. Includes an overview immune response, biosynthesis of immunoglobulin, obtain, purifying and labeling antibodies, and using antibodies in a variety of common applications (ELISA, Western blot, immunoprecipitation and immunocytochemistry, antibody-based affinity chromatography). Prerequisite: BIT 109 or 110; BI 112 or CH 100 or higher; or instructor permission.

BIT 203 Recombinant DNA 5.00: Laboratory-intensive course focusing on the strategies and techniques used in recombinant DNA work. Covers vector and insert options and preparation, quantitation of DNA, ligation and transformation procedures, and analysis by restriction digest, blot hybridization and PCR. Prerequisites: BIT 109 or BIT 110; and any of the following: BIT 101, BI 102, BI 112, BI 212 or BI 234, or instructor permission.

BIT 205 Bioseparations 5.00: Introduction of commonly used methods for separation of biological molecules for both analytical and preparative applications. This laboratory-intensive course will cover the principles of and practice in filtration, differential precipitation, and electrophoretic and chromatographic techniques. Prerequisite: BIT 109 or BIT 110; and any of the following: BIT 155, BI 112, CH 100 or higher; or instructor permission.

BIT 207 Cell Culture 5.00: Laboratory-intensive course providing introduction to and practice in the culture of animal cells and cell lines. Focus is on routine maintenance and record-keeping, including media preparation, cryopreservation, and troubleshooting common culture problems. Prerequisite: BIT 109 or BIT 110 or instructor permission.

BIT 211 Biomolecular Principles 4.00: Structure/function relationships of biological molecules. Principles of organic and biochemistry will be related to practical problems of function, detection and separation of biological molecules. Prerequisite: (CH 106 or 223); and BIT 109.

BIT 215 Protein Purification 5.00: Application of commonly used methods for separation of biological molecules in multi-step protein purifications. This laboratory intensive couse will focus on issues of recovery and yield, step-to-step analysis and troubleshooting, as well as documentation and reporting procedures and results. Prerequisite: BIT 205 or instructor permission.

BIT 217 Tissue Culture II 4.00: Second term of a two-term laboratory-intensive course offering more advanced training and practical experience in culture of plant and animal cells. Prerequisite: BIT 207.

BIT 221 Techniques in Molecular Biology I 5.00: First term of a two-term laboratory-intensive course focusing on theory and practice of techniques for analysis and manipulation of nucleic acids. Emphasizes recombinant DNA techniques and strategies and analysis of recombinant DNA by restriction digest, blot hybridization and PCR. Prerequisite: (BI 234 or equivalent), and BIT 109.

BIT 223 Advanced DNA Techniques 5.00: Laboratory-intensive course focusing on the theory and practice of techniques for analysis and manipulation of nucleic acids. Topics include construction and use of plasmid and phage libraries, DNA sequence determination and analysis, bioinformatics, and applications of PCR. Prerequisites: BIT 203 or instructor permission.

BIT 280A Work Experience 1.00–8.00: Students work in a biotechnology laboratory, supervised by professionals on site and by program instructor(s). Department permission required.

BIT 280B Work Experience 1.00: PREREQ: Department permission required.

Computer Applications

CAS 103 Introduction to Windows 1.00: Hands-on introduction to Microsoft Windows as a part of the operating system of Windows-based computers. Apply basic concepts of the Windows environment and acquire skill in using the mouse, menus, and other parts of the program. English communication skills necessary.

CAS 104 Basic Internet Skills 1.00: Hands-on course with emphasis on terminology, world wide web browsers, search techniques, and communication tools. May include independent web-based learning. Recommended: Windows, file management, word processing knowledge.

CAS 106 Introduction to X/HTML 1.00: Beginning hands-on course for creating simple web pages with X/HTML. Basic concepts of HTML and X/HTML tags and file transfer protocol (FTP) will be emphasized using a text editor and an FTP application. Recommended: Basic working knowledge of Windows, word processing, browsers and file management. Placement into RD 115 or Writing 115. Note: Students pursuing the CAS Web Site Development Certificate should take CAS 206 instead.

CAS 109 Beginning PowerPoint 1.00: Use PowerPoint software to produce visual media for electronic presentations, overhead transparencies, 35mm slides, or Web pages. Recommend: Placement into RD 115 or WR 115. Additional lab hours may be required, consult instructor.

CAS 110 Introduction to Web Graphics Using Fireworks 1.00: Introduces the basic painting and drawing features of Macromedia Fireworks to refine simple graphics for web sites. Introduces basic painting and drawing tools and whether to use bit-mapped or vector graphics. Recommended: CAS 111 or equivalent.

CAS 111D Beginning Web Site Creation / Dreamweaver 3.00: Introduces basic elements of web site creation using Dreamweaver. Includes web terminology, basic X/HTML, uploading pages to a server, site management, tables, layers, styles sheets, rollovers, optimizing graphics, and accessibility. Recommended: Basic working knowledge of Windows, word processing, browsers and file management. Placement into RD 115 or WR 115.

CAS 111F Beginning Web Site Creation / FrontPage 3.00: Introduces basic elements of web site creation using FrontPage. Includes web terminology, basic X/HTML, uploading pages to a server, site management, tables, layers, style sheets, rollovers, optimizing graphics, and accessibility. Recommended: Basic working knowledge of Windows, word processing, browsers and file management. Placement into RD 115 or WR 115.

CAS 112D Intermediate Dreamweaver 3.00: Plan and publish professional web sites by using the intermediate features of Dreamweaver. Utilize existing scripts, audio, video, graphics, and other emerging technologies. Explores issues such as accessibility, security, and e-commerce. Includes extensive use of the Internet. Recommended: CAS 111D or equivalent.

CAS 121 Beginning Keyboarding 3.00: Learn to key alphabetic portion of computer keyboard by touch. Introduces the numeric portion of the keyboard. Develop or refine basic keyboarding techniques and increase speed and accuracy. Produce basic business and academic documents using a word processor. Recommended: Placement into RD 90 or WR 90 or above. Additional lab hours may be required, consult instructor.

CAS 121A Beginning Keyboarding 1.00: Key alphabetic portion of computer keyboard by touch. Develop or refine basic keyboarding techniques. Recommended:

Placement into RD 90 and WR 90 or above. Additional lab hours may be required, consult instructor.

CAS 122 Keyboarding for Speed and Accuracy 3.00: Develops confidence, endurance, and control for accurate keyboarding while increasing keyboarding speed. Develops ability to proofread documents accurately and efficiently. Keying by touch is essential. Recommended: Placement into RD 115 or WR 115. Additional lab hours may be required, consult instructor.

CAS 123 Production Keyboarding 3.00: Rapid keyboarding and accurate proofreading of business letters, memos, reports, and tables. Increased speed and accuracy of keyboarding skills. Recommended: Placement into RD 115 or WR 115; CAS 216; OS 120, keying 45 wpm by touch; or instructor permission. Prerequisite: CAS 216. Additional lab hours may be required, consult instructor.

CAS 133 Basic Computer Skills/Microsoft Office 4.00: Hands-on computer literacy course for beginners. Includes mouse and windows basics and file management. Use MS Word, Excel, Access, PowerPoint, email, and Internet basics. An overview of the MyPCC Portal website is also included. Recommended: RD 115 or WR 115. Keyboarding by touch recommended. Additional Lab hours required.

CAS 135 Keeping Your Computer Healthy 3.00: Practical computer course demonstrating ways of using a Windows computer effectively, and maintaining it to operate smoothly, efficiently and securely. Explores issues such as protection from viruses, spyware and adware; data backup and recovery; organizing your files; connecting to the Internet; setting up a home network; customizing your Windows interface; installing/uninstalling software; speeding up Windows; maintaining and optimizing your PC to run at its best. Ideal for personal use or small business owners. Recommended: RD 115 or WR 115 and CAS 133.

CAS 140 Beginning Access 3.00: Hands-on microcomputer course covering beginning database management concepts including tables, forms, reports, queries and basic macros. Stresses a working knowledge of database management vocabulary. Emphasizes efficient use of Access toolbars and menus. Database design issues are discussed but not emphasized. Recommended: Placement into RD 115 or WR 115.

CAS 150 Introduction to Speech Recognition 1.00: Use Speech Recognition software to input information into the computer. Students will train the software to his/her voice and learn voice commands to edit, format, and produce documents. Computer literacy required. Recommended: CAS 133 and placement into RD 80.

CAS 170 Beginning Excel 3.00: An in-depth, hands-on course that presents beginning spreadsheet concepts. Use Excel efficiently to design and create accurate professional worksheets for use in business and industry. Includes entering data; creating formulas; professional formatting; creating charts; creating, sorting, and filtering lists; creating and using templates; and working with functions. Focus on ways to ensure accuracy including proofreading techniques and critical thinking to determine what data to present and how to present it. Recommended: Placement into RD 115 or WR 115 Additional lab hours may be required.

CAS 170A Beginning Excel 1.00: Hands-on opportunity covering basic concepts of using a spreadsheet program on a microcomputer. Includes moving around the spreadsheet, entering data, formatting, and printing. Stresses a working knowledge of spreadsheet vocabulary. Recommended: Placement into RD 115 or WR 115. Additional lab hours may be required, consult instructor.

CAS 171 Intermediate Excel 3.00: An in-depth, hands-on course that presents advanced features of Excel to design and create accurate, professional worksheets for use in business and industry. Includes financial, logical, statistical, lookup, and database functions; pivot tables; "what-if" analysis with data tables; importing data; complex graphs; macros; and solver features. Focus on ways to ensure accuracy including proofreading techniques and critical thinking to determine what data to present and how to present it. Prerequisite: CAS 170 or instructor permission.

CAS 175 Introduction to Flash 3.00: Introduces the basic Flash (Macromedia) interface. The Flash program is broken down into smaller parts so students can learn to use this complex program. Includes menu items, timelines, events, and toolbars to put together simple Flash projects. Emphasizes how to use the software. Recommended: CAS 111 or equivalent.

CAS 208 Beginning Photoshop for the Web 3.00: Introduces basic painting and drawing features in Adobe Photoshop to create and refine graphics for websites. Introduces basic painting and drawing tools, and export options for the web. Emphasizes learning the Photoshop interface efficiently. Recommended: MM 120 and one of the following: CAS 111D or CAS 111F or CAS 206 or equivalent.

CAS 206 Principles of HTML/XHTML 4.00: Create complex web sites involving a variety of technologies using HTML and XHTML.

CAS 213 Enhancing Web Pages with JavaScript 4.00: Presents a thorough introduction to the JavaScript language from a non-programmers viewpoint. Add interactivity to web pages and perform a variety of tasks such as validating form input, manipulating browser windows, and working with cookies. Recommended: CAS 111 or equivalent.

CAS 214 Beginning ColdFusion 4.00: Develop dynamic web sites that pull data from a database and display it 'on the fly' in response to user inquiries. Learn server-side techniques such as responding to data submitted from forms, sending email, displaying images in response to user requests, validating entries, password protection, and working with files on the server. Create a dynamic e-commerce or business web site using ColdFusion. Recommended: CAS 111D.

CAS 215 Cascading Style Sheets (CSS) and Dynamic HTML 4.00: Create complex Cascading Style Sheets (CSS files) that format web pages according to industry and accessibility standards, work in multiple browsers, and separate content from presentation. Develop web pages using XHTML, Dreamweaver, or another HTML editor that can be customized by the user. Create stunning, interactive web pages using CSS and Dynamic HTML. Recommended: CAS 206 or HMTL coding skills.

CAS 216 Beginning Word 3.00: Create, edit, and print documents such as letters, memos, and manuscripts; produce multi-page documents; use headers and footers; become familiar with the program's writing tools and basics of enhancing documents; and produce merged copy. Recommended: Placement into RD 115 or WR 115, and keyboarding 25 words per minute.

CAS 216A Beginning Word 1.00: Develops introductory skill in the use of a word processing program. Includes creating, editing, and printing basic documents such as letters and memos and become familiar with the program's writing tools. Recommended: Placement into RD 115 or WR 115; keyboarding 25 words per minute. Additional lab hours may be required, consult instructor.

CAS 217 Intermediate Word 3.00: Review basic features and develop additional skill using Word. Enhance documents through special formatting features such as graphic lines and images, Word Art, and clipart; work with headers and footers in multi-page documents; create and format tables; use advanced merge; create documents with newspaper columns; and create and use fill-in forms. Recommended: Placement into RD 115 or WR 115; CAS 216; or instructor permission. Additional lab hours may be required, consult instructor.

CAS 230 PageMaker 3.00: Use desktop publishing software features to design and create effective publications, such as announcements, fliers, advertisements, and reports. Create, import and manipulate text and/or graphics through use of software features. Recommended: Placement into RD 115 or WR 115; prior knowledge and use of Windows 95 or higher; CAS 133, 210, or 216; or instructor permission.

CAS 231 Publisher 3.00: Students will use desktop publishing software program to design and create effective publications that combine text graphics, illustrations, and/or photographs such as announcements, fliers, advertisements, and reports. Create, import, and manipulate text, graphics, and/or templates through program tools and features. Recommended: Placement into RD 115 or WR 115; prior knowledge and use of Windows technology and CAS 216 or instructor approval.

CAS 232 Desktop Publishing / InDesign 3.00: Students will use InDesign, a desktop publishing software, to design and create effective publications such as announcements, fliers, advertisements, and reports. Create, import, and manipulate text and/or graphics through use of software features. This software replaces PageMaker. Recommended: Placement into RD 115 or WR 115 and prior knowledge and use of Windows technology and CAS 216.

CAS 246 Integrated Computer Projects 4.00: Apply previous computer and business knowledge to create individual and group projects using software found in today's workplace. Use integrated software (i.e. MS Office) to learn skills such as linking and embedding, e-mail, Internet, FAX and scanners. Recommended: 3 credits of word processing and 3 credits of spreadsheet or instructor permission. Additional lab hours may be

required, consult instructor.

CAS 280W CE / Web Site Development 1.00–4.00: Provides field experience for students related to web site development. Recommended: Satisfactory progress through two terms of web site classes or equivalent experience.

Counseling and Guidance

CG 0690 Stopping Test Anxiety 1.00: Covers techniques for coping with excessive test-taking anxiety and improving overall test performance. CG 0693 Confidence Building Confidence Building Helps students explore the concept of self-confidence: how it is learned, how it can be developed and how it is sabotaged. Ideas, tools and techniques are introduced that will help students in their development of a stronger self-image.

CG 100A College Survival and Success 3.00: Provides information and techniques on time and money management, motivation, and goal-setting for college success. Develop skills in communicating in a culturally diverse learning environment and accessing online and in- person college resources and services.

CG 100B College Survival and Success 2.00: Provides information and techniques on time management, motivation, and goal-setting for college success. Develop skills communicating with instructors and students and accessing online and in-person college resources and services.

CG 100C College Survival and Success 1.00: Provides basic information on time management and goal setting for college success. Develop skills in communicating with instructors and accessing online and in-person college resources and services.

CG 101 Positive Family Relations I 1.00: Explores ways of building positive family relationships while enhancing individual self worth. Gain understanding of components necessary for a positive self image. Learn the characteristics common to both negative and positive communication.

CG 102 Positive Family Relations II 1.00: A continuation of CG 101. Explores family communication styles, family rules, family as impacted by government and social policies. Parenting strategies and the family as a source of self understanding will be discussed. Prerequisite: CG 101.

CG 105 Scholarships / $$ for College 2.00: Provides a systematic approach to researching and applying for scholarships. Topics include: Creating a scholarship portfolio, Oregon Student Assistance Commission application, PCC Foundation application, internet resources, and research strategies. Students will identify skills, accomplishments, values, goals, and life experiences, and learn strategies to translate them into an effective scholarship application. Interviewing tips will be discussed. Panels and guest speakers, including scholarship winners, will share perspectives on the scholarship process. Corequisite: WR 105: Scholarship Essay Writing.

CG 111A Study Skills for College Learning 3.00: Provides information, techniques, and strategies helpful in becoming more efficient in studying, notetaking, textbook reading, and taking exams. Identify preferred learning style and develop skills in scheduling study time, library research, memory strategies, and critical thinking. Prerequisites: Placement into WR 115 or RD 115 or above, or instructor permission.

CG 111B Study Skills for College Learning 2.00: Provides information, techniques, strategies and skills helpful in becoming more efficient in notetaking, textbook reading, and taking exams. Identify preferred learning style and develop skills in scheduling study time and memory strategies. Prerequisites: Placement into WR 115 or RD 115 or above, or instructor permission.

CG 111C Study Skills for College Learning 1.00: Introduces information and techniques in notetaking, textbook reading, and taking exams. Develop a study schedule. Prerequisites: Placement into WR 115 or RD 115 or above, or instructor permission.

CG 112 Stopping Test Anxiety 1.00: Covers techniques for coping with excessive test-taking anxiety and improving overall test performance. CG 130 Today's Careers Today's Careers Explores careers and what it takes to succeed in them. Covers ways of gathering information about specific occupations. Uses guest speakers from a variety of career areas and helps develop a plan for next steps. Provides basic career information.

CG 140A Career and Life Planning 3.00: This course provides students with the most in depth tools needed to make informed career decisions. Students will assess career confidence and readiness, skills, values, interests, personality, obstacles, attitudes and approaches to decision making. This course provides instruction on how to research career information, gain access to information materials, and methods of exploring careers. Also included is educational decision making which covers choice of major and college as well as planning a program of study. Prerequisites: Placement into WR 115 or RD 115.

CG 140B Career and Life Planning 2.00: This course provides students with the tools needed to make informed career decisions. Students will assess skills, values, interests, personality, obstacles, and approaches to decision making. The course provides instruction on how to research career information, gain access to information materials, and methods of exploring careers and majors. Prerequisites: Placement into WR 115 or RD 115.

CG 140C Career and Life Planning 1.00: This course provides students with the tools needed to make informed career decisions. Students will assess skills, values, interests, and personality toward making a career decision. The course provides instruction on how to research career information, gain access to information materials, and methods of exploring careers. Prerequisites: WR 115 or RD 115 or instructor permission.

CG 144 Introduction to Assertiveness 1.00: Provides basic communication skills students can use to state or declare their rights in a positive fashion to obtain desired results in career, social and personal relations. CG 145 Stress Management Stress Management Identifies specific, personal stressors and develops skillsthat enable students to more effectively deal with stress.

CG 146 Value Clarification 1.00: Examines beliefs, attitudes and values behind decisions and actions including whether behavior matches stated beliefs, evaluating consequences of choices and developing a process that will enable the development of personalized values. CG 147 Decision Making Decision Making Help students develop awareness of their personal decision- making style(s) in order to make effective life choices in personal, social, or work settings. Introduces information on effective decision-making.

CG 150 Exploring Careers in Science Technology 3.00: Explores the fields of microelectronics, biotechnology, aviation sciences and computer literacy. Covers lab experiments in biotechnology and environmental science classes, photolithography and pattern etching in microelectronics.

CG 151 Exploring Careers in Science and Technology II 3.00: Explores the fields of diesel, welding, building construction, auto collision repair and computer literacy in this new and exciting career exploration class.

CG 181 Exploring Gerontology 1.00: Introductory workshop and follow-up online assignments, meetings with course instructor, and fieldwork to explore options and to identify appropriate internships in the field. Fieldwork includes shadow mentorships, informational interviews, online research, and other activities to prepare students for paid and volunteer work in gerontology.

CG 190 Mentorship of Latino(a) Students 3.00: Offers instruction in areas of leadership and mentorship for those serving as mentors to Latino(a) high school students who are enrolled in the Oregon Leadership Institute. Covers the mentoring process as well as intercultural skills and effective communication strategies. Requires instructor consent and willingness to be enrolled for fall, winter, and spring terms.

CG 191 Exploring Identity and Diversity for College Success 4.00: This course is designed to assist students in gaining a deep understanding of the impact diversity and social justice has on human development and their experiences as students in college. The experiential nature of this course will provide students an opportunity to explore the different facets of identity development and how culture plays a role in their college experience. Participants will also develop culturally competent skills to succeed in college and in a diverse society. Prerequisite: WR 115.

CG 209 Job Finding Skills 1.00: Explores broad range of job search techniques, including building a job network, compiling appropriate information for job applications, targeting cover letters and resumes, typical interview questions and techniques. Promotes overall understanding of the job search process.

CG 280A CE / Career Exploration 1.00–3.00: Students earn credit for learning from practical experience at a worksite related to their major or career goal. Appropriate work experiences provide opportunities for

new learning and skill development. May be repeated up to 12 credits.

CG 280B CE / Career Exploration - Seminar 1.00: Required seminar supplements the work experience by offering a flexible menu of assignments from which to select a variety of activities. Includes video tapes, selected readings, workshops, lectures and a variety of career related exercises to enhance career development. Department permission required.

CG 280L Career Development 1.00: Provides Latino high school students an opportunity to develop leadership skills, explore career and educational options after high school through interactive sessions.

CG 282 Gerontology Profession Seminar 1.00: This seminar provides gerontology students close to graduation the opportunity to participate in a job club with other gerontology majors, prepare and get feedback on portfolios and resumes appropriate to gerontology, receive guidance from a gerontology specialist, and participate in other activities to prepare for entry into or path change within the field.

Chemistry

CH 100 Fundamentals for Chemistry 4.00: Covers selected basic chemical principles and computational problems found in first-year, 100-level chemistry courses. For students who have no chemical background and those with minimal problem solving skills. Recommended: Algebra I and II, or equivalent. Students who have completed or are concurrently enrolled in MTH 95 should consider enrolling in CH 104. Prerequisite: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

CH 101 Inorganic Chemistry Principles 5.00: Survey of inorganic chemistry with emphasis on solution chemistry. Designed for Allied Health students. Prerequisites: WR 115, RD 115, and MTH 20 or equivalent placement test scores. CH 102 Organic Chemistry Principles Organic Chemistry Principles Covers basic organic and bio-chemistry. Designed for Allied Health students. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

CH 104 General Chemistry 5.00: Includes general principles of chemistry, including atomic structure, mole concept, chemical reactions, stoichiometry, and gas laws. Designed for students in a health science curriculum leading to a Baccalaureate degree or liberal arts students who need a laboratory science elective. Prerequisite: WR 115 and RD 115 or equivalent placement test scores. Prerequisite/Concurrent: MTH 95

CH 105 General Chemistry 5.00: Includes stoichiometry, gases, oxidation-reduction, acid-base concepts, equilibrium, physical and chemical properties of solutions, and nuclear chemistry. Prerequisite: CH 104 and its prerequisite requirements.

CH 106 General Chemistry 5.00: Includes fundamental principles of organic chemistry and biochemical processes. Prerequisite: CH 105 and its prerequisite requirements.

CH 110 ChemExcel 1.00: One-credit optional workshop class taken concurrently with the CH 221, 222, 223 sequence. Provides the opportunity to enhance understanding of general chemistry topics through structured collaborative, active-learning activities (often under the direction of a peer leader), correlated with current lecture topics. NOT an open study/homework session. Concurrent registration with CH 221, 222, or 223 required.

CH 211 Introduction to Biochemistry 4.00: Introduces the chemistry of biological systems. Principal topics covered are: the structure and function of biologicalmolecules, the chemistry of heredity, metabolism and biological energy. CH 106 or 200-level organic chemistry required.

CH 221 General Chemistry 5.00: Introduction to chemistry covering measurements, classification and properties of matter, nomenclature, atomic structure and modern atomic theory, periodic table and chemical periodicity, and chemical bonding. Recommended for chemistry and other natural science majors, and pre-professional majors in engineering, medicine and dentistry. Successful completion of high school or college chemistry class with a lab component (e.g. CH 100) in the last 5 years required. Students who have not taken high school chemistry within the last 5 years are STRONGLY encouraged to take CH 100 before CH 221. Prerequisite: WR 115 and RD 115 or equivalent placement test scores. Prerequisite/concurrent: MTH 111B or MTH 111C.

CH 222 General Chemistry 5.00: Topics include: stoichiometry; chemical reactions and equations; thermochemistry; physical states of matter including properties of gases, liquids, solids and solutions; and, an introduction to organic chemistry. Special topics will be included as time and interest allows. Successful completion of Chem 221 and its prerequisites required.

CH 223 General Chemistry 5.00: Topics include: chemical kinetics and ionic equilibria; electrochemistry; nuclear chemistry; thermodynamics; and descriptive chemistry topics. Special topics will be included as time and interest allows. Prerequisites: CH 222 and its prerequisite requirements.

CH 241 Organic Chemistry 5.00: Includes fundamentals of organic chemistry, bonding, hydrocarbons, alkyl halides, alcohols, nucleophylic and radical reactions, stereochemistry and spectroscopy. Recommended for chemistry and other laboratory science majors, and pre-professional students (medical, dental, pharmacy, physical therapy, veterinary, chiropractic, etc.) Recommended: CH 106, CH 223 or equivalent. Prerequisite: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

CH 242 Organic Chemistry 5.00: Includes conjugation, aromaticity, arene chemistry, aldehydes, ketones and spectroscopy. Prerequisite: CH 241 and its prerequisite requirements.

CH 243 Organic Chemistry 5.00: Includes carboxylic acids, amines, carbohydrates, amino acids, proteins, lipids, nucleic acids, heterocyclic compounds, spectroscopy and selected topics. Prerequisite: CH 242 and its prerequisite requirements.

Chicano / Latino Studies

CHLA 201 Introduction to Chicano/Latino Studies I 4.00: Introduces Chicano/Latino history in the United States beginning with Spanish colonization and continuing with the Mexican-American War and the migration of Chicanos/Latinos. Covers the events that shaped the Chicano/Latino experience, such as the Bracero Program, the Chicano Movement, and U.S. foreign policy in Latin America.

CHLA 202 Introduction to Chicano/Latino Studies II 4.00: Introduces Chicano/Latino social, political, and economic status in the United States. Includes an examination of the political and economic structure, organization and U.S. society, and the status and class position of various Chicano/Latino groups. Also includes a demographic profile and overview of current social issues.

CHLA 203 Introduction to Chicano/Latino Studies III 4.00: Introduces the cultural heritage of Chicano/Latino people in the United States. Drawing on disciplines such as anthropology, folklore, literature, film, linguistics, folk and popular culture, intergration of various traditions in Chicano/Latino communities, are examined.

Computer Information Systems

CIS 100 TEKnology - High Tech Career Exploration 4.00: Explores high tech careers including education, ethics, and work environment. Assess individual skills, abilities and attitudes. Presents high technology disciplines through class discussions, presentation by professionals, mentoring, and hands-on activities. Create a written plan to help them prepare for a career in high technology. Note: Not an elective toward a CIS degree or certificate.

CIS 100A High Tech-Career Exploration I 2.00: Introduces high tech careers including education, ethics, and work environment. Assess individual skills, abilities and attitudes. Presents high technology disciplines through class discussions, presentation by professionals, mentoring, and hands-on activities. Explores a plan to help prepare for a career in high technology. English communication skills necessary. Note: This elective course will not count towards a CIS degree or certificate. A student cannot receive credit for both CIS 100 (A and B) and CIS 100.

CIS 100B High Tech Career Exploration II 2.00: Continues high tech career exploration including education, ethics, and work environment. Assesses individual skills, abilities and attitudes. Presents high technology disciplines through class discussions, presentation by professionals, mentoring, and hands-on activities. Complete a written plan to help prepare for a career in high technology. English communication skills necessary. Recommended: CIS 100A. Note: This elective course will not count toward a CIS degree or certificate. A student cannot receive credit for both CIS 100 (A and B) and CIS 100.

CIS 120 Computer Concepts I 4.00: Demystify computing and discover how computers work. Solve practical problems using computer technology. Explore the Internet and the creation of basic web pages. Discuss controversial ethical issues and their impact on society. Prerequisite: WR 115, RD 115 and MTH 20 or equivalent placement test scores, and basic computer

skills equivalent to CAS 133 or BA 131.

CIS 121 Computer Concepts II 4.00: Evaluate, select and apply computer technology to solve practical problems. Use Internet technologies. Organize and display information using a database. Address ethical issues. Recommended: CIS 120 or equivalent. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

CIS 122 Software Design 4.00: Illustrates the importance of software design as part of the software development life cycle. Prepares student to take programming courses, by giving examples of well-designed software projects. Student is expected to design small programming projects, and code the projects to prove the design. Focus is on procedural design. Additional lab hours may be required. Recommended: CIS 120 and CIS 121. May be taken concurrently with CIS 121. Prerequisites: WR 115, RD 115, and MTH 20 or equivalent placement test scores.

CIS 125D Database Application Dev I 4.00: Concepts of a client-based relational database management system (RDBMS) and application of such systems to the business environment. Topics include database management issues, database design, creating and maintaining databases, creating forms, queries and reports. Design, create and maintain a database system. Recommended: CIS 121 or instructor permission.

CIS 133B Introduction Visual Basic.NET Program 4.00: Introduces design, implementation and testing of software using Visual Basic.NET. Structured design techniques emphasized throughout. Write and test a final Visual Basic.NET program that solves a business-oriented problem. Recommended: CIS 122; or instructor permission.

CIS 133J Java Programming I 4.00: Introduces elementary principles of software engineering, structured program design, modular programming, object oriented program design, event driven programming, problem solving and social issues of computer systems. Topics include scalar and structured data types, alternation and repetition control structures, modular programming, object oriented programming and use of event driven graphics user interfaces. Recommended: placement in WR 121 and CIS 122 or equivalent.

CIS 135D Database Application Development II (VBA) 4.00: Design, development and implementation of a complete database application using Visual Basic for Applications (VBA). Covers Access Object Model, user interfaces, object variables, ADO automation, databases on a server, and COM add-ins. Thorough documentation and structured programming techniques will be emphasized. Recommended: CIS 133B or CIS 125D or instructor permission.

CIS 140D Operating System / Microcomputers 4.00: Provides the basic concepts of Linux and Windows operating systems. Includes basic operating system functions, file/folder management, disk partitioning and formatting, operating system and application installation, and system configuration. See www.pcc.edu/cis. Recommended: CIS 120 or instructor permission.

CIS 140M Operating Systems I / Microsoft 4.00: A first course in Microsoft operating systems administration including installation, configuration, and management. Command line and GUI tools used to organize, manage and maintain the file system are covered. Additionally students are introduced to users, groups, printing, profiles policies and the registry. Recommended: CIS 120

CIS 140S Perl Script Programming 1.00: Prepares students to install and configure Perl on Linux; design, implement, and test Perl scripts; debug Perl scripts; and locate, read and integrate information from a variety of technical sources. Recommended: Experience writing shell scripts and using Unix regular expressions as covered in CS 140U or equivalent.

CIS 145 Microcomputer Hardware and Troubleshooting 4.00: Students will learn to identify, remove, and install standard components of a PC style microcomputer, including motherboards, CPUs, RAM, hard drives, removable media drives and power supplies. Additional topics include BIOS, CMOS, the boot process, video displays, printers, and home networking.

CIS 178 Applied Internet Concepts 4.00: Introduces the Internet from a user's perspective, with emphasis on productive, professional access. Topics include how to connect to the Internet, how to communicate with others, how to find and share information productively, as well as educational, business and social issues related to the Internet. Recommended: CIS 120 or instructor permission.

CIS 179 Data Communication Concepts I 4.00: Provides basic concepts of data communications, networking and connectivity. Explores hardware, connectivity, signaling, addressing, network topologies, communication protocols, network designs, switching, management, TCP/IP protocols, security and standards with emphasis on the OSI reference model. Recommended: CIS 120 or instructor permission.

CIS 185 Computers and Ethics 3.00: Discusses the ethical and social issues around the use of computer technology. Computer use has created unique ethical issues that are not addressed in traditional ethics. For computer professionals and even casual computer users, it's imperative not only to explore what we can do with computer technology, but our ethical responsibilities in using that technology. CIS 185 and PHL 185 cannot both be taken for credit. Recommended: CIS 120; or instructor permission and college-level reading and writing. Prerequisite: WR 121 or instructor permission.

CIS 188 Introduction to Wireless Networking 4.00: Introduces the student to wireless networking theory and its practical application. Recommend prior knowledge: CIS 179.

CIS 189 Wireless Security 4.00: Introduces the student to wireless security intrusion, policies, tools, and solutions. Recommend prior knowledge: CIS 179 and CIS 188 Wireless Networking.

CIS 195P PHP Web Development I 4.00: Introduces student to the server-side scripting language, PHP, and its use in the development of Web sites. Topics include web server, PHP and MySQL database installation, scripting, techniques, database manipulation, user authentication, tracking and session management and e-Commerce techniques. Recommend: Completion of CIS 122 and CAS 213 or CIS 233S or equivalent experience; concurrent enrollment in CAS 206 and CIS 178 or equivalent experience.

CIS 225 End User Support 4.00: Prepares computer professional for providing training and support to end users. Includes the roles and responsibilities of the end-user support person; characteristics of the adult learner; and strategies and techniques for developing instruction, teaching technical subject matter and providing ongoing technical support. Recommended: CIS 120, WR 227, and three additional CIS courses or instructor permission. Additional lab hours may be required.

CIS 233B Intermediate Visual Basic.NET Programming 4.00: Continues Visual Basic.NET programming sequence utilizing arrays, sorting, relational database access and data structures. Structured design techniques emphasized throughout. Recommended: CIS 133B or instructor permission; CIS 275 or instructor permission. CIS 275 may be taken concurrently.

CIS 233J Java Programming II 4.00: Continues the introduction of Java Programming and Web based programming. Introduces advanced graphics, advanced event handling, advanced graphical user interfaces, input/output to files, networking, multi-processing, database access and internationalization in Java. Recommended: CIS 133J or CS 161 and CIS 275; or instructor permission.

CIS 233S Internet Web Page Scripting 4.00: Provides the foundation to build real-world, browser independent, web applications using client-side technologies including HTML, DHTML, Cascading Stylesheets and Javascript. Although the primary focus is on W3C Standards, Internet Explorer and Netscape specific extensions are discussed. A functioning website is built using the content presented in the course. Recommended: Proficiency in a modern programming language (CIS 133B, 133J or CS 161); or instructor permission.

CIS 234B Advanced Visual Basic.NET Programming 4.00: Continues the Visual Basic.NET Programming sequence utilizing relational database access, multiple document interface and software objects and classes. Structured design techniques emphasized throughout. Recommended: CIS 233B, 275; or instructor permission.

CIS 234J Java Programming III 4.00: Learn to use Java/J2EE to build scalable n-tiered web applications. Covers servlets, JSP, JDBC database connectivity, Enterprise JavaBeans, and SOAP Web Services Technologies. Learn advanced Apache Tomcat web server configuration including how to secure web resources, authenticate users and mask URLs. Recommended: CIS 233J or instructor permission.

CIS 234N C# Programming 4.00: Covers the C# language; Microsoft.Net framework; Windows applications, forms and controls; introduces Web Applications and ASP.NET; introduces Web Services; basic ADO.NET; file I/O; Visual Studio IDE. Recommended: Two courses (or proficiency) in a programming language.

CIS 234S Web Application Development Using. NET 4.00: Provides the necessary knowledge to create real-world web applications using server-side technologies, including ASP.NET, VB.NET, and database access with ADO.NET. Although the primary focus is on the concepts, a business web-site is developed utilizing the presented material. Recommended: CIS 233S.

CIS 240L Linux Installation and Configuration 4.00: Designed to prepare students for an entry-level position as an administrator of a system utilizing the Linux operating system. Focuses on knowledge and skills necessary for day-to-day operations on a Linux system using the command line. Recommended: CS 140U.

CIS 240M Managing a Windows Server Environment 4.00: The first of a three-term sequence designed to prepare students for an entry-level position as a system administrator of a network utilizing Microsoft's Windows operating systems. The course focuses on the knowledge and skills necessary to design, install, configure and manage a workgroup or domain consisting of Microsoft Windows servers and workstations. Recommended: CIS 140M.

CIS 243 E-ssentials of E-Commerce Information Systems 4.00: Encompasses the multi-faceted aspects of e-commerce information systems. Combines study of network, database and programming concepts with hands on skills. Provides a framework for the analysis of information system based e-commerce solutions to issues surrounding B2B, B2C, and intra-organizational trade. Provides a solid background in critical issues and technologies related to e-commerce. Recommended: CIS 120 and one programming class or instructor permission.

CIS 244 Systems Analysis 4.00: Provides overview of the system development life cycle (SDLC) emphasizing analytical techniques to develop the correct definition of business problems and user requirements. Students will prepare a feasibility assessment and develop system requirements for an assigned project. Recommended: One class in a high-level programming language and WR 227. One 200-level business administration course. Additional lab hours may be required.

CIS 246 Structured Systems Design 4.00: Provides overview of the system development life cycle (SDLC), emphasizing analytical techniques to develop a project from a previously prepared requirements document through a structured design to a final implementation. Students will prepare a formal design statement and implement the project in a computer language of their choice. Recommended: Two classes in a high-level programming language, CIS 233S, CIS 244 and CIS 275 or instructor permission.

CIS 275 Introduction Data Modeling and SQL 4.00: Introduction Introduces the design, uses, and terminology of a database management system. Includes data modeling using Entity Relationship modeling tools and Semantic Object modeling tools, normalization rules, relational database terminology, program/query development, multi-user database issues (including the Internet) and data administration. Recommended: CIS 122. One high-level programming language course (CIS 133B, CIS 133J, CS 161) or equivalent or instructor permission.

CIS 276 Advanced SQL 4.00: Focuses on design, development and implementation of SQL programming for all types of relational database applications including client/server and Internet databases. Learn to write complicated interactive and embedded SQL statement and learn the implications of multi-user database applications. Recommended: CIS 275; two-term programming language sequence; or instructor permission.

CIS 277O Advanced Database Concepts in Oracle 4.00: Covers concepts with Oracle including PL/SQL programming concepts review. Includes design considerations for PL/SQL program units and packages. Advanced interface methods, features for PL/SQL, performance and tuning, and advanced features of Oracle supplied packages also covered. Recommended: CIS 276.

CIS 277T Oracle Forms/Reports Developer 4.00: Covers the fundamentals of the ORacle IDS (Internet Developer Suite). Learn the oracle forms, reports, developer tools. Build user interfaces using Oracle Forms and build supporting reports using Oracle Reports. Recommended: CIS 276.

CIS 278 Data Comm Concepts II 4.00: Provides in-depth concepts of data communications, and networking. Explores network architectures, complex network designs and network hardware configuration. Includes a close look at network/telephone company interfaces. Work will principally be done in the laboratory. Students will have the opportunity to configure operating Cisco routers and other data communication equipment in order to build functional networks. Recommended: CIS 179.

CIS 279L Linux Network Administration 4.00: First term of a sequence designed to prepare students for an entry-level position as a system administrator of a network utilizing the Linux network operating system. Networking, TCP/IP, DNS, DHCP, NFS and Samba are covered. Recommend: CIS 240L

CIS 280D CE / Application Development 1.00–4.00: Develop career objectives by linking their course work with off-campus learning experiences in computer information systems of the public/private sector organizations. Department permission required.

CIS 284 Network Security 4.00: Preparation for an entry level position as a network administrator, the course focuses on the knowledge and skills necessary to maintain system security and to install, configure and maintain a local area network with common internet applications. Use of Open Source software and CompTIA's Security+ certification are emphasized. Recommended: CIS 240M; or CIS 279L.

CIS 285 Security Tools 4.00: Prepares network administrators to apply information security concepts and Open Source applications to manage security in Windows and Linus/Unix information systems. Topics include analysis and management tools, firewalls and packet filters, port and vulnerability scanners, sniffers, intrusion detection, encryption, wireless and forensics. Recommended: CIS 284

CIS 286 Computer Forensics 4.00: Introduces computer security administrators to computer forensics. Topics include setup and use of an investigator's laboratory, computer investigations using digital evidence controls, processing crime and incident scenes, performing data acquisition, computer forensic analysis, e-mail investigations, image file recovery, investigative report writing, and expert witness testimony. Maps to the IACIS certification. Recommend: CIS 284

CIS 287I Web Server Administration 4.00: Provides aspiring systems administrators with the knowledge and skill sets to install, configure, implement, and manage a web server. A variety of operating systems will be explored. Course does not cover publishing Web page content. Recommended: CIS 278 and either CIS 279M or CIS 279L.

CIS 287M Microsoft Server Security 4.00: Prepares IT security professionals working in medium to large computing environments to implement authorization and authentication strategies, use certificates and certificate authorities, use Encrypting File System, create secure baselines, use Software Update Services enhance data transmission security, wireless network security, perimeter security and secure remote access. The primary focus will be Windows Server with some client content. Maps to Microsoft certification exam. Prerequisite: CIS 240M or instructor permission.

CIS 288M Microsoft Network Administration 4.00: Second of a three-term sequence designed to prepare students for an entry-level position as a system administrator of a network utilizing Microsoft's network operating system. Focuses on the knowledge and skills necessary to design, install, configure, and administer a network infrastructure that uses Microsoft Windows Server products. Recommended: CIS 240M or instructor permission. CIS 289M may be taken concurrently.

CIS 289M Microsoft Active Directory Administration 4.00: Third of a three-term sequence designed to prepare students for an entry-level position as a system administrator of a network utilizing Microsoft's network operating system. Focuses on the knowledge and skills necessary to design, install, configure, and administer an enterprise network using Microsoft Windows Active Directory. Also focuses on implementing Group Policies and understanding Group Policy tasks required to centrally manage users and computers. Recommended: CIS 240M, or instructor permission. CIS 288M may be taken concurrently.

CIS 295P PHP Web Development II 4.00: Introduces the advanced capabilities and features of PHP for Web site development. Topics include using the object-oriented features of PHP, developing applications for security and portability, advanced features of MySQL, creating efficient applications by implementing business logic within the database itself using stored procedures and triggers. Recommend: Completion of CIS 195P and CIS 125D or equivalent experience; concurrent enrollment in CIS 275 or equivalent experience.

Criminal Justice

CJA 100 Introduction to Professions in Criminal Justice 3.00: Provides overview of the various careers in the public safety professions, including

police, corrections, parole and probation, juvenile and adult casework, private security, loss prevention, investigator and all forms of communication. Open to the general public.

CJA 101 Cultural Diversity in Criminal Justice Professions 3.00: Provides introduction and familiarization with communication styles, customs, language and behavior patterns of various cultures, ethnic groups and non-traditional populations as employed by and encountered by criminal justice professions; including police, corrections, parole and probation, juvenile and adult casework, private security, loss prevention, investigation and 911 communications. Open to the general public.

CJA 111 Introduction to Criminal Justice System - Police 3.00: Course designed to provide an overview of the role of police in society. Students will become familiar with general concepts related to law enforcement and be introduced to associated foundations and principles that comprise the criminal justice system. A range of issues and facts relevant to policing will be discussed. Included is historical development of police in America, crime data collection, police organization and structure, the police sub-culture, police and community relations, laws and constitutional limitations on authority.

CJA 112 Introduction to Criminal Justice System - Courts 3.00: This course focuses on the United States criminal court systems including state, federal and miscellaneous other jurisdictions. It covers roles and functions of participants in the adjudication process including the prosecutor, defense attorney, defendant, victim, judge, jury, police and more. Also examined various criminal court procedures from arrest and arraignment through trial and sentencing.

CJA 113 Introduction to Criminal Justice System - Corrections 3.00: Covers theories and current practices in correctional treatment, crime prevention, contemporary criminal justice services and treatment methods, and professional career opportunities. Open to the general public.

CJA 114 Introduction to Juvenile Process 3.00: Focus on integrating juvenile law, theories of causation and procedural requirements. Discusses current programs in Oregon available to juveniles who have gone, or are going through the Juvenile Justice System. Covers generic issues regarding some history of juvenile adjudication and correction law and philosophies. Open to the general public.

CJA 199A Privacy, Technology and the Law 3.00: Examines the origins and evolution of the concept of privacy in the United States. Particular attention is paid to the role of technology, and the manner in which Congress, the courts and law enforcement have made an impact on privacy in the United States.

CJA 210 Arrest, Search & Seizure 3.00: Covers issues and procedures regarding stops, frisks, searches and seizures. The Fourth Amendment of the United States Constitution and Article 1, Section 9 of the Oregon State Constitution are discussed. Topics include stops, arrests, privacy issues, search warrants and warrantless searches and seizures. Case law, current events and statutory law from the Criminal Code of Oregon are reviewed. Prerequisites: CJA 100, CJA 111 and WR 121 or instructor permission.

CJA 211 Civil Liability and Ethics in Criminal Justice 3.00: Explores the conduct and ethics of criminal justice practitioners that give rise to civil lia attention is paid to aspects of risk management to help prevent legal claims. Prerequisites: CJA 100, CJA 111 and WR 121 or instructor permission.

CJA 212 Criminal Law 3.00: Addresses the principles of criminal liability (culpability), the elements of specific crimes, and defenses to culpability. Examines crimes established under constitutional, statutory, common and case law. Prerequisites: CJA 100, 111; WR 121.

CJA 213 Evidence 3.00: Explores the nature and types of criminal evidence and rules governing admissibility, competency and relevancy. Introduces presentation and suppression of evidence, hearsay rules and exceptions. Prerequisites: CJA 100; WR 121.

CJA 214 Criminal Investigation 3.00: Introduces modern investigative methods, including the collection and preservation of physical evidence, scientific aids, sources of information, interviews, follow-up and case presentation. Includes techniques of interview and interrogation. Prerequisites: CJA 100; WR 121.

CJA 215 Forensic Science and Criminalistics 3.00: Covers the theoretical and technical skills necessary for complex criminal investigation. Explores how scientific principles help in crime detection and solution. Prerequisites: CJA 100; WR 121.

CJA 217 Interviewing and Interrogation 3.00: Presents knowledge and working skills in the art of interviewing and interrogation. Prerequisites: CJA 100, 111; WR 121.

CJA 218 Criminal Justice Perspectives of Violence and Aggression 3.00: Explores and analyzes violence and aggression as viewed from biological, psychological, psychiatric and sociological perspectives. Emphasizes episodically violent individuals, their detection, treatment methods and violence prevention in the area of crisis intervention. Presents the tools and techniques of crisis intervention through discussion, demonstrations, simulation and role playing. Prerequisites: CJA 100; WR 121.

CJA 225 Criminal Justice and the United States Constitution 3.00: Provides a broad overview of United States Constitutional Law as it relates to professions in the criminal justice field. Examines Articles and Amendments of the U.S. Constitution, focusing on the 1st, 6th, 8th, 14th amendments and "penumbras." Focuses on freedom of speech, religion and assembly as these rights relate to limitations on police authority. Prerequisites: CJA 100; WR 121.

CJA 228 Organized Crime and Terrorism 3.00: Provides information on organized crime, its development, growth and impact on society and criminal justice processes. Includes crime families, terrorists, gangs and fringe groups with criminal intentions, their detection, investigation and combat. Prerequisites: CJA 100; WR 121.

CJA 230 Police Report Writing 4.00: Course is designed to teach students police report writing skills. Emphasized are techniques appropriate to narrative structures necessary for operational police reports. Included are legal aspects, content, organization and grammar. The focus is to produce a quality police report capable of withstanding courtroom scrutiny. Prerequisite: WR 122.

CJA 243 Narcotics and Dangerous Drugs 3.00: Covers history and causes of narcotic and drug problems, how to identify drug addicts and drug abusers, how to define and classify various types of narcotics and dangerous drugs, including laws and other controls and rehabilitation programs. Prerequisites: CJA 100; WR 121.

CJA 244 Tactical Communication in Critical Incidents 3.00: This course focuses on police intervention in the lives of people in the midst of an emotional or physical crisis in the manner designed to minimize or prevent violence while gaining control of the situation. Emphasized are verbal and non-verbal communication techniques and skills utilized to calm the client and gain compliance helping to lead to a successful and safe resolution. Prerequisites: CJA 100 and CJA 111 or instructor permission.

CJA 245 Search Warrant Preparation 3.00: Covers legal concepts in search warrant preparation and focuses on learning to draft legal documents comprised of probable cause statements and judicial orders. Particular attention is paid to strengthening legal writing and evidence gathering in preparation for warrant application. Prerequisites: CJA 100, CJA 111 and WR 121 or instructor permission.

CJA 260 Introduction to Correctional Institutions 3.00: Overview of the institutional penal system, including jails and detention facilities, prisons, treatment and work release facilities. Provides historical and policy study of the role and purposes of confinement or imprisonment as a criminal justice system tool. Prerequisites: CJA 100, 113.

CJA 261 Introduction to Probation and Parole 3.00: Introduces Community Corrections or probation and parole in the management of offender behavior. Discusses Management of Community Corrections agencies and community intervention with offenders. Prerequisite: CJA 100, 113.

CJA 262 Introduction to Correctional Treatment 3.00: This course provides an overview of correctional treatment within the criminal justice system. It provides insight into the role and purpose of effective correctional treatment strategies and programs, including the responsibilities of providers and clients. Prerequisites: CJA 100 and CJA 113.

CJA 263 Introduction to Corrections Casework 3.00: Introduces the process of casework and case management in a correctional setting. Develops both a theoretical and practical base of knowledge to allow the student to develop counseling techniques. Prerequisite: CJA 100, 113.

CJA 264 Introduction to Corrections Administration 3.00: This course provides an overview of the administration and management of corrections facilities,

programs and field services. It provides insight into the role and purpose of effective management strategies for the professional delivery of correctional services. Prerequisites: CJA 100 and CJA 113.

CJA 279 Criminal Justice Seminar 1.00–4.00: Designed for criminal justice agencies offering special topic seminars to meet the information and training needs oflocal criminal justice agencies.

CJA 280A CE / Criminal Justice 1.00–3.00: Students participate with various public sector criminal justice agencies to learn about their structure and function. The field placement must be program-related. Department permission required prior to registration. Prerequisite: CJA 100 and (CJA 111 or CJA 113).

CJA 280B CE / Applied Criminal Justice 1.00–6.00: Offered to students employed by a public sector criminal justice agency to increase professional skills and knowledge. Prerequisite: Department permission required. See CJA advisor.

Civil and Mechanical Engineering Technology

CMET 110 Statics 4.00: Covers fundamental concepts of mechanics relating to forces acting on rigid bodies. Includes problems involving actions and reactions on structures and machines in two and three dimensions. Also covers friction, moments of inertia, and centroids. Corequisite: CMET 111. Prerequisite or concurrent: CMET 112. Prerequisites: MTH 60 and placement in WR 115. Department approval required.

CMET 111 Engineering Technology Orientation 4.00: A rigorous practical approach to techniques and problems encountered in the field of engineering technology. Offers abundant opportunity to solve engineering problems. Corequisite: CMET 110. Prerequisite or concurrent: CMET 112.

CMET 112 Technical Algebra/Trigonometry 4.00: Includes algebra and trigonometry used in CMET 110 and 111, emphasizing simultaneous linear equations, quadratic equations and applied problems. Prerequisites: MTH 60 and placement in WR 115. Department approval required.

CMET 113 Engineering Technology Graphics 3.00: Introduces manual and computer-aided drafting including hand sketching, drafting standards, pictorial drawings, and dimensioning. Includes creation of 2-D drawing and 3-D solid models using AutoCAD Software. Prerequisite: Placement in WR 115. Prerequisite or concurrent registration: MTH 60 or CMET 112.

CMET 121 Strength of Materials 4.00: Covers the relationship between stress and strain in deformable solids. Analysis is applied to circular shafts, beams, columns and pressure vessels. Covers combined stresses, statically indeterminate systems and properties of structural materials. Prerequisites: CMET 110, 112, 113. Prerequisite or concurrent: CMET 122, 123.

CMET 122 Technical Engineering Physics 4.00: Introduces physical properties of matter and energy, includes properties of solids, liquids and gasses. Presents applications of the basic equations of fluid mechanics, heat transfer, and the First Law of Thermodynamics. Prerequisite or concurrent: CMET 121, 123.

CMET 123 Technical Algebra with Analytic Geometry 4.00: Covers algebra and geometry of special interest to engineering technicians including solving higher order equations, determinants, matrix operations, logarithms and trigonometric identities. Plane analytical geometry introduced in preparation for calculus, emphasizing development of skills and confidence to solve advanced pre-calculus problems. Prerequisite: CMET 112, or MTH 111.

CMET 131 Applied Calculus 8.00: Introduces differential and integral calculus, with applications to engineering problems, including kinematics, moments of inertia and deflections of beams. Specific calculator required, see advisor. Prerequisites: CMET 121, 122, 123.

CMET 132 Plane Surveying 3.00: Basic concepts of plane surveying are introduced. Includes use of tape, level, transit, electronic total station (ETS), along with horizontal and vertical control networks. Includes network calculations and adjustments; angles and bearings and topographic surveying and mapping. Prerequisite or concurrent: (CMET 123 or MTH 112) and CMET 113.

CMET 133 Materials Technology 3.00: Selection of materials for engineering technology applications, structure and properties of metals, ceramics and polymers starting with fundamental atomic arrangements. Microstructural control through thermal and mechanical processing and effects of service environment are covered. Prerequisites: CMET 121, 123; CH 104; WR 115.

CMET 211 Environmental Quality 4.00: Introduces physical, chemical and biological parameters relating to the quality of water. Presents sampling systems, data analysis techniques and computational methods, including mathematical models. Recommended: CMET 131. Prerequisites: CMET 123, CH 104, and WR 115. Prerequisite or concurrent: WR 121.

CMET 212 Thermodynamics I 4.00: Covers principles of classical thermodynamics. Develops understanding of mass energy, heat, work, efficiency, ideal and real thermodynamic cycles and processes. Teaches first and second laws of thermodynamics, perfect gas law, properties of real gases, and the general energy equation for closed and open systems. Prerequisites: CMET 131, CMET 122 and CH 104.

CMET 213 Fluid Mechanics 3.00: Covers properties, laws of fluid mechanics and energy relationships for incompressible fluids. Studies flow in closed conduits, including pressure loss, flow measurement, pipe sizing and pump selection. Includes open channel flow analysis. Recommended: CMET 131. Prerequisites: CMET 110, 122, 123.

CMET 214 Route Surveying 3.00: Presents techniques for preliminary, location and construction surveys related roads and pipelines. Includes elements of horizontal and vertical location, including circular, spiral and parabolic curves. Draw plans, profiles and cross sections and use electronic total stations. Prerequisite: CMET 132.

CMET 215 Manufacturing Processes 3.00: Covers today's global economy and solutions to problems of manufacturing enterprise. Factors addressed: statistical process/quality control, robotics, CAD, CAM, DFA/DFM, and CIM. Traditional and nontraditional manufacturing processes covered. Prerequisites: CMET 121, 122; WR 115. Prerequisite or concurrent: CMET 133.

CMET 221 Environ Engineering Tech II Environmental Systems 4.00: Explores ground water, air, hazardous waste, and water pollution problems. Addresses technological solutions of these problems, including water, waste water, and air pollution treatment, as well as alternatives. Prerequisite: CMET 123, WR 115.

CMET 222 Thermodynamics II 4.00: Covers application of principles of thermodynamics in the analysis of vapor and gas power cycles, refrigeration and heat pump machinery, and air distribution systems. Combustion reactions, ideal gas mixtures, and properties of moist air (psychrometrics) are also studied. Prerquisite: CMET 212.

CMET 223 Project Management 3.00: Administration of engineering projects. Covers owner-design professional-constructor relationships, law and contracts, specifications writing and interpretation, cost estimating, engineering economy, and planning and scheduling (CPM and time-scaled arrow diagrams). Recommended: SP 100 or 111. Prerequisites: CMET 123. Prerequisite or concurrent: WR 121.

CMET 226 Dynamics 3.00: Covers kinematics and kinetics principles relating to the motion of particles and rigid bodies. Examines force, mass, acceleration and velocity relationships. Practical linear and curvilinear motion problems are solved. Work-energy and impulse-momentum methods covered. Prerequisite: CMET 110, 131.

CMET 227 Applied Electricity Fundamentals 2.00: Introduces fundamental principles of electricity as applied to mechanical systems. Principle topics covered: basic electrical theory, electric motors, controls, and energy consumption considerations. Prerequisite: CMET 112.

CMET 228 Construction Materials 3.00: Covers production, processing, and testing of aggregate, asphalt, concrete, soil and other materials in highway and commercial/industrial building projects. Includes quality assurance concepts, measurements and calculations, terminology and random sampling. Focuses on testing procedures common to construction in the northwest. Recommended: CMET 131. Prerequisites: CMET 121, 122, 123. Prerequisite/concurrent: WR 121.

CMET 233 CET Applied CAD 3.00: Presents advanced topics in civil engineering oriented computer aided design and drawing meeting industry standards. Prerequisite: CMET 113, CMET 241. Prerequisite/concurrent: CMET 214.

CMET 235 Machine Design 3.00: Examines fundamentals of machine design, including analysis and design of mechanical components. Covers shafts, fasteners, belt and chain drives, brakes, gears, springs and bearings. Includes predicting static and fatigue failures for various loadings and materials. Prerequisite:

CMET 121, 226.

CMET 236 Structural Design 3.00: Introduces design of steel, wood, and reinforced concrete structures with emphasis on steel buildings. Covers beam and column design along with bolted and welded connections. Recommended: CMET 131. Prerequisites: CMET 121, 122, 123; WR 115. CMET 237

CMET 237 Applied CAD 3.00: Presents advanced topics in mechanical/manufacturing engineering oriented computer aided design and drawing meeting industry standards. Prerequisites: CMET 113.

CMET 241 Structural Steel Drafting 3.00: Introduces structural detail drafting of engineering designdrawings and shop fabrication drawings for steel construction. Covers steel grades and shapes, and design, fabrication, and erection drawings for steel structures. Prerequisites: CMET 113, 121.

CMET 254 Civil/Mechanical Engineering Technology 1.00: Seminar Topics include information on finding employment in the civil/mechanical/manufacturing industry, writing resumes, and interviewing. Prerequisite: WR 115.

CMET 280A Cooperative Ed – Civil/Mechanical Engineering Technology 1.00–5.00: An opportunity to develop engineering technology skills in a department-approved work setting. Department permission required.

Computer Science

CS 133G Introduction to Computer Games 4.00: Fundamentals of computer game development, including a survey of computer game categories and platforms, major game components, an overview of the game development process, and an introduction to game graphics. This course will design and develop some elementary two-dimensional computer games.

CS 133U Introduction to C 4.00: Solve real-world problems using structured programming principles and the C programming language in a MS DOS/Windows environment. Introduces with little or no previous programming experience the world of computer programming through development of C programs to solve practical problems. Recommended: Computer Literacy (such as completion of CIS 120).

CS 140U Introduction to UNIX 4.00: Provides an in-depth introduction into the UNIX operating system, including: task scheduling and management, memory management, input/output processing, internal and external commands, shell configuration, and shell customization. Explores the use of operating system utilities such as text editors, text formatters, electronic mail, and file management, scripting, and C/C++ compilers. Discusses trends in UNIX, including use of graphical user interfaces. Recommended: Computer literacy (such as completion of CIS 120); MTH 95; placement at WR 121. Additional lab hours may be required.

CS 160 Exploring Computer Science 4.00: Explores the field of computer science. Provides an overview of computer architecture, software development engineering, data organization, problem-solving strategies, ethics, and theory of computation. Explores career options and develops rudimentary software development skills. Recommended: Computer Literacy (such as completion of CIS 120); placement at MTH 65 and RD 115.

CS 161 Computer Science I 4.00: Introduces control structures, functions, arrays, and pointers. Concepts of data representation and algorithm design; sorting and searching; lab exercises. Recommended: MTH 111; WR 121; CS 160. completion of (CS 160 or CIS 122). (For CIS students: please contact instructor if you need a prerequisite waiver.)

CS 162 Computer Science II 4.00: Recursion, object oriented programming, assignment operator, copy constructor. Data structures include singly linked list, stack, and queue. Lab exercises. Recommended: MTH 112 or MTH 116; WR 121; CS 140u, 161. Additional lab hours may be required.

CS 200 Computer Systems I 4.00: Introduction to computer systems from a software perspective Systems programming using C and assembly language. Basic computer organization. Representation of data. Machine instruction sets and assembly programming, relationship between C code and assembly code, C pointers and structures and their machine-level representation. Linking and loading. Program debugging. Recommended: CS 140u and either CS 162 or CS 234u.

CS 201 Computer Systems II 4.00: Further introduction to computer systems from a software perspective. Basic operating system concepts and calls. Defining, measuring and improving program performance. The memory hierarchy: storage technologies, caches, virtual memory, memory allocation techniques. Recommended: CS 200.

CS 233G Game Programming 4.00: Object-oriented architectures and software design patterns used for game design. Students work with a game engine software framework to design and implement several kinds o games. Additional topics include animation techniques, physics simulation, user controls, graphical methods, and intelligent behaviors. Recommended: Object-oriented programming in C++ and/or C#, such as CS 162, CIS 211, or CIS 234N.

CS 234U Accelerated C++ 4.00: Fast-paced presentation of C++ for students who already posess solid software skills: data types, control structures and modularity. The course will also focus on fundamental concepts of computer science: problem solving and algorithm and program design. This course serves as an accelerated path to fulfilling the prerequisites for CS 260, and is primarily designed for CS majors. Recommended: CS 133U, CIS 233J, CIS 233B, or equivalent knowledge of another modern language program.

CS 260 Data Structures 4.00: Data structures including stacks, queues, lists, vectors, graphs, and trees. Algorithms including hash tables, sorting, searching and iterating over structures. Includes an in depth examination of recursion. Lab exercises. Recommended: CS 162 or CS 234u. Additional lab hours may be required.

CS 261 Programming Systems 4.00: Operator overloading, single and multiple inheritance, virtual functions, polymorphism, templates, exceptions. STL containers and algorithms. Recommended: CS 260.

Crop Soil Science

CSS 200 Soils and Plant Nutrition 3.00: Soils and plant interrelationships. Soil development and terms. Use of organic and inorganic means to provide optimum environment for plant growth. Recommended prerequisite MTH 60 or instructor permission.

Dance

D 150 Jazz Dance I 1.00: Introduces principles and skills in the fundamentals of jazz dance technique. Emphasizes and develops correct body alignment, coordination, strength, flexibility, rhythm, and movement awareness. Includes jazz dance vocabulary and simple jazz dance combinations. Course may be taken 3 times for credit (D 150 or PE 186F separately or in combination).

D 151 Jazz Dance II 1.00: Continues development of jazz dance technique at the beginning/intermediate level. Emphasizes increased coordination, strength, control, flexibility, stamina, musicality, and jazz dance vocabulary in more challenging combinations. Course may be taken 3 times for credit (D 151 or PE 186G separately or in combination). Recommended courses: D 150, or PE 186F, or equivalent.

D 169 Musical Theater Dance 2.00: Covers dance forms and styles used in the musical theater choreography. Covers basic techniques, vocabulary, and dance excerpts from musical theater shows. Course may be taken 3 times for credit. Recommended courses: Two dance technique courses or previous dance training.

D 170 World Dance 2.00: Introduces traditional and popular dance forms and styles from a selection of countries and cultures. Examines and practices dance movement within a cultural context. Ethnic dances may vary by term. Course may be taken 3 times for credit.

D 175A Tap Dance I 1.00: Introduces fundamentals of tap dance technique and vocabulary. Develops a sense of timing, rhythm, musicality. Emphasizes basic traditional tap steps, rhythm tap combinations and complete dances. Course may be taken 3 times for credit (D 175A or PE 186K separately or in combination).

D 192A Ballet I 1.00: Develops skills and examines principles in the fundamentals of classical ballet technique. Emphasizes correct alignment, basic barre and center work, traveling steps, and ballet vocabulary. Course may be taken 3 times for credit (D 192A or PE 186A separately or in combination).

D 192B Ballet II 1.00: Continues development of knowledge and skills in classical ballet technique beyond the beginning level. Emphasizes correct alignment, increased speed, strength, flexibility, balance, coordination, and ballet vocabulary in more challenging combinations. Course may be taken 3 times for credit (any combination of D 192B or PE 186B for a total of 3 times). Recommended courses: D 192A, or PE 186A, or equivalent.

D 192C Modern Dance I 1.00: Introduces knowl-

edge and skills in beginning modern dance technique. Includes dance fundamentals, vocabulary, and improvisation, emphasizing correct alignment, coordination, strength, and awareness of movement. Course may be taken 3 times for credit (D 192C or PE 186IU separately or in combination).

D 192D Modern Dance II 1.00: Continues development of modern dance technique, with focus on alignment, strength, control, musicality, and dynamics. Includes expanded modern dance vocabulary, dance combinations, and improvisation. Course may be taken 3 times for credit (D 192D or PE 186J separately or in combination). Recommended courses: D 192C or PE 186I or equivalent.

D 209 Dance Performance 1.00–3.00: Offers practical experience in rehearsing and presenting a dance performance. Course may be taken 3 times for credit. Recommended courses: Previous dance training or audition.

D 252 Jazz Dance III 1.00: Continues development of jazz dance technique at the intermediate level. Emphasizes increased strength, control, flexibility, stamina, musicality, dynamics, and jazz dance vocabulary in more challenging combinations. Course may be taken 3 times for credit (D 252 or PE 286H separately or in combination). Recommended courses: D 151, or PE 186G, or equivalent.

D 292 Ballet III 1.00: Continues development of classical ballet technique at the intermediate level. Emphasizes correct alignment, increased speed, strength, flexibility, balance, coordination, stamina, and ballet vocabulary in longer, more challenging combinations. Course may be taken 3 times for credit (any combination of D 292 or PE 286 for a total of 3 times). Recommended courses: D 192B, or PE 186B, or equivalent.

Dental Assisting

DA 110 Clinical Procedures I 3.00: Introduction to clinical dental assisting including operatory preparation, sterilization/disinfection procedures, dental equipment, tray set-ups and restorative dental procedures.

DA 111 Clinical Procedures I (Lab) 2.00: Laboratory training and experience in basic dental assisting functions and responsibilities. Students progress to assisting dentists in the dental clinics.

DA 112 Clinical Procedures II 1.00: Intermediate clinical dental assisting with instruction in oral examination, charting and other procedures. PREREQ: DA 110.

DA 113 Clinical Procedures II (Lab) 3.00: Continued clinic and laboratory experience. Students spend 1 (one) day per week assisting dental students at the Oregon Health Sciences University Dental School.

DA 114 Clinical Procedures III 1.00: Advanced clinical dental assisting with instruction in dental specialty procedures.

DA 115 Clinical Procedures III (Lab) 5.00: Advanced clinical experience, including dental specialty procedures. Students spend three days per week in dental office internships.

DA 118 Expanded Duties I 1.00: Study of the function and procedures beyond the scope of general dental assisting as allowed by the Oregon Dental Practice Act. Includes amalgam polishing and margination, rubber dam placement and removal.

DA 119 Expanded Duties II 1.00: Continued study of expanded duties to include coronal polishing, cement removal, and other areas needed to meet changes in the field.

DA 120 Dental Radiology I 2.00: Introduction to the uses of radiographic images in dentistry, including the history, physical and chemical properties, biological effects and safety principles.

DA 121 Dental Radiology I (Lab) 2.00: Practices radiographic techniques on manikins and correlate activities to the DA 120 lecture.

DA 122 Dental Radiology II 1.00: Continued study of the philosophy and principles of dental radiography with review and preparation for National and State certification examinations.

DA 123 Dental Radiology II (Lab) 2.00: Continued experience with radiographic techniques on manikins and clinic patients under direct supervision.

DA 125 Dental Radiology III (Lab) 2.00: Advanced x-ray clinical experience to include extra-oral and x-rays for children and edentulous patients. Radiographic experience during private practice internships.

DA 130 Dental Materials I Dental Materials I 1.00: Basic physical and chemical properties of dental materials including resins, gypsum products, impression materials, waxes, cements and bases.

DA 131 Dental Materials I (Lab) 2.00: Lab activities prepare students in the proper handling and manipulation of the materials studied in DA 130 lecture.

DA 132 Dental Materials II 1.00: Continued study of dental materials to include those used specifically in the processes of crown and bridge construction.

DA 133 Dental Materials II (Lab) 2.00: Students continue to develop skills in the handling and manipulation of dental materials as described in the DA 132 lecture.

DA 135 Dental Materials III (Lab) 2.00: Advanced laboratory activities designed to improve proficiency and efficiency in the handling and manipulation of dental materials. Students apply knowledge and skills in dental office internships.

DA 140 Integrated Basic Science I 3.00: Fundamental principles of human anatomy and physiology, plus study of tooth form and function. Introduction to dental embryology, microbiology and pathology included.

DA 142 Integrated Basic Science II 2.00: Specialized study of the structures of the head and neck with emphasis on the oral cavity.

DA 150 Dental Office Procedures I 2.00: Overview of procedures associated with reception desk responsibilities and dental office management.

DA 152 Dental Office Procedures II 2.00: Comprehensive course that includes oral and written communication, computer skills and job search techniques. All study is related to dentistry. Recommended: typing/keyboarding skills.

DA 156 Ethics and Jurisprudence 1.00: Covers ethical standards established by the dental professions and legal responsibilities of the dental assistant and the dentist as established by the Oregon Dental Practice Act. The legal responsibilities and obligations of the dental assistant and the dentist are also taught.

DA 160 Dental Pharmacology 1.00: Become familiar with medications and drugs used by the dentist in treating patients.

DA 9406 Dental Assisting Practicum 1.00–5.00: Upgrading for dental assistants who have been out of the field for a prolonged period of time, or who feel their skills are out of date.

Developmental Education

DE 21 Introduction to Information Literacy 1.00: Introduces students to the skills used to formulate a research query, emphasizing intellectual curiosity, creative thinking, and persistence in information seeking activities. Students learn and practice research as a multi-step process: identifying an information need and selecting a topic; formulating a question; locating and selecting varied and appropriate print and electronic sources; using critical reading and thinking to evaluate information; and paraphrasing and citing sources. Use of library resources is required, including contacting Reference Librarians for research assistance. This course is offered as a co-requisite to RD 80.

DE 30 Learning Skills 3.00: Topics include time management, setting priorities, values, and goals clarification, improving basic skills, and planning an individual program.

DE 31 Learning Skills I 1.00: Introduces study skills required in college. Principle topics include motivation, goal setting, time management, organization of college, and study suggestions and techniques. Course may be taken alone or as part of a three-credit series (DE 31, 32, 33).

DE 32 Learning Skills II 1.00: Introduces the study skills needed in college. Principle topics include reading, writing, listening and speaking better, time management, and goal-setting. Course may be taken alone or as part of a three-credit series (DE 31, 32, 33).

DE 33 Learning Skills III 1.00: Introduces the study skills required in college. Principle topics include an overview of college and university education, an overview of resources available at PCC and how to access them, an introduction to college terminology, how to read the PCC catalog, and the preparation of an individual college plan. Course may be taken alone or as part of a three-credit series (DE 31, 32, 33).

DE 50 Vocabulary Building 1.00: Topics include determining word meaning, parts of speech, pronunciation, spelling, and writing with new vocabulary. Recommend for students in developmental and preparatory reading and writing classes. Prerequisites: Reading

COMPASS score 44-65 or successful completion of ESOL 250 with a "C" or better.

Dental Hygiene

DH 100 Special Dental Hygiene Practice 1.00–5.00: Clinic experience for dental hygiene students or graduates needing to maintain or enhance clinic skills outside the regularly scheduled clinic sequence, especially in preparation for Board examinations. Instructor permission required.

DH 101 Dental Hygiene Theory I 4.00: Studies basic dental hygiene procedures, theory and philosophy as applied to direct patient services.

DH 102 Dental Hygiene Theory II 2.00: Continued study of dental hygiene theory and practices, including oral prophylaxis classifications, alternative oral physiotherapy aids and school clinic policies and procedures.

DH 103 Dental Hygiene Theory III 2.00: Expansion of the concepts of dental hygiene theory to include the more difficult oral conditions and special needs.

DH 104 Dental Hygiene Practice I 3.00: Applies dental hygiene theory and techniques in a laboratory setting on dental manikins. Work with patients will begin when specified skill levels are reached.

DH 105 Dental Hygiene Practice II 3.00: Students apply dental hygiene preventive and therapeutic principles while providing patient care in a clinical environment. Patient care includes oral prophylaxis and oral hygiene.

DH 106 Dental Hygiene Practice III 3.00: Continued clinical activities with increased difficulty in the type and number of cases.

DH 109 Dental Radiology I 2.00: Instruction covers basic theory of dental radiography. Students practice intra-oral techniques on manikins with emphasis on radiation safety practices and techniques.

DH 113 Dental Anatomy 2.00: Studies anatomical characteristics of all permanent and deciduous teeth and their surrounding tissues.

DH 121 Dental Health Education 2.00: This course seeks to familiarize the student with selected teaching techniques and organized teaching programs having direct application to dental health education concepts.

DH 127 Medical Emergencies 2.00: Study of medical emergencies that occur in the dental office including prevention, recognition and appropriate intervention.

DH 128 Oral Histology 1.00: Studies microscopic anatomy of the oral tissues. Course serves as an introduction to DH 129 Oral Pathology.

DH 129 Oral Pathology 3.00: Studies oral diseases and recognition of conditions that may require consultation and treatment by a dentist prior to, or concurrent with dental hygiene procedures.

DH 201 Dental Hygiene Theory IV 2.00: Dental hygiene theory applied to patients having moderate to severe periodontal involvement. Instruction includes the use of ultrasonics and advanced techniques.

DH 202 Dental Hygiene Theory V 2.00: Advanced dental hygiene theory to include treatment of periodontal disease and expanded functions.

DH 203 Dental Hygiene Theory VI 3.00: Expansion of dental hygiene theory to include dental specialties and the role of the hygienist in specialty offices. Job search skills and stress management included.

DH 204 Dental Hygiene Practice IV 5.00: Continued clinical activities to include treatment of periodontally involved patient. Activities will correlate to DH 201.

DH 205 Dental Hygiene Practice V 5.00: Continued clinical activities providing treatment to a variety of dental patients. Laboratory activities in expanded functions. Activities correlate to DH 202.

DH 206 Dental Hygiene Practice VI 5.00: Advanced dental hygiene clinic activities to include all aspects of previous training at increased skill levels. Nitrous oxide sedation included, plus simulated private practice and mock board activities.

DH 208 Community Oral Health I 2.00: Introduction to national and local public health issues and initiatives for delivering care to varied populations.

DH 210 Dental Radiology Lab II 1.00: A continuation of DH 109, Dental Radiology I. Course will include provision of basic dental radiographic services to clinic patients including more advanced radiographic techniques.

DH 228 Head and Neck Anatomy 2.00: Studies the structures and functions of oral anatomy with emphasis on those structures important in the administration of local anesthesia.

DH 229 Local Anesthesia 2.00: Covers techniques of pain control by the administration of local anesthetics. Prepares student for management of complex clinical clients during advanced dental hygiene procedures.

DH 230 Dental Materials 2.00: Classification, chemistry, physical properties, and uses of dental materials including manipulation techniques.

DH 232 Nitrous Oxide Sedation 2.00: Theory and clinical application of nitrous oxide sedation for dental patients as prescribed by the State Dental Practice Acts of Oregon, Washington and California.

DH 236 Ethics & Jurisprudence 1.00: Studies legal restrictions and ethical responsibilities associated with the practice of dental hygiene and dentistry.

DH 246 Pharmacology 3.00: Introduces various drugs used in the practice of dentistry. Students study nomenclature, classification, dosage, and effects of different pharmacologic compounds.

DH 250 Research Methods and Issues in Oral Health 1.00: Introduction to epidemiological studies and basic statistics in preparation to critically evaluate evidence-based research of oral health.

DH 252 Community Oral Health II 2.00: Students utilize public health program planning models to develop and participate with community oral health programs for various populations.

DH 253 Community Oral Health III 2.00: Development, implementation and evaluation of dental health projects in the community.

DH 260 Periodontology I 2.00: Introduction to the science and management of periodontal diseases. Emphasizes microbial, biochemical and etiological principles. The course will correlate to clinical activities.

DH 261 Periodontology II 2.00: Advanced study of periodontal disease to include the most severe conditions, surgical corrections and research findings.

Drafting Technology and Design

DRF 100 Drafting Orientation 3.00: Designed to acquaint students with firms that employ drafters and designers. Students observe product lines and manufacturing operations through visual media or facility tours. Students become familiar with working conditions, and may converse with employees. Covers the fundamentals of technical report writing, memos, resume development, and internet research of technical products related to drafting and design.

DRF 117 Drafting Fundamentals 4.00: Introduces skills needed to produce 2-D mechanical drawings, including orthographic projection, sections and pictorial drawings. Covers dimensioning basics and simple architectural plans and sections.

DRF 126 Introduction to AutoCAD Introduction to AutoCAD 3.00: Introduces AutoCAD software as a design tool. Instructions will be given in the operation of both hard disk and flexible disk data storage, and plotting. Covers creation, retrieval and modification of drawings that meet industry standards using basic AutoCAD commands.

DRF 133 Intermediate Drafting 4.00: Reviews and incorporates material presented in DRF 117 and DRF 118. Introduces threads, fasteners, keys and springs, and their applications. Prerequisites: DRF 117, 126. DRF 135 Advanced Drafting Advanced Drafting Introduces working drawings, including assemblies and details, weldments, drawing numbering systems and revisions. Covers dimensional tolerancing and fits, surface finishing and welding systems. Prerequisite: DRF 133.

DRF 136 Intermediate AutoCAD 3.00: In-depth study of computer aided drafting using AutoCAD software. Covers slide files, block attributes, user coordinate systems, v-points, 3-D entity creation, external references, and paper/model space drawing manipulation. Prerequisite: DRF 126.

DRF 185 AutoCAD Inventor - Fundamentals 3.00: Introduces AutoCAD Inventor as a feature-rich, parametric 3D design tool for assembly-centric modeling and collaborative engineering. Develops fundamental knowledge in the areas of part and assembly modeling, using adaptive features and parts, utilizing work groups, surfacing basics, managing data, and the Engineer's Notebook.

DRF 237 Pro/Engineer Basics 3.00: Provides information on the Pro/Engineer Interface, command structure and solid modeling. Develops knowledge and skills

in the creation and detailing of solid models. DRF 246 AutoCAD 3-D & Solid Modeling AutoCAD 3-D and Solid Modeling Provides thorough coverage of 3-Dimensional drafting and design procedures. The concepts examined include 2D and 3D primitives, user coordinate systems, 3D v-points, complex extrusions, regions, shading and rendering, 3D solid models, and supportive AutoCAD 3D databases. Prerequisite: DRF 136.

DRF 251 Kinematics Drafting 3.00: Introduces mechanisms that translate motion and force, including cams, gears, belts/pulleys and chains/sprockets. Introduces components such as pawls ratchets, linkages and levers. Includes drawings of stock (shelf) items and custom designs. Prerequisite: DRF 135, DRF 136

DRF 256 Advanced AutoCAD 3.00: Examines customization of AutoCAD menu and Lisp files. Includes buttons, POP, image, screen and tablet sections, creation and implementation of user-defined AutoLISP functions, and basic file management techniques. Prerequisite: DRF 136.

DRF 270 SolidWorks Fundamentals 3.00: Introduces SolidWorks software as a 3-D design tool. Covers creation, retrieval and modification of 3-D and layout drawings using basic SolidWorks commands. Includes skills needed to create parametric models of parts and assemblies; generate dimensioned layouts; and Bill of Materials of those parts and assemblies.

DRF 271 SolidWorks Advanced 3.00: Covers advanced editing and modeling options, configurations of assemblies, sheet metal, and top-down assembly modeling. Prerequisite: DRF 270.

DRF 280 CE / Drafting 1.00–4.00: Student works on approved job sites and receives as varied and complete an experience as possible under job conditions. Prerequisite: Department approval required prior to registration.

DRF 285 AutoCAD Inventor-Advanced 3.00: Covers advanced techniques used in creating and modifying parametric, assembly-centric 3D models with AutoCAD Inventor. Develops extensive knowledge in the areas of part and assembly modeling, adaptive features, utilizing work groups, surfacing, managing data and the Engineer's Notebook. Prerequisite: DRF 185; or department permission.

Diesel Service Technology

DS 101 Engine Rebuild & Lab Procedure 12.00: Covers engine theory, engine components, and proper diesel engine rebuild procedures. Introduces basic engine electrical and fuel systems, shop tool use and maintenance. DS 102 Truck Power Train Truck Power Train Introduces gear transmissions, differentials and clutches involved in the application of diesel-powered vehicles.

DS 103 Fuel Injection Systems 6.00: Emphasizes fuel injection systems and how they relate to diesel engine performance and operation. Lecture and hands on training used for instruction. The operations of all major fuel injection devices including diesel fuels, fuel transfer pumps, fuel nozzles, fuel injectors, filtration systems, metering systems and governing systems will be presented.

DS 104 Fundamentals of Electricity & Electronics 6.00: Fundamentals of electricity, electrical circuitry and components. Practice on electrical components and live circuitry.

DS 105 Fundamentals of Hydraulics & Air Conditioning Systems 6.00: Fundamentals of hydraulics in theory and shop practice provides a solid background in applications of hydraulics in the trucking and heavy equipment industry. Heavy duty air conditioning operation, trouble shooting and system repair is incorporated into this class.

DS 106 PMI/Detroit Diesel Electronic Control 3.00: Preventive Maintenance Inspection (PMI) of vehicles, Department of Transportation (D.O.T.) out of service criteria, PM scheduling, lubricants and winterizing. Detroit Diesel Electronic Control (DDEC) lern to understand and troubleshoot system.

DS 107 Live Equipment and Lab 6.00: Repair of customer-owned (live) equipment under a minimum of supervision. Department approval required.

DS 202 Heavy Duty Power Train 6.00: Advanced theory and application on automatic and power shift transmissions as used in the heavy equipment industry.

DS 203 Fuel Injection System Diagnostics & Cat Elect Eng Controls 6.00: Designed to cover diesel fuel injection pumps and their applications, timing advance mechanisms, governing systems, electronic engine controls and other related items that effect engine operation and performance.

DS 204 Diesel Starting, Charging & Electronic Control Systems 6.00: Overhaul system components and practice live troubleshooting of heavy duty electrical and electronic systems. Prerequisite: DS 104.

DS 205 Mobile and Hydrostatic Hydraulics 6.00: Covers advanced hydraulics and hydrostatics used on heavy equipment, farm machinery, marine equipment, hydraulic cranes, backhoes and other equipment. Emphasizes troubleshooting. Prerequisite: DS 105.

DS 206 Medium/Heavy Duty Truck Brake, Suspension & Steering 9.00: Gain knowledge in medium/heavy duty truck brake systems, suspension and steering. Covers: air brake systems, hydraulic brake systems, truck foundation brakes, antilock brakes, automatic slack adjusters, wheels, tires and fifth wheels. Emphasizes safety and the use of service manuals and textbooks.

DS 280A CE / Diesel Service Technology 1.00–10.00: On-the-job work experience related to the individual's education and career goals. Receive one credit for 30 hours of work. Department permission required.

DS 280B CE / Diesel Service Technology - Seminar 1.00–2.00: Share and receive feedback on experiences from other students and instructors. Discuss job survival skills. Department permission required.

DS 9112 Small Marine Diesel Engine Preventive Maint and Tune-up 2.00: Analyze and diagnose each supporting system of the small diesel engine to properly tune the engine for maximum performance.

Dealer Service Technician

DST 110 Caterpillar Engine Fundamentals 6.00: This course introduces the student to Caterpillar basic diesel engine theory and service procedures. The principles of compression ignited internal combustion engines are taught and variations in design are discussed. Caterpillar engines are used for lab disassembly and assembly. Prerequisites: Provide a dealer letter indicating secured internship at a participating Caterpillar Dealership.

DST 111 Introduction to Caterpillar Service Industry 1.00: This course introduces the student to the Caterpillar Organization and provides instruction and lab experience in shop safety, shop operation, service tools, and how to obtain Caterpillar Service Information. (SIS) Prerequisites: Provide a dealer letter indicating secured internship at a participating Caterpillar Dealership.

DST 112 Fundamentals of Hydraulics 4.00: This course is designed to teach the basic hydraulic fundamentals used in Caterpillar products, to identify and state the function of the various values used in Caterpillar hydraulic systems, to identify and state the function of vane pumps, gear pumps and piston pumps, to disassemble and assemble hydraulic components, to identify and state the function of ISO hydraulic symbols and to trace the oil flow and state the operation of various hydraulic systems. Prerequisite: Provide a dealer letter indicating secured internship at a participating Caterpillar Dealership. DST 110 and DST 111.

DST 113 Caterpillar Engine Fuel System 4.00: This course introduces the student to the various fuel systems used on Caterpillar engines. The student will become familiar with fuel selection, calibrations, nozzle testing procedures, governor operation, and hydraulic fuel ratio controls. The student will also become familiar with the 1.1 and 1.2 Mechanical Unit Injection (MUI) and Hydraulic Electronic Unit Injection (HEUI) fuel systems, the Electronic Unit Injection (EUI), Nippondenso, and Zexel fuel systems. Prerequisite: Provide a dealer letter indicating secured internship at a participating Caterpillar Dealership. DST 110 and DST 111.

DST 114 Fundamentals of Electrical Systems 4.00: This course introduces the student to basic electrical and electronic fundamentals needed by a technician to properly diagnose and repair the complex electrical installed in Caterpillar machines. Prerequisite: Provide a dealer letter indicating secured internship at a participating Caterpillar Dealership. DST 110 and DST 111.

DST 115 Air Conditioning 3.00: This course is designed to prepare the servicemen to understand the principles of air conditioning, to identify air conditioning components, to state the component functions, and to service Caterpillar air conditioning systems. This course prepares the student to confidently work on mobile air conditioning systems in an industrial environment. Prerequisite: Provide a dealer letter indicating secured internship at a participating Caterpillar Dealership. DST 114.

DST 116 Fundamentals of Transmissions and Torque Converters 4.00: This course will discuss the basic components and operation of power train systems used in Caterpillar machines. Included will be basic components, clutches, torque converters, manual shift transmissions, and component functions

are explained as they relate to the operation of various power train systems. Prerequisite: Provide a dealer letter indicating secured internship at a participating Caterpillar Dealership. DST 112 and DST 114.

DST 117 Caterpillar Machine Hydraulic Systems 4.00: This course is designed to teach the system operations and the testing and adjusting procedures for the pilot operated hydraulic system, the load sensing, pressure compensated (LSPC) hydraulic system used in Caterpillar machines. Prerequisite: Provide a dealer letter indicating secured internship at a participating Caterpillar Dealership. DST 112 and DST 114.

DST 150 Caterpillar Service Technology Internship 7.00: Students will work 40 hours per week for 8 weeks at an approved Caterpillar dealership. They will be performing service related tasks defined by the instructor, the students mentor and the students direct supervisor. Although the students will be working in a live shop environment, the tasks assigned will primarily be related to the previous course studied. Prerequisite: Provide a dealer letter indicating secured internship at a participating Caterpillar Dealership. Students must have completed the sequence courses with a minimum C grade, prior to internship. See advisor for proper courses.

DST 200 Undercarriage and Final Drive 4.00: This course will discuss methods for transferring power through the mechanical power train and cover differential, brakes, final drives, and under carriage. The content of this course should be treated as general information for power train components in all Caterpillar machines. Prerequisite: Provide a dealer letter indicating secured internship at a participating Caterpillar Dealership. DST 116.

DST 201 Machine Electronic Systems 4.00: This course introduces the student to Caterpillar machine electronic systems and diagnostic tooling needed by a technician to properly diagnose and repair the complex electrical/electronic systems installed in Caterpillar machines. Prerequisite: Provide a dealer letter indicating secured internship at a participating Caterpillar Dealership. DST 117.

DST 202 Caterpillar Engine Performance 3.00: This course is an in-depth study of engine diagnostics and repair techniques. Much of the class time is spent with on-iron activities, diagnosing and correcting engine problems. Participants learn basic diagnosis and shooting procedures, use of Caterpillar diagnostic tools, an use of Caterpillar reference material. The four major engine systems studied are oil, air, cooling, and fuel. Prerequisite: Provide a dealer letter indicating secured internship at a participating Caterpillar Dealership. DST 110 and DST 113. troubleshooting procedures, use of Caterpillar diagnostic tools, and use of Caterpillar reference material. The four major engine systems studied are oil, air, cooling and fuel. Prerequisite: Provide a dealer letter indicating secured internship at a participating Caterpillar Dealership. DST 110 and DST 113.

DST 203 Caterpillar Machine Diagnostic 3.00: This course introduces the student to machine problem identification using diagnostic tooling and material to properly diagnose and repair the complex systems installed on Caterpillar machines. The course will concentrate on repair logic and applications, using a troubleshooting and diagnosis process, to solve machine faults in the power train, hydraulic system, and electrical system. The remainder of the course will focus on solving actual machine malfunctions, utilizing all diagnostic principles, tooling, and electronic troubleshooting applications. Prerequisite: Provide a dealer letter indicating secured internship at a participating Caterpillar Dealership. DST 201 and DST 117. reference material to properly diagnose and repair the complex systems installed on Caterpillar machines. The course will concentrate on repair logic and applications, using a troubleshooting and diagnosis process, to solve machine faults in the power train, hydraulic system, and electrical system. The remainder of the course will focus on solving actual machine malfunctions, utilizing all diagnostic principles, tooling, and electronic troubleshooting applications. Prerequisite: Provide a dealer letter indicating secured internship at a participating Caterpillar Dealership. DST 201 and DAT 117.

DST 204 Machine Specific Systems 6.00: This course introduces the student to Caterpillar machine specific systems. The materials presented in this course are intended to give the student a general knowledge of Caterpillar machine specific systems used in today's products. Prerequisite: Provide a dealer letter indicating secured internship at a participating Caterpillar Dealership. DST 201 and DST 117.

Dental Technology

DT 101 Dental Technology Lab I 6.00: Initial skill development in the use and operation of dental laboratory equipment, the application of safety principles, and introduction to the fabrication process of complete removable dentures.

DT 102 Dental Technology Lab II 6.00: Continued skill development in complete denture construction. Articulators and immediate overdentures introduced.

DT 103 Dental Technology Lab III 6.00: Advanced complete denture construction to include alternative materials, occlusal patterns and denture individualization.

DT 120 Dental Anatomy 2.00: Studies basic forms, structures and functions of teeth and their surrounding tissues.

DT 141 Denture Techniques I 2.00: History and philosophy of complete removable dentures with an introduction to the construction process. Artificial tooth selection and setting procedures emphasized.

DT 142 Denture Techniques II 2.00: Continued study of denture construction including the use of articulators, finishing procedures and alternative techniques.

DT 143 Denture Techniques III 2.00: Advanced study of denture construction including alternative occlusal patterns and materials. DT 151 Science of Dental Materials I Science of Dental Materials I Overview of materials used in dentistry such as gypsum products, waxes and impression materials.

DT 152 Science of Dental Materials II 3.00: Introduces chemistry and physics, especially as they relate to dental materials. Measurement techniques and unit conversions are stressed.

DT 204 Dental Technology Lab IV 6.00: Skill development in the processes and procedures associated with dental crown and bridge construction. Dental inlays included.

DT 205 Dental Technology Lab V 6.00: The uses of porcelain and acrylic in crown and bridge construction with emphasis on color and form reproduction.

DT 206 Dental Technology Lab VI 6.00: Fabrication of removable partial dentures with emphasis on framework design. Orthodontic appliances included.

DT 253 Science of Dental Materials III 2.00: Continued study of dental materials as related to cast metal alloys and crown and bridge construction.

DT 254 Science of Dental Materials IV 2.00: Advanced study of dental materials including ceramics (porcelain) and high fusing metal alloys.

DT 270 Inlay Casting, Crown & Bridge 3.00: Introduces crown and bridge construction processes and techniques including preparation and waxing of dies, investing, casting, and finishing. Principles also applied to dental inlays.

DT 271 Partials, Clasp & Bar 2.00: Study of the philosophy, materials, design and fabrication processes of removable partial dentures.

DT 272 Dental Ceramics 3.00: Study of dental ceramics (porcelain) including the philosophy, structure, properties, uses, and laboratory procedures associated with this material.

DT 275 Dental Laboratory Management 2.00: Introduces management skills and responsibilities as well as the problems associated with dental laboratory ownership.

DT 276 Dental Laboratory Management Lab 1.00: Computer-based exercises in techniques required for small business management.

DT 284 Dental Specialties 2.00: Introduces dental specialties and advanced techniques that involve participation and skill of the dental lab technician.

DT 285 Dental Seminar and Practicum 2.00: A workplace preparation course including professional ethics, organizations and opportunities, certification requirements and an overview of the dental care delivery system in Oregon. Also introduces new products and procedures and have an opportunity to visit local laboratories.

DT 9406 Dental Technology Practicum 1.00–5.00: Covers all steps and procedures in the construction of dental replacements which may include cast metal crowns and bridges, the use of dental ceramics, and/or partial and full dentures.

Economics

EC 200 Introduction to Economics 4.00: A survey course covering basic microeconomic and macroeconomic concepts, the history of economic ideas, and a variety of economic issues. Depending on the

instructor's interest, the issues covered might include: price ceilings, price floors, pollution, income distribution, poverty, international trade issues, inflation, unemployment, economic growth, public finance, and transitional economies. This course is recommended for students who desire a one term survey course. Recommend: MTH 95. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

EC 201 Principles of Economics / Microeconomics 4.00: A study of the market system, involving the essentials of demand and supply analysis; competition and monopoly; labor markets; public policy towards business; distribution of income; international trade and commercial policy; comparative advantage, tariffs, and quotas. EC201 and EC202 together constitute the two term transfer sequence. Recommended: MTH 95. Prerequisities: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

EC 202 Principles of Economics / Macroeconomics 4.00: A study of factors affecting the level of national income; the essentials of money and banking; the role of government expenditure and taxation in achieving economic stability, growth, and development; international monetary issues including exchange rates and the balance of payments. Recommended: MTH 95 and EC 201. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

EC 203 Principles of Economics / Applications to Economic Issues 4.00: An economic issues course that covers specific topics in some depth. Topics covered change with current events and instructor interest and may include: International trade and finance; energy and resource economics; poverty, discrimination, and income distribution in national economies and the global economy; economic development; financial market instability; environmental and sustainability issues; government and central bank policies and competing ideologies; other current or relevant topics. Prerequisites: WR 115, RD 115, and MTH 95 or equivalent placement test scores, and EC 200 or EC 201 or EC 202.

EC 216 Labor Markets / Economics of Gender, Race, and Work 4.00: The study of labor markets with emphasis on the economic status of women and their decisions about work and family. Topics of study include: recent developments in the labor market; the gender pay gap and women-men occupational differences; labor supply decisions; human capital theory; racial discrimination; economics of marriage and household decisions. Recommended: MTH 95. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

EC 230 Contemporary World Economic Issues /International Economics 3.00: Selected issues and problems related to international economics and international economic institutions. Includes trade and the balance of payments, trade competition between Japan and the U.S., reform and restructure of the Russian and Eastern European economies, economic development and problems of developing nations.

EC 285 Introduction to Political Economy 4.00: Examines the United States economy from a systems/institutional perspective. With this approach, students will explore the key institutions that make up the U.S. economy including corporations, government, the market system, labor unions, monetary and financial institutions, and others. Students will also examine three problem areas: environmental degradation and resource depletion; social and political inequality; and economic instability. Also introduces possible solutions based on institutional change and development. Students will deepen their understanding of capitalism in America, as well as gain insights into developing viable economic alternatives based on principles of environmental sustainability, equity and economic stability. Recommended: MTH 95 and WR 115.

Early Education and Family Studies

ECE 120 Introduction to Early Education and Family Studies 3.00: Introductory level child development class integrating the normal growth and developmental patterns of children from conception through age 10 with developmentally appropriate practices. Linkages between development and practice in a variety of settings are covered with particular emphasis on parent (family) - teacher (caregiver) partnerships.

ECE 121 Observation & Guidance I 3.00: Focuses on age-appropriate guidance and observations techniques for individual children six week to six years. Topics include the ongoing dynamics of relationships, how values and belief systems impact guidance decisions, and the linkages between observation and guidance plans for individual children.

ECE 122 Environments and Curriculum in Early Care and Ed I 4.00: An introduction to an overview of creating physical and social environments and curriculum for children six weeks to six years in home or center-based programs. Course covers theories and relationships between physical and social space, activities, experiences, and materials. Students are introduced to the use of developmentally and culturally appropriate practices in planning, selecting, and evaluating environments and curriculum for young children.

ECE 123 Environments and Curriculum in Early Care and Ed II 4.00: This course explores the use of developmentally and culturally appropriate practices in creating physical and social environments and curriculum for children six weeks to six years in home or center-based programs. Theories of play and early care and education are employed to plan and implement environments and curriculum for children. Students plan, implement, and evaluate environments and curriculum for young children. Prerequisite: ECE 122.

ECE 124 Multicultural Practices / Exploring Our Views 3.00: Develops awareness of how personal experiences, belief systems, and values impact work with children and families. Examines the impact of cultural, linguistic, and class identities and histories on inter-relationships in diverse populations. Applies techniques for incorporating other peoples histories, values and belief systems into child-and-family-centered practices.

ECE 130 Practicum Seminar 2.00: Reviews lab experiences and observations. Focuses on the role of the teacher in carrying out a developmental philosophy of early childhood education.

ECE 131 Practicum I-Experienced Teachers (Infant/Toddler and Presch) 3.00: Course to improve and strengthen achievement of competencies in working with young children in a group setting at their work sites. Includes using developmentally appropriate methods in recognizing and providing a safe and sanitary environment; using positive guidance techniques; supporting language development and planning a schedule and curriculum. Department permission required based on work experience and course work. Corequisite: ECE 130.

ECE 133 Practicum I 3.00: Develops skills in working with infants/toddlers in a group setting in the PCC Child Care Center. Includes using developmentally appropriate methods in recognizing and providing a safe and sanitary environment; using positive guidance techniques; supporting language development, and planning a schedule and curriculum. Prerequisite: ECE 120. Prerequisite or concurrent registration: ECE 121.

ECE 134 Practicum II 3.00: Develops skills in supervision of children in a group setting in the PCC Child Care Center. Includes using developmentally appropriate methods in recognizing and providing a safe and sanitary environment; using positive guidance techniques; supporting language development; supporting and planning a schedule and curriculum. Prerequisites: ECE 120 and 121. Prerequisite or concurrent registration: ECE 122 and 123.

ECE 170 EEFS Coaching and Mentoring in Early Education and Family Studies 1.00: This course explores the role of coaching and mentoring in facilitating the development of novice early education practitioners and in enhancing early childhood environments. Models of coaching and mentoring will be reviewed and issues discussed.

ECE 173 Children and Loss / The Effects of Death and Divorce 1.00: Divorce and death in families can have a profound effect on young children. Development can be impacted across domains. This course examines the effects of loss on children and common developmental outcomes. Strategies and resources for supporting children and families through difficult periods involving separation or the death of a loved one are explored.

ECE 174 Head Start Past and Present 1.00: Head Start (including MIgrant and Tribal Head Start) has served and empowered families and children from low- income environments for over 30 years. Today, Head Start is one of the largest child care-related employers in the country. This course examines the history, current status, and future of Head Start. An ideal course for students interested in future employment with the agency.

ECE 175A Infant/Toddler Caregiving / Learning and Development 1.00: Covers growth and development: physical, cognitive, and language; ages of infancy and facilitating learning. ECE 175B I/Tod Care-Group Care Infant/Toddler Caregiving: Group Care Covers group care including: routines, quality, staff relations, environments and welcoming children and families into care.

ECE 175C Infant/Toddler Caregiving — Social/

Emotional Growth 1.00: Covers social-emotional growth and socialization including: development, temperament, responsible care, guidance and discipline, and supporting the needs of infants and toddlers.

ECE 175D Infant/Toddler Caregiving — Family/Provider Relationships 1.00: Covers family/provider relationships including: establishing partnerships with parents, listening and responding to families needs, supporting culturally diverse families, culturally sensitive care, conducting business and handling difficult issues.

ECE 177 Mixed Age Groups Tiny to Tall / Making Mixed Age Groupings Work 1.00: Mixed-age early childhood settings can include children from infancy through elementary school age. This course explores the benefits and addresses the challenges of creating quality environments and programming for children of mixed ages.

ECE 179 The Power of Portfolios in Early Education 1.00: Portfolios for children in early care and education programs are a powerful way to demonstrate children's skills, learning, development, and culture. Creating meaningful portfolios with children and families includes an observation plan, an organization system, and accessible technology (digital photography, scanners, etc.).

ECE 180 Early Childhood Professional English A 3.00: ECP English A, the first term of a three-term sequence, introduces teh academic English used in the fields of early childhood development and education. This course is intended for non-native speakers of English who are working toward an AAS degree in Early Education and Family Studies.

ECE 181 Early Childhood Professional English B 3.00: ECP English B, the second term of a three-term sequence, continues an introduction to the academic English used in the fields of early childhood development and education. This course is intended for non-native speakers of English who are working toward an AAS degree in Early Education and Family Studies.

ECE 182 Early Childhood Professional English C 3.00: ECP English C, the third term of a three-term sequence, continues an introduction to the academic English used in the fields of early childhood development and education. This course is intended for non-native speakers of English who are working toward an AAS degree in Early Education and Family Studies.

ECE 184 Children's Puppetry & Theater 1.00: Puppetry and theater can be a powerful tool in early childhood environments. Puppetry and theater capitalizes on children's creativity and imagination. It fosters development across domains and is particularly effective in helping children work through issues, conflicts and important transitions in their lives. This course explores the many benefits of puppetry and theater for young children.

ECE 185 Field Trips in Early Childhood / Planning Fun and Meaningful Field Trips for Young Children 1.00: Field trips are worth the hassle! Field trips build on child interests and contribute to children's developing knowledge of the world. This course explores the positive benefits of field trips in early childhood programs. Students will explore field trip possibilities in the Portland area, develop field trip protocols, and problem-solve common field trip issues.

ECE 186 Nature and Gardening with Young Children 1.00: Children are inherently engaged by nature and gardening experiences. Bringing gardening and experiences in nature to your work with children will help you facilitate children's development across domains in an engaging and ever-changing context. This course explores the many benefits of gardening and natural experiences for young children.

ECE 187 Cooking with Kids 1.00: Cooking with kids can do it all! Cooking can help young children learn language and literacy, math, science, cooperation, and healthy eating habits. Learn to create and share cooking experiences with young children in a way that maximizes child participation and developmental opportunities and minimizes the potential for chaos.

ECE 188 Block Play and Woodworking for Young Children 1.00: When children are exposed to well-planned block play and wood working experiences they create, they build, they construct, and they stay engaged. Bringing block play and wood working to your program will help you facilitate children's development across domains in an engaging context. This course explores the many benefits of block play and wood working experiences for young children.

ECE 189 Building Relationships with Infants, Toddlers, and Families 1.00: Strong relationships are vital to healthy development for infants and toddlers. The role of infant and toddler caregivers is to facilitate, support, and sustain individualized relationships with the families and children in their programs. This course will explore ways in which caregivers can facilitate and sustain these extremely important relationships.

ECE 191 Interest-Based Planning for Infants 1.00: Interest-based planning is a key aspect of quality curriculum development in early childhood. Identifying infant interests requires perceptive and responsive adult attention and creative effort. This course will explore the ways in which infants communicate their interests to adults, methods of assessing infant interests, and interest-based curriculum development in infant-care programs.

ECE 193 Advocacy in the Field of Early Education and Family 1.00: Studies Issues in early education and family studies (affordability, funding, quality, compensation, accessibility, and so forth) provoke impassioned responses and a desire to effect change. This course explores the role of advocacy in the field of early education and family studies. In contributing to real-life (self-selected) advocacy efforts students will learn effective advocacy techniques, plan an advocacy project, and review lobbying and legislative processes.

ECE 194 Managing Stress in EEFs Surviving and Thriving 1.00: Managing Stress in Early Education This course examines common sources of stress and burnout in early education and family studies. Strategies for surviving, thriving, and caring for the self are explored.

ECE 197 Career Exploration in Early Education and Family 1.00: Studies Early Education and Family Studies is a broad field encompassing many forms of services for children and families. This course is designed for students who are considering a career in the field. In conjunction with service learning placements in the Portland area, students will explore the boundaries of the field, career options and requirements, and opportunities for life-long learning and advancement.

ECE 198 Building Effective Outdoor Environments 1.00: Outdoor spaces are an integral part of quality early childhood environments. Outdoor experiences foster children's exploration and positive self-esteem as well as large and small motor development. This course will examine outdoor environments for children of all ages and abilities. Students will plan, implement, and evaluate outdoor environments and activities.

ECE 200 The Professional in Early Education and Family Studies 3.00: History, current programs and practices, and future issues of early childhood education. Includes professionalism, historic and current issues, types of programs for young children, parent interaction, job opportunities, ethical/legal issues and community resources. Develops a professional philosophy. Prerequisite: WR 115

ECE 221 Observation and Guidance II 3.00: Examines techniques for observing and recording behavior and keeping records as used in the care and education of infants through five-year-olds. Focuses on observation and guidance techniques for groups of children in addressing challenging behaviors and issues in early childhood environments. Covers the caregiver's role in using observation to promote development, including self-development. Prerequisites: WR 115 and ECE 121.

ECE 224 Multicultural Practice / Curriculum & Implementation 3.00: Develops awareness of cultural and ethnic issues as they relate to the early childhood classroom teacher. Focuses on ethnocentrism, racism and discrimination. Includes techniques for developing multicultural, anti-bias curriculum. Prerequisite: ECE 124.

ECE 226 Child Development 3.00: Basic theories, research and principles of physical, cognitive, language, social and emotional development of children from the prenatal period through adolescence. Includes observation and classroom processes. Placement into WR 121 strongly recommended.

ECE 234 Children with Special Needs in Early Childhood Education 3.00: Become acquainted with areas of special needs in children from birth through six years of age. Emphasis is on inclusion of children in early childhood settings. Explore services available to children and their families. Child development helpful.

ECE 235 Music and Movement in Early Childhood Education 3.00: Overview of the development of musical and motor skills in children from birth to age 6, learn and develop a variety of music and movement activities, techniques and materials appropriate for them.

ECE 236 Language and Literacy in Early Childhood Education 3.00: Overview of language and literacy development in children from infancy to age 6. Design and use a variety of language and literacy development activities with young children.

ECE 238 Administration of Early Childhood Programs 3.00: Studies various tasks and responsibilities of program administration. Topics include licensing, program planning, organization, financial management, parent and community relationships, and personnel management. Prior ECE course work and experience working with children in groups is highly recommended.

ECE 241 Exploring the CDA 1.00: Introduces the national Child Development Associate (CDA) credential for professionals in early childhood care and education. Includes a description of the process of applying, developing competencies, and completing requirements for the CDA.

ECE 260 Advanced Practicum-Seminar 3.00: Refine skills necessary for supporting the total development of children, ages 6 weeks to 6 years, in a group setting and to integrate child development theory and practice in two interdependent components: seminar and field work experience. Department permission required. Prerequisite: Certificate level courses plus WR 121, HEC 226, ECE 221, and ECE 224. Corequisite: ECE 263 or 264.

ECE 264 Advanced Practicum (Lab) 4.00: Refine skills necessary for supporting the total development of children, ages 6 weeks to 6 years, in a group setting and to integrate child development theory and practice in two interdependent components: seminar and field work experience. Department permission required. Corequisite: ECE 260.

Education

ED 100 Introduction to Education for Paraeducators 3.00: Explores the roles of a variety of personnel in schools. Includes personal responses to school situations, students, other personnel and the roles of schools in American Society. Examines ethical, legal, and administrative implications for educators. Recommended as an initial coure for those contemplating a career in education. Course is designed to ease the transition of students to college-level study.

ED 102 Displays/Graphics for Educator 3.00: Presented as a means of visual communication that develops an understanding and usage of the Internet, digital camera, scanner, and word processing for graphics. Introduces dry mounting, laminating, enlarging, copying, poster making, award making and bulletin board creating. Provides opportunities to empower the prospective librarians/teachers with the ability to promote content in different modalities. Prerequisite: CAS 133 or ED 136.

ED 103 Desktop Publish for Educators 3.00: Introduces desk-top publishing. Produces materials to be used in an educational setting using flat-bed scanners, graphics sources, layout guidelines and design rules. Prerequisites: ED 136.

ED 104 Multimedia for Educators 3.00: Develops and evaluates multimedia presentations for use in schools and libraries. Multimedia presentation guidelines will be used in planning and developing materials.

ED 109 Library Procedures 3.00: Introduces structure, functions, and procedures in libraries. Provides a base on which to build specific skills needed for employment in libraries. Covers knowledge and use of the Dewey Decimal System, electronic card catalog/circulation systems, procedures for processing, and maintaining collections, basic terminology and policies. Prerequisite: Placement test scores qualifying student to enroll in WR 121.

ED 111 Selection of Library Materials 3.00: Provides an introduction to the selection and evaluation of library materials. Covers library standards, selection policies, verification tools, censorship and copyright laws.

ED 112 Introduction to Children's Literature 3.00: Introduces children's literature, authors and illustrators. Covers current and classic works, book awards, artistic and literary elements, introduction to genres, basic book discussion techniques, and audio-visual and electronic formats. Prerequisite: WR 115.

ED 114 Reference Materials 3.00: Introduces reference materials and sources as well as reference procedures in the library. Overview and evaluation of standard reference sources in print format as well as electronic format is central. Learn to design search strategies for efficient location of information and to conduct effective reference interviews. Prerequisites: Placement test scores qualifying student to enroll in WR 121.

ED 115 Storytelling 2.00: Provides introduction into how to do storytelling. Different storytelling techniques will be demonstrated and practiced in the course.

ED 116 Literature for Adolescence and Young Adults 3.00: Covers contemporary literature being read by young people of high school age, literature-related audio-visuals, and various specialized reading lists and bibliographies. Includes controversial areas in young adult literature.

ED 123 Instructional Strategies / Reading 3.00: Introduces components of the reading process and techniques for teaching reading to kindergarten through grade 8 students. Includes assessment and methods for teaching students with special needs. Prerequisites: WR 115 and RD 115.

ED 124 Instructional Strategies — Mathematics/Science 3.00: Presents strategies for teaching, reinforcing, and assessing basic math concepts by moving in a continuum from concrete to abstract. Emphasizes using manipulatives to introduce concepts in addition, subtraction, division, fractions, and place value. Covers the use of writing to reinforce and assess math concepts and integration of math concepts into science curriculum. Prerequisites: MTH 60 or higher; placement into WR 121.

ED 131 Applied Learning Theory 3.00: Prepares teachers and instructional assistants to work in a standards-based setting. Offers strategies to plan and implement instruction, assess student progress and instructional effectiveness, and re-teach as needed. Focuses on learning and motivational theories that apply to instructional situations. Includes creating and studying activities for specific learning problems. Prerequisites: WR 115 and RD 115.

ED 136 Computers in Education 3.00: Introduces various software applications in both stand-alone and network environments. Create educational word-processed documents, spreadsheets, databases, graphics, desktop publishing and presentation documents. Demonstrate computer-search skills using various network resources. Prerequisites: Completion of WR 115; RD 115; and CAS 133.

ED 171 Computers in Education II 3.00: Provides introduction to all aspects of the Internet and email. Use internet browser. Recommended: Basic computer knowledge. ED 199A Introduction Lang Develop Introduction to Language Development An overview of basic linguistics and practical applications of the theoretical explanation of language acquisition. Included observation of infants, children, and adolescents as the major focus for identifying the milesones of language development.

ED 200 Introduction to Education for Paraeducators 4.00: Examines the role of paraeducators in schools. Includes personal responses to school situations, students, personnel, the roles of schools in American Society and ethical, legal, and administrative implications for the paraeducator.

ED 206 Seminar / Advanced Education Techniques 3.00: Provides time and direction for investigating current issues in education. ED 207 Adaptive Sign for Spec Pop Seminar: Adaptive Sign for Special Populations Introduces Signed English and alternative communication modes for adults to use to teach students with no or limited language. Includes techniques to teach these signs and focuses on shaping, adapting signs and breaking signs down into component parts.

ED 208 Outdoor School Leadership 2.00: Gain training and experience teaching and leading sixth graders at outdoor school. Requires attending at least one full day training session (10-12 hours) at the outdoor school site prior to the scheduled assignment to work for 1 week, approximately 16 hours per day, 4 days, at a residential outdoor school for 6th graders.

ED 209 Practicum 3.00: Spend nine hours per week in a supervised field experience after an orientation.

ED 210 Practicum 3.00: Spend nine hours per week in a supervised field experience after an orientation.

ED 211 Practicum 3.00: Spend nine hours per week in a supervised field experience after an orientation.

ED 214 Practicum / Outdoor School 3.00: Gain training and experience teaching and counseling sixth graders in an outdoor setting. Requires attending two evening training sessions; spending one week at an outdoor camp; keeping a journal and submitting a summation paper to the PCC coordinator.

ED 216 Practicum / Seminar 1.00: Discuss practicum experiences, problems and successes. Concurrent enrollment in a practicum is required.

ED 217 Classroom Management 3.00: Introduces several approaches to proactive classroom management. Strategies for settingup an appropriate room environment and establishing procedures, systems,

and rules will be introduced and practiced. Behavior management will also be introduced and practiced. Prerequisites: WR 115 and RD 115.

ED 224 Foundations of Education 3.00: Provides an overview of the history and current issues in the field fo K-12 education including the impact of philosophy on practice. Prerequisites: RD 115 and WR 115.

ED 251 Overview Exceptional Learners 3.00: Introduction to diverse conditions of students with special needs in public schools. Identifies and defines the following disabilities: learning disabilities, emotional and behavior disorders, mental retardation, severe and multiple disabilities, autism, health impairments, physical disabilities, communication disorders, vision impairments, hearing loss, and traumatic brain injury.

ED 252 Behavior Management 3.00: Behavior terminology will be defined and applied. Students will demonstrate and practice baselining, setting up a program, reinforcing, modeling, shaping, chaining, monitoring and graphing data.

ED 258 Multicultural Education I 3.00: Introduces philosophy, activities, and materials applied in developing a culturally sensitive multicultural classroom and curriculum. Achieves an understanding of multicultural education and its impact on teaching in the classroom. Prerequisites: RD 115 and WR 115.

ED 259 Multicultural Education II 3.00: Provides an in depth view into multicultural educational issues in the K-12 setting today. Gain skills to develop cultural appropriate pedagogy, materials and curriculum in order to serve the needs of an increasingly diverse US educational system Prerequisite: ED 258.

ED 260 Multicultural Literature for Children and Young Adults 3.00: Introduces multicultural literature for early childhood through young adult. Emphasizes contemporary literature representing a range of cultures in the U.S. as well as world-wide. Covers selection and evaluation, cultural considerations, and book awards. Prerequisites: Placement test scores qualifying student to enroll into WR 121.

ED 263 Portfolio Development 2.00: This is a capstone course for the Paraeducator and Library/Media Certificate programs. Students will prepare professional portfolios that demonstrate the competencies they have developed during the program. It may also be taken by others in the field of education who wish to create professional portfolios. Prerequisite: WR 115 and RD 115.

ED 268 Introduction to Developmental Disabilities 3.00: Provides background information on teaching techniques, expected achievement levels, intellectual functioning, goals and objectives for working with students with developmental disabilities. Emphasizes physical and mental development from birth and familiarity with the known causes, classifications and terminology used in the field of special education.

ED 269Introduction to Teaching the Learning Disabled Student 3.00: Defines terms associated with learning disabilities and behavior disorders. Includes diagnostic procedures, remedial programs and teaching techniques.

ED 281 Techniques of Teaching Philosophy and Techniques of Teaching at a Community College 3.00: Develops the capacity to effectively use and manage instructional resources in achieving the learning objectives of vocational programs.

ED 290 Teaching Strategies for English Language Learners 3.00: Introduces learning strategies that will modify content for English Language Learners, and examines current theories in bilingual education. Provides opportunities to explore curriculum development and the needs of the learner. Prerequisite: RD 115 and WR 115.

ED 291 Strategies for Teaching English Language Learners II 3.00: In depth approach to analyzing best practices and teaching strategies for assisting ELL learners in the K-12 setting. Further enhances students' ability to assess, design and provide appropriate instruction and communication for and to ELLs. Explores relevant linguistic and cultural theories and issues, and offers students a chance to connect theory to practice. Prerequisite: ED 290.

ED 295 Leisure for Special Populations 3.00: Provides information on programming and teaching recreational activities that meet the needs of the individual with disabilities.

ED 298A Special Projects in Education 1.00: Designed to allow the student to do an individualized study in the area of education. The student is required to develop a learning contract with the assigned instructor. Instructor permission required for registration in this course.

ED 298B Special Projects in Education 2.00: Designed to allow the student to do an individualized study in the area of education. The student is required to develop a learning contract with the assigned instructor. Instructor permission required for registration in this course.

ED 298C Special Projects in Education 3.00: Designed to allow the student to do an individualized study in the area of education. The student is required to develop a learning contract with the assigned instructor. Instructor permission required for registration in this course.

ED 298D Special Projects in Education 4.00: Designed to allow the student to do an individualized study in the area of education. The student is required to develop a learning contract with the assigned instructor. Instructor permission required for registration in this course.

ED 298E Special Projects in Education 5.00: Designed to allow the student to do an individualized study in the area of education. The student is required to develop a learning contract with the assigned instructor. Instructor permission required for registration in this course.

Electronic Engineering Technology

EET 101 Introduction to Electronic Technology 1.00: Helps students start the EET program. Introduces the electronic industry and the EET course of study. Provides help and information on studying, taking tests, using the calculator, and using software applications in the EET program. Introduces resources available on campus and in the EET department. Prerequisite: Placement in WR 115. Prerequisite or concurrent: MTH 95.

EET 111 Elec Circuit Analysis I 5.00: International System of Units, engineering notation and prefixes, definitions of current, voltage, resistance, power, work and efficiency. For DC circuits: Ohm's and Kirchoff's Laws, series, parallel, and series-parallel circuit principles, superposition, Thevenin and Norton theorems, mesh current and node voltage analysis. Includes a 3-hour per week laboratory. Prerequisite: Placement in WR 115; Prerequisite or concurrent registration: MTH 111C.

EET 112 Electrical Circuit Analysis II 5.00: Capacitance, inductance, reactance, and impedance. Transient analysis of RL and RC circuits. AC circuit phasor analysis. Power in AC circuits. Includes a 3 hour per week laboratory. Prerequisite: EET 111 Prerequisite or concurrent registration: MTH 112.

EET 113 Electrical Circuit Analysis III 5.00: Superposition, THevenin and Norton theorems applied to AC circuits, AC power and transformers. Series and parallel resonant circuits, low pass, high pass, bandpass, and band reject filters, Q and selectivity, trnasfer functions, decibels, frequiency response and Bode diagrams. Includes a 3-hour per week laboratory. Prerequisite: EET 112.

EET 121 Digital Systems I 3.00: The first course in digital electronics covering basic electrical concepts, number systems, combinational gates (AND, OR, NOT, NAND, NOR, and XOR), electrical characteristics and internal structures of TTL gates, Boolean algebra, Karnaugh mapping, and use of MSI devices including adders, decoders, encoders, multiplexes and demultiplexers. Includes a 3 hour per week laboratory. Prerequisite: MTH 95; placement into WR 115.

EET 122 Digital Systems II 3.00: Second course in digital electronics presents sequential circuit elements (latches and D/JK flip-flops) with applications including counters, registers, and shift registers. Sequential network analysis and synthesis are covered including the use of state tables and state diagrams. Introduces sampling and the Nyquist Sampling Theorem including introductory coverage of analog-to-digital converters (ADC) and digital-to-analog converters (DAC). Includes a 3-hour per week laboratory. Prerequisite: EET 121.

EET 123 Digital Systems III 5.00: Third course in digital electronics continues prior coverage of digital-to-analog converters (DACs) and analog-to-digital converters (ADCs) with additional conversion topologies, a more detailed analysis of the Nyquist sampling theorem, additional coverage of programmable logic devices (PLDs), and the implementation of sequential state machines. Includes a 3-hour per week laboratory. Prerequisite: EET 122.

EET 178 PC Architecture for Technician 4.00: Covers the architecture, assembly, and disassembly of IBM PC compatible computers. Includes basic operational concepts and identification, removal/installation, and configuration of motherboards, microprocessors, memory, power supplies, disk drives, video adapter boards, I/O boards and modems. Servicing hardware,

software, and documentation will be reviewed. Includes a 3-hour per week laboratory. Prerequisite: EET 111.

EET 188 Industrial Safety 1.00: Safety practices in the electronics industry. Emphasizes electrical and chemical hazards. Safe handling of electronic components in the manufacturing environment including ESD control. Prerequisite: EET 111.

EET 221 Semiconductor Devises/Circuits 5.00: Introduction to semiconductor devices. Characteristics and biasing of diodes and transistors. Design and analysis of circuits using diodes, bipolar transistors, and field effect transistors. Application of transistors as amplifiers and switches. A 3-hour per week laboratory includes the application of computer tools in circuit design, evaluation, and analysis. Prerequisite: EET 113.

EET 222 Operational Amplifier Circuits 5.00: Characteristics and applications of operational amplifiers (op-amps). Design and analysis of op-amp amplifiers, comparators, voltage and current regulators, summers, integrators, and differentiators. Frequency response of op-amp circuits. Appliations of the op-amp in power supplies and control systems. A 3-hour per week laboratory includes project design, evaluation, and documentation. Use of computer tools. Prerequisites: EET 221; MTH 251.

EET 223 RF Communications Circuits 5.00: Transistor and diode AC models and equivalent circuits. Design and analysis of multistage amplifiers and RF communicatins systems. Frequency response and Bode plots. A 3-hour per week laboratory includes measureing and analyzing the performance of transistor circuits in RF communications systems. Prerequisite: EET 221.

EET 241 Microcomputer Systems I 4.00: Introduces X86 assembly language programming for the IBM PC compatible computer including the use of BIOS and DOS function calls and the use of procedures. Structured programming techniques will be used to write programs and accept keyboard input and create displayed results. Appropriate program testing and debugging methods will be emphasized. Prerequisites: EET 122 and either CS 133U or CS 161.

EET 242 Microcontroller Systems 4.00: Introduces the student to the popular 8051 microcontroller. Topics include the hardware, software, and interfacing of the Intel 8051 microcontroller. The emphasis is on interfacing the 8051 to real-world devices such as switches, displays, motors, and A/D converters, through assembly language and possibly C language programming. Prerequisite: CST 109 or CST 116; and EET 122

EET 254 Electronic Engineering Technology Seminar 1.00: Topics include information on finding employment in the electronics industry, writing resumes, and interviewing. Prerequisite: Sophomore standing in EET.

EET 255 Industrial Control Systems 4.00: Introduces electronic feedback control systems using analog and digital methods. Topics include temperature control, motor speed control, and servo systems. Lab exercises will include the interfacing and programming of a microcontroller IC. Prerequisite: EET 241 or EET 242. Prerequisite or concurrent: EET 222.

EET 256 Electronics Project Lab 2.00: Students learn how to work as teams or instructor approved projects. Typical project activities include the research and design phase, the execution phase, and the project report phase. A written report and oral presentation is required. Prerequisite: EET 241 or EET 242; and EET 222

EET 257 Optical Electronics I 4.00: Principal topics include energy and wavelength relationships, LEDs, laser diodes, semiconductor photo diodes, detector amplifier circuits, and fiber optics including sources, fibers, detectors and applications. Prerequisites: MTH 112; EET 218. Prerequisite or concurrent: PHY 202 or 212.

EET 260 Biomedical Equipment I 4.00: Introduction to the fundamentals of medical instrumentation, bioelectric signals and electrodes, recording systems, biomedical recorders, patient monitoring systems, arrhythmia and ambulatory monitoring instruments, fetal monitoring instruments, biomedical telemetry and telemedicine, oximeters, blood flowmeter, cardiac output measurement, pulmonary function analyzers, laboratory equipment, audiometers, and patient safety. Prerequisites: BI 122 or BI 233, EET 123 or instructor permission. Prerequisite/concurrent: EET 221.

EET 261 Biomedical Equipment I 4.00: Introduction to modern imaging systems, pacemakers, defibrillators, surgical equipment, lasers, physiotherapy and electrotherapy equipment, hemodialysis machines, lithotriptors, anaesthesia machines, ventilators, radiotherapy equipment and automated drug delivery systems. Prerequisites: BI 122 or 233, EET 123, EET 221

EET 280A CE / Electronics Engineering Technology 1.00–5.00: For students employed in an approved cooperative education position within a local electronic industry. Experiences are closely aligned with the student's on-campus educational program. Department permission required.

EET 280C CE / BMET Practicum 4.00–11.00: Provides clinical education experience in a biomedical department with a hospital, clinic or other medical facility under the supervision of a biomedical technician. Variable credit: 30 hours of work experience equals 1 credit. Recommended: EET 280B.

Electrical Trades

ELT 110 Electricity for Non-Electricians 2.00: Practical, hands-on application of electrical principles, practices and codes to help non-electricians learn the basics of wiring that they encounter around the house. Safety practices will be emphasized as will basic electrical theory. After the first three class sections, there will be minimal theor or lecture and maximum practice using tools and materials that the homeowner will encounter in doing electrical work on his/her home.

ELT 120 OSHA 10 Hour Safety Training 1.00: Introduces OSHAs General Duty Clause 5(a)(1) General Safety and Health Provisions, Competent Person, Qualified Person, Health Hazards in Construction, Electrical, Fall Protection, Stairways and Ladders, Scaffolding, Motor Vehicles, Hand & Power Tools, and Excavations. Awards a 10- hour Construction Outreach Completion Card from OSHA. This class can be used towards Continuing Education Units for Oregon State electrical licensing purposes.

ELT 125 Basic Prog Controllers-PC Base 2.00: Develops the student's understanding of the complete operation of a variety of programmable controllers. The applications, operations, and programming of P.C.s are the areas of study with the main emphasis on programming (computers will be used as programmers). This class can be used towards Continuing Education Units for Oregon State electrical licensing purposes. Prerequisites: (FMT 111 or TE 9237); BA 131.

ELT 126 Intermediate Programmable Controllers (PC Based) 2.00: Presents advanced features of programmable controllers, including designing, monitoring, and editing programs with practical hands-on experience. This class can be used towards Continuing Education Units for Oregon State electrical licensing purposes. Prerequisites: ELT 125 or TE 9126

ELT 150 Fiber Optics I 4.00: Origins of Fiber Optics and Fiber Optic solutions for communications. Introduction to design and plant cabling, cable preparation, pulling techniques, termination, splices, and cable testing. Includes cable and closure preparation, fiber cleaving and splicing. This class can be used towards Continuing Education Units for Oregon State electrical licensing purposes.

ELT 151 Fiber Optics II 4.00: Develops skills in fiber optics connections and testing. Connector assembly and polishing techniques, system losses and testing. Fault location, repair and restoration are included. This class can be used towards Continuing Education Units for Oregon State electrical lincensing purposes. Prerequisites: ELT 150 or TE 9101.

ELT 152 Fiber Optics — Inside/Outside 4.00: Plant Application for Ready Access; includes the use of special splicing techniques, enclosures, test sets and fault locating equipment. Placing, splicing, termination and testing of fiber optic cables in campus applications is included. This class can be used towards Continuing Education Units for Oregon State electrical licensing purposes. Prerequisites: ELT 151 or TE 9102

ELT 153 Fiber Optics / Outside Plant 4.00: Application is ready access, pressurized, direct buried, and pedestal-type enclosures, and the use of special splicing techniques. Includes test sets and fault locating equipment. Placing, splicing, and testing of fiber optic cables in aerial applications is included. Prerequisites: ELT 151 or TE 9102.

ELT 201 Electrical Motor Control 2.00: Provides knowledge and skills needed to design, install, maintain, service and troubleshoot electric motors. Focuses on the operation and installation of control systems, specifically motor starters and controllers. Electromagnetic controls, motors and transformers will also be covered. Lab activities will utilize electrical test equipment to analyze electric motor control malfunctions. This class can be used towards Continuing Education Units for Oregon State electrical licensing purposes. ELT 201 and APR 201 cannot both be taken for credit.

ELT 204 Adjustable Speed Drive 2.00: Covers theory, operation, installation, and maintenance of adjustable speed motor drives. Introduces drive applica-

tions and selection for industrial, utility, and commercial structures. This class can be used towards Continuing Education Units for Oregon State electrical licensing purposes. Prerequisites: MTH 20; (WR 90 or ESOL 262); (RD 90 or ESOL 260)

ELT 210 Electricity for the Non-Electrician II 2.00: Provides practical, hands-on application of residential wiring methods. This class is a direct continuation of the skills developed in Electricity for the Non-Electrian, incorporating additional wiring practices, materials and troubleshooting methods. Emphasizing safety and workmanship as well as electrical theory and building codes as they apply to the homeowner. Prerequisites: ELT 110 or TE 9071.

ELT 220 OSHA 30 Hr Safety Training 3.00: Emphasizes safe working environments targeting people who have compliance and training responsibilities. Covers how to establish employee protection programs and to inform and train employees properly. Includes intro to OSHA, general safety and health provision, Hazcom, health hazards in construction, stairways and ladders, motor vehicles, materials handling, hand and power tools, scaffolding, fire protection, excavations, confined space entry, fall protection, personal protective and lifesaving equipment and electrical safety. Awards a 30 hour OSHA safety card upon successful completion of course. This class can be used towards Continuing Education Units for Oregon State electrical licensing purposes.

ELT 225 Advanced Programmable Controllers, PC Based 2.00: Covers advanced features of Programming controllers including designing, monitoring, troubleshooting and editing techniques with practical hands-on experience. This class can be used toward Continuing Education Units for Oregon State electrical licensing purposes. Prerequisites: ELT 126 or TE 9121.

ELT 226 Basic Human Machine Interface (HMI) Program 2.00: Develops the student's understanding of the basic operation and programming techniques of Human Machine Interface Devices. The applications, operations, and programming of HMIs are the areas of study with the main emphasis on programming. Computers will be used to program. Prerequisites: ELT 225 or TE 9127.

ELT 230 National Electrical Code 3.00: Instructs the electrical professional where and how to find required information in the NEC book, demontrating how the various articles work together to provide complete information on a subject. Most code articles (90 through 450) will be explained in detail. This class can be used towards Continuing Education Units for Oregon State electrical licensing purposes. ELT 230 and APR 230 cannot both be taken for credit.

ELT 231 National Electrical Code II 3.00: Prepares electricians for state examination as prescribed by Oregon State Building Codes Division. Includes code explanations and application. This class can be used towards Continuing Education Units for Oregon State electrical licensing purposes. ELT 231 and APR 231 cannot both be taken for credit.

ELT 250 AMP ACT I 1.00: Includees an overview of premises cabling systems, and in- depth review of the ANSI/TIA/EIA and ISO/IEC industry standards, and a discussion and hands-on practicum on the rough-in, installation, management, and termination of shielded and unshielded twisted pair and optical fiber cabling systems. The course is about 85% hands-on and is designed with a systems approach instruction method. Successful completion of the course examination will certify you as an AMP Registered Installer.

ELT 251 AMP ACT II 1.00: Students will obtain the experience necessary to certify and document twiested pair and optical fiber cable plants based established industry standards, which include ANSI/TIA/EIA- 568A, TSB-67, ANSI/EIA/TIA-526-14A and ANSI/TIA/EIA-526- 7. Each student will also obtain experience troubleshooting common problems with installed LAN cable plants. This course is approximately 75% hands-on training. An extensive documentation package is provided. Successful completion of the course examination will certify you as an AMP Registered Certifier and Troubleshooter.

ELT 252 AMP ACT III 1.00: Designed for individuals involved in the design and installation of premises cabling systems. This course progresses through a step-by-step process from the initial design analysis through the final actual project presentation based on the guidelines of the TIA/EIA/ISO standards. The student design decision rationale regarding network platforms and technologies, cabling architectures, and media selection is discussed in detail. Successful completion of the course examination will certify you as an AMP Registered Designer.

ELT 280 Electrical Code Changes 0.5: Emphasizes how code changes from the previous adopted code differs fom the newly adopted codes. This class can be used towards Continuing Education Units for Oregon State electrical licensing purposes.

ELT 281 NEC Ratings 0.5: Includes the study of explanation of approved Underwriter labs and testing standards as related to the purchase and use of electrical equipment. This class can be used towards Continuing Education Units for Oregon State electrical licensing purposes.

ELT 282 Grounding and Bonding Grounding and Bonding 0.5: The study of Article 250 in the NEC. Covers what has to be grounded and bonded and standards and rules associated with such. This class can be used towards Continuing Education Units for Oregon State electrical licensing purposes.

ELT 283 Code Calculations 0.5: Provides licensed electricians with current National Electric Code procedures on how to calculate electrical loads and applications. Includes tables to calculate loads and proper use of applications. This class can be used towards Continuing Education Units for Oregon State electrical licensing purposes.

ELT 284 Motor Controls 0.5: Focuses on code articles related to motor controlled systems, starters, controllers and transformers. Safety also covered. This class can be used towards Continuing Education Units for Oregon State electrical licensing purposes.

Emergency Management

EM 101 Introduction to Emergency Services 4.00: Covers roles and responsibilities of a broad range of emergency services providers and the relationship between these service providers and the community. The relationships between police, fire service, emergency medical service, and emergency communications and emergency management, will be covered, as well as, the organizational structure, terminology, history, training and standards, ethical and legal responsibilities of each discipline.

EM 103 Introduction to Radio Communication 3.00: This course introduces students to the technology of two-way radio communications, as applied to emergency services. Telecommunicators provide the communications link between agencies, field responders and the public. Understanding the operation and components of two-way radio and proper radio broadcasting procedures is essential to the communications role of all first responders. Prerequisite: WR 115.

EM 110 Theory of Emergency Management 3.00: Introduces emergency management theory, including basic definitions, identification of hazards, descriptions of the phases of emergency management, identification of resources, roles and responsibilities of emergency managers, and coordination of various systems. Recommend: WR 115.

EM 114 History of U.S. Hazards, Disasters and Emergency Management 4.00: Surveys the U.S. History of hazards and disasters and traces the evolution of emergency management. Emphasis will be on naturally occurring disasters with appropriate attention to the development of technological incidents and the evolution of terrorism. Recommend: WR 115.

EM 202 Principles & Practices of Hazard Mitigation 3.00: The disaster mitigation goal of governments is to develop disaster resistant communities. This course identifies hazard risks and associated mitigation programs and strategies and how to identify local mitigation opportunities and cost effective solutions. Prerequisite: EM 114.

EM 203 Principles & Practices of Disaster Response I 4.00: Uncovers the principles that promote effective disaster response practices in operations and management. It will examine the nature of disasters, the context of response operations, and the roles and responsibilities of various individuals and organizations. This is the first of a two part sequence: EM 203 and 204. Prerequisite: EM 110 and EM 114.

EM 204 Principles & Practices of Disaster Response II 4.00: Continues the investigation of response operations and management by focusing on various management systems. The Incident Command System, are command, multi-agency coordination systems, joint information system and other systems will all be examined. Prerequisite: EM 203.

EM 205 Disaster Recovery Operations 3.00: Covers the basic concepts and operational procedures and authorities involved in recovering from major disasters. It addresses Federal, State, and local government roles and responsibilites in major disaster recovery work, with an emphasis on government coordination and the solution of problems that frequently arise in recovery

operations. Prerequisites: EM 110 and EM 114.

EM 210 Emergency Management Planning for Hazards & Disasters 4.00: Course will examine the concepts of writing an emergency operating plan and the elements necessary for inclusion in the plan (all-risk hazards planning). Students will begin with the process for identifying local hazards and resources, vulnerability and impact analysis, and public policy considerations. Using groups they will analyze their hazard assessments and write a basic plan. The groups will present their plans to the whole for critique. Actual emergency operating plans will be used to illustrate the planning requirements and results. Prerequisites: EM 110 and EM 114 and WR 121.

EM 211 Public Policy & Law in Emergency Management 3.00: Provides the student with specialized knowledge and skills necessary to develop public policy related to emergency management. The course emphasizes policy leadership in the are of emergency planning and response as part of the larger responsibility to protect the general welfare of the people community, all within existing federal, state and local laws. Prerequisite: EM 110.

EM 221 Business Continuity or Resumption of Operations Planning 3.00: Address the critical dependence of modern organizations on disaster vulnerable technology, such as management information, communications, and computerized process control systems. Students will have the opportunity to produce working plans that provide preventative measures to minimize disaster impact, provide an organized response, and ensure business continuity during recover. Prerequisites: EM 114 & WR 121.

EM 222 Disaster Exercise Design and Evaluation 3.00: Provides the student with an understanding of how different types of disaster exercises are written and conducted. Exercises are a necessary training tool for all emergency response organizations to test new skills, technology and competency. Prerequisites: EM 203, EM 204, and EM 205.

EM 223 Terrorism 3.00: Introduces the issues of terrorism, the organizations and key characters in both international and domestic terror. The course also introduces the various agents and delivery systems of weapons of mass destruction. Recommend: WR 115.

Emergency Medical Technician

EMT 100 Introduction to Emergency Medical Services 3.00: Covers the roles and responsibilities of the EMT, emergency medical services system, medical-legal considerations, major incident response, hazardous materials awareness, and stress management.

EMT 105 EMT Basic Part I 4.00: Part 1 of the Oregon EMT Basic course is designed to develop student skills in the recognition of symptoms of illness and injuries and proper procedures of emergency care. Department permission required. Prerequisite: WR 115; MTH 20; RD 90.

EMT 106 EMT Basic Part II 5.00: Part 2 of the Oregon EMT Basic course is a continuation of EMT 105, including preparation for state and national certification exams. Department permission required. Corequisite: EMT 280B. Prerequisites: Successful completion of EMT 105 at PCC within the last year.

EMT 115 Crisis Intervention 3.00: Covers intervention in behavioral crises of sudden death, suicide, rape, murder, vehicle accidents, disease, trauma, and child abuse. Includes resources, supporting behavioral patterns and handling emotional stress of the individual as well as coping with emotional conflict within one's self.

EMT 116 Emergency Medical Technology Rescue 3.00: Covers the elementary procedures of rescue practices, systems, components, support and control of rescue operations including ladder procedures and basic rescue tools. Introduces techniques and tools of patient extrication, emphasizing application to traffic accidents.

EMT 117 Emergency Response Communication & Patient Transportation 3.00: Covers ambulance operations, laws, maintenance and safety, emergency response driving and route planning, communication systems, radio types, codes, and proper techniques.

EMT 118 EMT Medical Terminology 3.00: Analysis of anatomical roots, prefixes, and suffixes, and Greek and Latin verbs and adjectives. Helps build a medical vocabulary. Examination of representative anatomical structures, diseases, procedures, tumors, and descriptive terms by simple analysis of words.

EMT 120 Emergency Medical Service / First Responder 3.00: For those who are usually the first persons at the scene of trauma or medical emergencies including law enforcement, fire department personnel, etc. Knowledge and skills are developed to provide basic care for trauma, medical and environmental emergencies; evaluation of scene and patients; and appropriate access and use of the Emergency Medical Services System. Must be 16 years of age.

EMT 240 Paramedic I 13.00: Didactic portion covers illness and injury prevention, medical legal issues and well being of the paramedic. Patient care topics include advanced airway, medication math, general principles of pathophysiology of shock, trauma assessment, kinematics, pharmacology, toxicology, drug and alcohol abuse, infection disease, endocrinology, OB/GYN, neonatology, cardiovascular system, EKG monitoring. There will be associated practical labs. Students will be certified in Pre-Hospital Life Support (PHTLS). Department permission required. Prerequisite: WR 121, MTH 60/65, BI 101, BI 231, BI 232, EMT 100, EMT 106, EMT 280B, EMT 115, EMT 116, EMT 117, EMT 118.

EMT 242 Paramedic II 9.00: Didactic portion covers EKG review, pediatric, geriatric, acute abdomen, burns, psychiatric disorders, dealing with death and the dying, crime scene preservation, Hazmat awareness, environmental conditions, advanced airway. Students will be certified in Pediatric Education for Pre-hospital Professional (PEPP) and Advance Cardiac Life Support (ACLS). There will be associated practical labs. Department permission required. Prerequisite: EMT 240.

EMT 244 Paramedic Clinic Internship I 3.00: Begin in-hospital clinical experience including direct patient care responsibilities necessary for completion of the educational objectives. Patients are in a hospital/ clinical setting with disease and injury conditions comparable to those the student will experience in the pre-hospital care situations. Department permission required. Prerequisite: EMT 240.

EMT 246 Paramedic Clinical Internship II 4.00: Complete in-hospital clinical experience to include direct patient care responsibilities necessary for completion of the program's objectives. The patients in the hospital/clinical setting shall have disease and injury conditions comparable to those the student will experience in the pre-hospital care situation. Department permission required. Prerequisite: EMT 244.

EMT 248 Paramedic Field Internship I 2.00: Begins field experience designed to expose student to disease and injury conditions. This segment begins the required 200 hours and number of calls necessary to fulfill the State curriculum. Department permission required. Prerequisite: EMT 244.

EMT 250 Paramedic Field Internship II 6.00: Complete the field experience necessary to fulfill the required hours and calls necessary for state certification. Department permission required. Prerequisite: EMT 248.

EMT 252 Paramedic III 2.00: Students successfully complete course final written and practical exam and prepare for the State and National Registry written and practical exam. Department permission required. Prerequisite: EMT 248.

EMT 280B CE / EMT - Seminar 1.00: This cooperative work experience requires clinical rotation. Designed to expose students to the EMT's role in the hospital emergency department and ambulance ride-along experience. Corequisite: EMT 106. Prerequisites: WR 115; MTH 20; RD 90.

EMT 9320 CPR/First Aid 0.5: OSHA-approved course teaching airway, breathing, circulation assessment and basic CPR skills. Treatment of bleeding, broken bones and other non-life threatening injuries are practiced. A two-year card will be issued upon completion.

English

ENG 104 Introduction to Literature (Fiction) 4.00: Enhances enjoyment of various forms of fictional prose, increases understanding of the conventions of fiction and various forms of storytelling, and encourages exploration of the diversity of human experience. Prerequisites: WR 115 and RD 115 or equivalent placement test scores.

ENG 105 Introduction to Literature (Drama) 4.00: Enhances enjoyment of plays as literature, including tragedies and comedies; increases understanding of the conventions of drama and the theater; and encourages exploration of the diversity of human experience. Prerequisites: WR 115 and RD 115 or equivalent placement test scores.

ENG 106 Introduction to Literature (Poetry) 4.00: Enhances enjoyment of poetry, increases understanding of poetic elements, conventions and forms, and encourages exploration of the diversity of

human experience. Prerequisites: WR 115 and RD 115 or equivalent placement test scores.

ENG 107 World Literature - Western 4.00: English 107 is the first of a two-course survey of World Literature that includes ENG 108. English 107 exposes students to a broad spectrum of literature in translation that begins in antiquity and concludes at the dawn of the Renaissance. English 107 usually begins with the reading of such works as Gilgamesh, the Leiden Hymns, and/or Genesis, and stops of Dante's Divine Comedy. The series does not have to be taken in sequence. Prerequisite: WR 115 and RD 115 or equivalent placement test scores.

ENG 108 World Literature - Western 4.00: English 108 is the second of a two-course survey of Western Literature that includes English 107. English 108 exposes students to a broad spectrum of literature in translation that begins at the formation of a modern Western literature (14th century) and concludes at the present. English 108 usually begins at the point of Dante's The Divine Comedy, Chaucer's The Canterbury Tales, and Cervantes Don Quixote, and finishes in the late modern era of Gao Xingjian's Soul Mountain. The series does not have to be taken in sequence. Prerequisite: WR 115 and RD 115 or equivalent placement test scores.

ENG 195 Film Studies / Film as Art 4.00: Enhances understanding of film through analysis of film history and form. Develops visual literacy and analysis skills by offering a range of tools to study any film. Analyze ways in which a film may both contribute and react to its time and culture; analyze film through studying the techniques by which it was made; and substantiate observations with examples taken from film tradition and from the film itself. Prerequisite: WR 115 and RD 115 or equivalent placement test scores.

ENG 196 Film Studies / Directors 4.00: Enhances understanding of film through analysis of directorial decisions and film techniques. Develops visual literacy and analysis skills by offering a range of tools to study any film. Analyze ways in which directorial decisions may affect an individual film and viewer; situate a film within a director's body of work; analyze ways in which it may both contribute and react to its time and culture; and substantiate observations with examples taken from the film tradition and from the film itself. Prerequisite: WR 115 and RD 115 or equivalent placement test scores.

ENG 197 Film Studies / Contemporary Themes and Genres 4.00: Enhances understanding of film through analysis of contemporary film-making, narrative techniques, genres, themes and critical approaches. Develops visual literacy and anaylsis skills by offering a range of tools to study any film. Analyze contemporary film techniques and the ways in which the films may both contribute and react to their time and culture; study contemporary film theory; and substantiate observations with examples taken from the film tradition and from the film itself. Prerequisite: WR 115 and RD 115 or equivalent placement test scores.

ENG 201 Shakespeare 4.00: Enhances understanding and appreciation of Shakespeare's achievement and contribution to literature. Focuses on five or more plays and selected non-dramatic poetry in order to introduce the study of Shakespeare's dramatic techniques, character development, and language. The works are chosen to reflect a broad range of patterns, themes, and genres. Recommended prior coursework: ENG 105 and 106. Prerequisite: WR 115 and RD 115 or equivalent placement test scores.

ENG 202 Shakespeare 4.00: Enhances understanding and appreciation of Shakespeare's achievement and contribution to literature. Focuses on five or more plays and selected non-dramatic poetry in order to introduce the study of Shakespeare's dramatic techniques, character development, and language. The works are chosen to reflect a broad range of patterns, themes, and genres. Recommended prior coursework: ENG 105, 106, and 201. Prerequisite: WR 115 and RD 115 or equivalent placement test scores.

ENG 204 Survey of English Literature 4.00: Literature of the British Isles: Medieval and Renaissance selections, from Beowulf to Shakespeare. Prerequisite: WR 115 and RD 115 or equivalent placement test scores. ENG 205 Survey of English Literature Survey of English Literature Literature of the British Isles: seventeenth, eighteenth, and early nineteenth century selections, from Donme through the Early Romatics. Prerequisites: WR 115 and RD 115 or equivalent placement test scores.

ENG 207 World Literature-Asian 4.00: English translations of Indian literature from earliest times to modern. May include such works and authors as hymns from the Rygveda, the love stories and the battles of the Ramayana, and the twentieth century authors Tagore and Rushdie. Prerequisite: WR 115 and RD 115 or equivalent placement test scores.

ENG 208 World Literature-Asian 4.00: English translations of Chinese literature from earliest times to modern. May include such works and authors as The Book of Songs, Li Po, Tu Fu, The Journey to the West, and the twentieth century authors Lu Xun and Ding Ling. Prerequisite: WR 115 and RD 115 or equivalent placement test scores.

ENG 209 World Literature-Asian (Japan) 4.00: English translations of Japanese literature from earliest times to modern. May include such works and authors as the Manyoshu, selections from Heian court diaries, The Tale of Genji, the No, Kabuki, and puppet theatres, and the twentieth century authors Kawabata, Tanizaki, Hayashi, Enchi, and Mishima. Prerequisite: WR 115 and RD 115 or equivalent placement test scores.

ENG 212 Biography 4.00: Explores biography and autobiography from various places and periods. Prerequisite: WR 115 and RD 115 or equivalent placement test scores.

ENG 213 Latin American Literature 4.00: Explores fiction, poetry, drama, myths, and more from Latin America. Includes works of hispanic, Indigenous, and Afro-Caribbean origin. All readings are in English. Prerequisite: WR 115 and RD 115 or equivalent placement test scores.

ENG 214 Literature of the Northwest 4.00: Studies fictional, factual, and poetic works by Northwest writers from before the arrival of Euro-Americans to the present. Emphasizes relationship between Northwest writing and Northwest social, cultural, and physical environment. Prerequisite: WR 115 and RD 115 or equivalent placement test scores.

ENG 215 Literature of Genocide 4.00: Explores a range of writings and films on genocide and its aftermath. Considers memoirs, fiction, poetry, literary nonfiction, and films created by survivors and other in relation to genocide and its varied historical contexts. Prerequisite: WR 115 and RD 115 or equivalent placement test scores.

ENG 222 Images of Women in Literature 4.00: Challenges students to explore images of women in literature. Focuses on portrayal of the feminine in mythology; conventional images in Western literature; literature of non-Western cultures or that of other groups within Western culture in relation to specific themes; or a combination of these. Students practice literary analysis. Prerequisite: WR 115 and RD 115 or equivalent placement test scores.

ENG 240 Introduction to Native American Lit 4.00: Studies oral and written composition by Native Americans from both before and after contact with Euro-Americans. Provides historical, geographical, political, social, religious, linguistic, aesthetic and ethnopoetic contexts for understanding the various tribal literatures studied. Recommended: some background or experience in literature is desirable. Prerequisite: WR 115 and RD 115 or equivalent placement test scores.

ENG 244 Introduction to Asian American Lit 4.00: Studies writings in English by American writers of Chinese, Japanese, Korean, Vietnamese, Filipino, Pacific Islander, and other Asian ancestry. Considers the writings in their historical, cultural, political, and social contexts. Emphasizes development of attitudes, values, and identities. Prerequisites: WR 115 and RD 115 or equivalent placement test scores.

ENG 250 Introduction to Folklore & Mythology 4.00: Explores origins, nature and content of myth and folklore. Offers student ability to recognize and appreciate myths from any culture. Through selected readings, students become aware of questions about life as expressed in myth. Prerequisite: WR 115 and RD 115 or equivalent placement test scores.

ENG 253 Survey of American Literature 4.00: Introduces students to the literature of the land which is now the United States from before European contact through the mid-nineteenth century. The course revolves around written manifestations of the various interests, preoccupations, and experiences of the peoples creating and recreating American culture. Prerequisite: WR 115 and RD 115 or equivalent placement test scores.

ENG 254 Survey of American Literature 4.00: Introduces students to the literature of the land which is now the United States from the mid-nineteenth century to the present. The course revolves around written manifestations of the various interests, preoccupations, and experiences of the peoples creating and recreating American culture. Prerequisite: WR 115 and RD 115 or equivalent placement test scores.

ENG 256 African-American Literature 4.00: Introduces the literature of the American people whose roots are in Africa, emphasizing the period of the diaspora, the Middle Passage, and the period of slavery. Addresses the African origins of African American writing, the role

of oral storytelling, the slave narrative, and the earliest literary publications. Focuses on both oral and written texts that represent the interests, aspirations, and experiences of African Americans. Prerequisite: WR 115 and RD 115 or equivalent placement test scores.

ENG 257 African-American Literature 4.00: Introduces literature of Americans whose roots are in Africa. Emphasizes period Post Civil War through the Harlem Renaissance. Covers "birth" of African American canon, post-war novels, short stories, poems, autobiographies, and plays. Literary magazines may be read to introduce early African American literary criticism. Focuses on oral and written texts representing interests, aspirations, and experiences of African Americans. Prerequisites: WR 115 and RD 115 or equivalent placement test scores.

ENG 258 African-American Literature 4.00: Introduces modern and contemporary literature of Americans whose roots are in Africa. Emphasizes period following Harlem Renaissance. Introduces writings which came to age after the Harlem Renaissance as well as contemporary writings. May focus on experimental writings to understand ways of African and early African American tropes as used in new and innovative ways. Focuses on oral and written texts representing interests, aspirations, and experiences of African Americans. Prerequisite: WR 115 and RD 115 or equivalent placement test scores.

ENG 260 Introduction to Women Writers 4.00: An examination of writing by women. Students read poetry, fiction, plays, diary and journal entries by women from various places and periods. Prerequisite: WR 115 and RD 115 or equivalent placement test scores.

ENG 261 Literature of Science Fiction 4.00: Introduces literature of speculative or science fiction. Explores historical and contemporary themes. Covers a variety of authors, and examines the art and function of this genre of fiction. Recommended: student should possess sufficient aural/oral skills to fully participate in large and small group activities. Prerequisite: WR 115 and RD 115 or equivalent placement test scores.

ENG 265 International Political Poetry 4.00: Develops students' understanding of how poets address issues of class oppression, economic inequality, racism, sexism, war, and peace. Shows how poets function as prophets, precursors, dissidents, and recorders. Prerequisite: WR 115 and RD 115 or equivalent placement test scores.

ENG 275 The Bible as Literature 4.00: selected Biblical literature which continues to influence literary imagination. Studies literary, cultural, and interpretive contexts in which Biblical literature was created, and in which it is currently read. Prerequisite: WR 115 and RD 115 or equivalent placement test scores.

Engineering

ENGR 100 Exploring Engineering 1.00: Focuses on engineering careers, and what engineers "do". Presents various engineering disciplines and associated occupations through class discussions, presentations by practicing engineers, laboratory activities, and viewing of occupational videos. Designed to inform students of the attributes of a career in engineering and the academic preparation it requires.

ENGR 101 Engineering Fundamentals 4.00: Introduces basic engineering problem solving, analysis and design. This course covers basic concepts of curve fitting, statistics, electricity, and mechanics, including vector algebra. It utilizes spreadsheet and computer programming applications as problem solving tools. Students will be introduced to non-technical aspects of engineering, such as registration laws and ethics. Labs may include group engineering project work. Prerequisite: Placement in MTH 251. Prerequisite or concurrent: WR 115.

ENGR 102 Engineering Graphics 3.00: Introduces manual and computer-aided drafting including hand sketching, drafting standards, pictorial drawings, and dimensioning. Includes creation of 2-D drawings and 3-D solid models with AutoCAD. Prerequisite: ENGR 101.

ENGR 114 Engineering Programming 4.00: Introduces structured programming with applications to engineering problems. Prerequisite: ENGR 101 or department-approved equivalent.

ENGR 171 Introduction to Logic Design 5.00: Introduces switching theory and logic design. Number systems, logic families, Boolean algebra, minimization, flip-flops, registers and counters, are covered. Analysis and design of finite state machines with discrete and programmable devices. Prerequisite: ENGR 221.

ENGR 211 Statics 4.00: Analysis of forces acting on particles and rigid bodies. Force systems, centroids, and moments of inertia are covered. Scientific, programmable, graphing calculator required. Prerequisites: MTH 252, PHY 211; ENGR 101.

ENGR 212 Dynamics 4.00: Kinematics and kinetics of particles and rigid bodies are analyzed by Newton's laws, work-energy and impulse-momentum methods. Prerequisite: ENGR 211.

ENGR 213 Strength of Materials 4.00: Relationships between stress and strain in deformable solids are studied. Analysis is applied to axially-loaded members, circular shafts, beams and columns. Combined stresses, statically indeterminate systems and properties of structural materials are included. Prerequisite: ENGR 211.

ENGR 221 Electrical Circuits I 5.00: DC and AC circuit analysis. Ohm's and Kirchhoff's Laws, network theorems, node voltage and mesh current methods. Includes computer circuit simulation, math analysis using Maple, and laboratory experiments. Recommended: MTH 253; PHY 213. Prerequisites: ENGR 101; MTH 252.

ENGR 222 Electrical Circuits II 5.00: Electrical Circuits Circuit analysis using Laplace and Fourier transforms. Fourier series, convolution integral, transfer functions, and frequency response. Includes computer analysis using Maple, lab experiments using LabView, GPIB and DAQ, and computer circuit simulation. Prerequisites: ENGR 221; MTH 256

ENGR 223 Signals and Systems 5.00: Emphasizes discrete time analysis of electrical circuits, including sampling and the discrete time Fourier Transform. Discrete time and linear time invariant systems. Characterization and Fourier Series representation of signals and systems, communications systems, and the z-transform. Includes a 3-hour per week laboratory. Prerequisite: ENGR 222.

ENGR 226 Plane Surveying 4.00: Introduces basic concepts of plane surveying Includes use of tape, level, transit, electronic total station (ETS), along with horizontal and vertical control networks. Includes network calculations and adjustments, angles and bearings, and topographic surveying and mapping. Prerequisite: ENGR 101 and 102.

ENGR 231 Material Science 4.00: Selection of materials for modern engineering applications. Structure and properties of metals, ceramics and polymers starting with fundamental atomic arrangements. Microstructural control through terminal and mechanical processing and effects of service environment are covered. Prerquisites: PHY 211; MTH 252; (CH 201 or 222).

ENGR 262 Manufacturing Processes 4.00: The interaction of design with industrial materials and processes is considered in connection with technical and economic feasibility, trade-offs and automation. Prerequisite: ENGR 101 and 102

ENGR 275 Microprocessor Systems 4.00: Introduces X86 microprocessor architecture and assemble language programming for the IBM PC compatible computer, including the use of BIOS and DOS functions calls and the use of procedures. Structured programming techniques will be used to write programs that accept keyboard input and create displayed results. Appropriate program testing and debugging methods will be emphasized. Includes a 3-hour per week laboratory. Prerequisite or concurrent: ENGR 171.

ENGR 280A CE / Engineering 1.00–5.00: For students employed in an approved co-op education position with a local company. Credits do not ordinarily transfer for an engineering degree. Department permission required.

English for Speakers of Other Languages

ESOL 10 Level 1 Integrated Skills 0.00: This is the first of eight levels of English for Speakers of Other Languages. Students develop beginning English reading, writing, speaking and listening skills in the context of communicatin in adult life roles as family and community members, workers, citizens and lifelong learners. A language placement test is required for enrollment.

ESOL 10A Level 1 Integrated Skills 0.00: The first of four levels of English as a second language. Students develop basic English communication. Reading, Writing, Speaking and Listening skills are taught in the context of communicating in adult life roles as family and community members, workers, citizens and lifelong learners. A language placement test is required for enrollment.

ESOL 10B Level 1 Integrated Skills 0.00: The first of four levels of English as a second language. Students develop basic English communication. Reading, Writing, Speaking and Listening skills are taught in the context of

communicating in adult life roles as family and community members, workers, citizens and lifelong learners. A language placement test is required for enrollment.

ESOL 12 Beginning Literacy 0.00: Non-native English speaking students develop beginning literacy skills. Reading and writing are taught in the context of communication in adult life roles. Prerequisite: Placement into ESOL 10 or ESOL 20 or instructor permission.

ESOL 15 English in the Workplace 0.00: Available to participants who are non-native speakers of English enrolled in programs at the Capital Career Center. Instruction focuses on work search related skills and communication in the workplace.

ESOL 20 Level 2 Integrated Skills 0.00: This is the second of eight levels of English for Speakers of Other Languages. Students develop high-beginning English communication skills. Reading, Writing, Speaking and Listening skills are taught in the context of communicating in adult life roles as family and community members, workers, citizens and lifelong learners. A language placement test is required for enrollment.

ESOL 20A Level 2 Integrated Skills 0.00: The second of four levels of English as a second language. Students develop basic English communication. Reading, Writing, Speaking and Listening skills are taught in the context of communicating in adult life roles as family and community members, workers, citizens and lifelong learners. A language placement test is required for enrollment.

ESOL 20B Level 2 Integrated Skills 0.00: The second of four levels of English as a second language. Students develop basic English communication. Reading, Writing, Speaking and Listening skills are taught in the context of communicating in adult life roles as family and community members, workers, citizens and lifelong learners. A language placement test is required for enrollment.

ESOL 23 ESOL Language Learning Lab 0.00: The ESOL Language Lab provides ESOL students with self-paced, individualized learning. The primary focus in the lab is on grammar, vocabulary, reading, writing, listening and speaking skills related to the eight levels of the ESOL program curriculum. Multi-media/computer assisted instruction in addition to textbook and workbook assignments are used. Learning activities may be supplemented with one-on-one or small group tutoring. Prerequisite: Placement in ESOL 10 or higher or instructor permission.

ESOL 30 Level 3 Integrated Skills 0.00: This is the third of eight levels of English for Speakers of Other Languages. Students develop low-intermediate English communication skills. Reading, Writing, Speaking and Listening skills are taught in the context of communicating in adult life roles as family and community members, workers, citizens and lifelong learners. A language placement test is required for enrollment.

ESOL 30A Level 3 Integrated Skills 0.00: The third of four levels of English as a second language. Students develop low intermediate English communication. Reading, Writing, Speaking and Listening skills are taught in the context of communicating in adult life roles as family and community members, workers, citizens and lifelong learners. A language placement test is required for enrollment.

ESOL 30B Level 3 Integrated Skills 0.00: The third of four levels of English as a second language. Students develop low intermediate English communication. Reading, Writing, Speaking and Listening skills are taught in the context of communicating in adult life roles as family and community members, workers, citizens and lifelong learners. A language placement test is required for enrollment.

ESOL 32 ESOL High Beginning Literacy 0.00: Non-native English speaking students develop high beginning literacy skills. Reading and writing are taught in the context of communicating in adult life roles. Prerequisite: Placement in ESOL 30 or instructor permission.

ESOL 33 EL Civics 0.00: Adult English language learners receive civics education in US citizenship, US history and culture, and also become active participants in their new communities. Reading, writing, speaking and listening skills are taught in the context of communicating in the adult life roles of community member and citizen. Instruction includes a variety of methods based on students' individual skill levels, needs and learning styles. Concepts and skills taught in the EL Civics classes help students gain citizenship. Prerequisites: Placement in ESOL 30, 40, 42, or 44.

ESOL 40 Level 4 Reading 4.00: The fourth level of ESOL and the first of a five- course sequence that focuses on reading: content comprehension, textual analysis, critical thinking skills, study skills, and language analysis. Using the dictionary, finding main ideas, summarizing, inferencing, using context clues, reviewing prereading techniques, study of word forms, common affixes, synonyms, and antonyms. Readings from textbooks and literature taught in the context of adult life roles. Prerequisites: ESOL placement test or instructor permission; concurrent placement in Level 4 Writing and Communication or higher.

ESOL 40N Level 4 Reading 0.00: The fourth level of ESOL and the first of a five- course sequence that focuses on reading: content comprehension, textual analysis, critical thinking skills, study skills, and language analysis. Using the dictionary, finding main ideas, summarizing, inferencing, using context clues, reviewing prereading techniques, study of word forms, common affixes, synonyms, and antonyms. Readings from textbooks and literature taught in the context of adult life roles. Prerequisites: ESOL placement test or instructor permission; concurrent placement in Level 4 Writing and Communication or higher.

ESOL 42 Level 4 Writing 4.00: The fourth level of ESOL and the first of five-course sequence that focuses on writing. Students develop intermediate writing skills. Introduction to the writing process. Descriptive and narrative paragraphs, authentic forms and formal letters. Review of basic grammar. Present perfect, present continuous, and past continuous. Writing and grammar taught in the context of communicating in adult life roles. Prerequisite: ESOL placement test or instructor permission; concurrent placement in Level 4 Reading and Communication or higher.

ESOL 42N Level 4 Writing 0.00: The fourth level of ESOL and the first of five-course sequence that focuses on writing. Students develop intermediate writing skills. Introduction to the writing process. Descriptive and narrative paragraphs, authentic forms and formal letters. Review of basic grammar. Present perfect, present continuous, and past continuous. Writing and grammar taught in the context of communicating in adult life roles. Prerequisite: ESOL placement test or instructor permission; concurrent placement in Level 4 Reading and Communication or higher.

ESOL 44 Level 4 Communication 4.00: The fourth level of ESOL and the first of a five-course sequence that focuses on communication. Identification and production of English stress and intonation; certain vowels and consonants; reductions. Listening comprehension for main idea and important details, grammatical structures, questions, and key vocabulary words. Discussion skills. Speaking using important language functions including asking for clarification, agreeing, and negotiating meaning. Short, prepared presentation. Communication taught in the context of communicating in adult life roles. Prerequisites: ESOL placement test or instructor permission; concurrent placement in Level 4 Reading and Writing or higher.

ESOL 44N Level 4 Communication 0.00: The fourth level of ESOL and the first of a five-course sequence that focuses on communication. Identification and production of English stress and intonation; certain vowels and consonants; reductions. Listening comprehension for main idea and important details, grammatical structures, questions, and key vocabulary words. Discussion skills. Speaking using important language functions including asking for clarification, agreeing, and negotiating meaning. Short, prepared presentation. Communication taught in the context of communicating in adult life roles. Prerequisites: ESOL placement test or instructor permission; concurrent placement in Level 4 Reading and Writing or higher.

ESOL 140 American Culture/Communication 3.00: Introduces and illustrates American cultural themes and values through instruction in reading, discussion, journal writing, film, and speeches. Introduction and beginning application of academic study skills. May include a service learning component. Does not replace courses in the core curriculum. Prerequisite: ESOL placement at ESOL 150, ESOL 152, ESOL 154 or higher; or instructor permission.

ESOL 150 Level 5 Reading 4.00: The fifth level of ESOL and the second of a five-course sequence that focuses on reading; content comprehension, textual analysis, critical thinking skills, study skills, and language analysis. Using the dictionary, finding main ideas, summarizing, inferencing, using context clues, reviewing prereading techniques; study of word forms, common affixes, synonyms, and antonyms. Readings from textbooks and literature taught in the context of communicating in academic and adult life roles. Prerequisite: Placement test; concurrent placement in Level Writing and Communication or higher.

ESOL 150N Level 5 Reading 0.00: The fifth level of ESOL and the second of a five-course sequence that focuses on reading. Content comprehension, textual analysis, critical thinking skills, study skills, and language analysis. Using the dictionary, finding main

ideas, summarizing, inferencing, using context clues, reviewing prereading techniques. Study of word forms, common affixes, synonyms, and antonyms. Readings from textbooks and literature taught in the context of communicating in academic and adult life roles. Prerequisite: Placement test; concurrent placement in Level Writing and Communication or higher.

ESOL 152 Level 5 Writing 4.00: The fifth level of ESOL and the second of a 5-course sequence that focuses on writing. Review of the writing process and introduction to the essay. Descriptive, narrative, process and comparative/contrast. Review of basic grammar. Introduction to present perfect, gerunds and infinitives, and adverbial causes. Writing and grammar taught in the context of communicating in academic and adult life roles. Prerequisite: ESOL placement test or instructor permission; concurrent placement into ESOL Level 4 Reading and Communication or higher.

ESOL 152N Level 5 Writing 0.00: The fifth level of ESOL and the second of a 5-course sequence that focuses on writing. Review of the writing process and introduction to the essay. Descriptive, narrative, process and comparative/contrast. Review of basic grammar. Introduction to present perfect, gerunds and infinitives, and adverbial causes. Writing and grammar taught in the context of communicating in academic and adult life roles. Prerequisite: ESOL placement test; or instructor permission; concurrent placement into ESOL Level 4 Reading and Communication, or higher.

ESOL 154 Level 5 Communication 4.00: The fifth level of ESOL and the second of a five-course sequence that focuses on communication. Identification and production of English consonants and vowels; common sound substitutions; stress and intonation. Listening comprehension and discussion skills. Public speaking, including at least one prepared speech and written outline on an academic topic. Communication taught in the context of communicating in academic and adult life roles. Prerequisite: ESOL placement test or instructor permission; concurrent placement in ESOL Level 4 Reading and Writing or higher.

ESOL 154N Level 5 Communication 0.00: The fifth level of ESOL and the second of a five-course sequence that focuses on communication. Identification and production of English consonants and vowels; common sound substitutions; stress and intonation. Listening comprehension and discussion skills. Public speaking, including at least one prepared speech and written outline on an academic topic. Communication taught in the context of communicating in academic and adult life roles. Prerequisite: ESOL placement test or instructor permission; concurrent placement in ESOL Level 4 Reading and Writing or higher.

ESOL 160 Level 6 Academic Reading 5.00: Content comprehension, textual analysis, critical thinking skills, study skills, and language analysis. Readings from textbooks, literature, and newspapers. Includes finding themes and main ideas, summarizing, paraphrasing, inferencing, using context clues, review of prereading techniques. Study of words forms and common affixes. Prerequisite: ESOL placement test; concurrent placement in ESOL 152 and 154 or higher.

ESOL 162 Level 6 Academic Writing 5.00: Review of the writing process and development of the essay. Covers descriptive, narrative, process, and comparison/contrast essays. Review of verb tenses, sentence types, punctuation, and spelling patterns. Introduction to adverb and adjective clauses, reported speech, passive voice, and gerunds and infinitives. Prerequisite: ESOL placement test; concurrent placement in ESOL 150 and 154 or higher.

ESOL 164 Level 6 Academic Communication 5.00: Review of English consonants and vowels, consonant clusters, past tense and plural endings; common sound substitutions; intonation, phrasing, reductions and stress patterns. Listening comprehension, discussion, and conversation skills. Public speaking including prepared speeches of three to five minutes with written outlines; impromptu speeches. Prerequisite: ESOL placement test; concurrent placement in Level 5 Reading and Writing or higher.

ESOL 173 Grammar 1 2.00: Includes the identification and practice of the following grammatical structures: subject-verb agreement; verb tenses; question and negation structure; gerunds and infinitives; and articles. It is designed to reinforce concepts in both oral and written contexts. Does not replace courses in the core curriculum. Prerequisite: placement in ESOL 160 levels or above.

ESOL 183 Grammar 2 2.00: Includes the identificaion and practice of the following grammatical structures: verb tense review, active/passive voice, simple, compound and complex sentences, transitional words and phrases, claue and phrase reduction, parallel structures, modals, conditionals, and reported speech. Designed to reinforce concepts in both oral and written contexts. Does not replace courses in the core curriculum. Prerequisites: ESOL 173; or instructor permission.

ESOL 193 Grammar 3 2.00: This elective class includes the identification and practice of the following grammatical structure; modals, conditionals clause and phrase reductions, parallel structures, and reported speech. It is designed to reinforce concepts in both oral and written contexts. Does not replace courses in core curriculum.

ESOL 240 American Culture and Communication II 3.00: Continued illustration of American cultural themes and values. Instruction through reading, discussion, journal- writing, film and speeches. Overview and application of academic study skills. May include a service learning component. Does not replace courses in the core curriculum. Prerequisites: ESOL placement at ESOL 250, ESOL 252, ESOL 254 or higher; or instructor permission.

ESOL 250 Level 7 Academic Reading 5.00: Content comprehension, textual analysis, critical thinking skills, study skills, and language analysis. Readings from textbooks, short stories and/or a short novel, newspapers, and popular magazines. Includes finding themes and main ideas, summarizing, paraphrasing, inferencing, using context clues, review of prereading techniques. Study of word forms, common affixes and stems, figurative language Prerequisite: ESOL placement test; concurrent placement into Level 6 Writing and Communication or higher.

ESOL 252 Level 7 Academic Writing 5.00: Review of the writing process. Expository essays (e.g. narration, comparison/contrast, cause/effect, discussion). Review and instruction in English grammar, punctuation, and sentence structure. Prerequisite: ESOL placement test; concurrent placement in Level 6 Reading and Communication or higher.

ESOL 253 Advanced Supplementary Writing 3.00: Emphasizes the refinement and development of conscious control of English sentence and paragraph structure as well as the correction of persistent errors in writing. ESOL 253 provides a bridge course between ESOL 252 and ESOL 262 or between ESOL 262 and WR 115.

ESOL 254 Level 7 Academic Communication 5.00: Students develop strategies to improve spoken intelligibility, critical thinking, and listening and note taking skills in public speaking with written outlines on informative academic topics. Students review English consonants and vowels, intonation, phrasing, and stress patterns. Prerequisite: ESOL placement test; OR concurrent placement in ESOL 160 and 162 or higher.

ESOL 260 Level 8 Academic Reading 5.00: Content comprehension, textual analysis, critical thinking, study skills, and language analysis. Readings from textbooks, short stories and/or a novel, newspapers, and popular magazines. Includes finding themes and main ideas, summarizing, paraphrasing, inferencing, evaluation of sources and analysis of arguments. Prerequisites: ESOL placement test; OR completion of ESOL 252 and 254; OR placement into ESOL 262 and ESOL 264.

ESOL 262 Level 8 Academic Writing 5.00: Review of the writing process. Descriptive, and expository essays (e.g. description, classification, problem/solution, definition, argument). Introduces principles of research. General review of English grammar, punctuation, and sentence structure. Prerequisite: ESOL placement test and prerequisite/concurrent: Level 7 Reading and Communication or placement into Level 8 Writing and Communication.

ESOL 264 Level 8 Academic Communication 5.00: Students develop strategies to improve spoken intelligibility, critical thinking, and listening and note taking skills in public speaking with written outlines on academic topics, including those requiring argument and persuasion. Students review English consonants and vowels, intonation, phrasing, and stress patterns. Prerequisite: ESOL placement test; OR concurrent placement in ESOL 250 and 252 or higher.

ESOL 265 Level 8 Academic Communication 3.00: Students develop strategies to improve spoken intelligibility, critical thinking, and listening and note taking skills in public speaking with written outlines on academic topics, including those requiring basic argument and persuasion. Prerequisites: ESOL placement test; OR concurrent placement in ESOL 250 and 252 or higher.

ESOL 267 Level 8 Pronunciation 2.00: Review English consonants and vowels, intonation, phrasing, and stress patterns. Prerequisites: ESOL placement test; concurrent placement in ESOL 250 and 252 or higher.

Environmental Studies

ESR 150 Environmental Studies Orientation 1.00: Serves to orient students to environmental information available through campus library and computer

resources. Uses assignments aimed at gathering and summarizing information on academic preparation of environmental professionals.

ESR 160 Introduction to Environmental Studies 4.00: Introduces the structure and function of terrestrial, aquatic and atmospheric systems, including the human actions that affect them. Includes lab sections that introduce basic quantitative techniques for collecting and analyzing data from environmental systems. Prerequisite: ESR 150 (may be taken concurrently).

ESR 171 Environmental Science 4.00: Biological Perspectives 0.00: Develops an understanding of environmental topics that are primarily biological in nature. Includes human population issues, matter and energy resources, ecosystems, environmental ethics, and food and land resources. The associated laboratories will illustrate these topics. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

ESR 172 Environmental Science 4.00: Chemical Perspectives 0.00: Develops an understanding of environmental topics that are primarily chemical in nature. Includes air pollution, global warming, toxicology, risk assessment, water pollution, and hazardous waste. The associated laboratories will illustrate these topics. Prerequisite: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

ESR 173 Environmental Science 4.00: Geological Perspectives 0.00: Develop an understanding of environmental topics that are primarily geological in nature. Includes geology basics, soil resources, hydrogeology, nonrenewable mineral and energy resources, perpetual energy resources, and solid waste. The associated laboratories will illustrate these topics. Prerequisite: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

ESR 201 Applied Environmental Studies 4.00: Science/Policy Consideration 0.00: Introduces environmental laws and the regulations promulgated under them. Includes examinations of the genesis of these laws (eg. NEPAA, Clean Air and Water Acts, RCRA, Endangered Species Act) and their history of compliance and violation. Prerequisite: ESR 160.

ESR 202 Applied Environmental Studies 4.00: Prep for Problem Solving 0.00: Includes environmental sampling, sampling design, and measurement in relation to the field experience. Prerequisite: ESR 160. ESR 203 Applied Environ Studies: Applied Environmental Studies: Project Uses project work involving work with an environmental agency, industry, service or research organization. Prerequisite: ESR 202.

ESR 298 Special Topics 1.00–4.00: Environmental Science 0.00: Covers special topics, activities or projects in an area of environmental science not usually covered in depth in other environmental science courses.

Emergency Telecommunicator (911 Emergency Dispatch)

ETC 103 Introduction to Emergency Telecommunications 4.00: Introduces the field of emergency communications. Includes history, role of the dispatcher, field operations (police, fire and emergency medical), radio broadcasting, telephone techniques, radio codes and equipment operation. Presents an overview of federal, state and local agencies and their respective communication systems.

ETC 104 Emergency Telecommunications - Call Taking 4.00: Introduction to the field of emergency communications, with an emphasis on : history, roles of dispatchers in fire and medical emergencies. Confidentiality and liability issues and personality characteristics of emergency services personnel are explored. An overview of the structure and organization of the fire service and of the emergency medical dispatch system. Includes the terminology of the fire service and medical field and application of protocols for emergency response. Prerequisite: ETC 103.

ETC 105 Crisis Intervention & Critical Incident Stress Management 3.00: Focuses on the emotional and psychological needs of police, telecommunicators, firefighters, emergency medical providers and other emergency responders in dealing with daily crisis and trauma situations. Explores both individual crisis and large scale disasters impacting entire communities. Evaluates the resources available to responders and to the public. Examines the Critical Incident Stress Management model and how it is utilized within various agencies. Teaches methods and techniques for dealing with high stress of long-term emergency service careers.

ETC 106 Introduction to Criminal Law 3.00: Covers the origin, structure and definitions of common law and statutory crimes, the Oregon Criminal Code and criminal court procedures.

ETC 108 Transcription for Telecommunicators 2.00: Develops keyboarding skills based on information received aurally. Utilizes dictation of emergency response information, such as locations, names, and numeric data in various formats. A variety of software applications are used including Word, Excel, Critical and several Computer-Aided Dispatch Programs. Simulated emergency telephone calls, radio broadcasts and tape recorded incidents are used to practice skills inputting data, accurately recording, abbreviating, coding and formatting information. Speed accuracy and brevity are important components of this course. A keyboarding ability of approximately 25 wpm is recommended.

ETC 110 Communication Center Operations - Basic Skills 3.00: Introduction to the emergency communications simulator lab. This course involves the use of emergency communications equipment and standard operating procedures to simulate actual emergency calls and situations. Overview of the roles and responsibilities of emergency communications professionals in their work environment. Application of methods and theory obtained through classroom presentations, in an interactive lab setting, using radio, telephone, computers, recording equipments and various pre-employment screening tools.

ETC 111 Communication Center Operations - Intermediate Skills 3.00: Introduction to the art of multi-discipline emergency response dispatching in an emergency communications simulation center. The course involves the use of emergency communications equipment and the application of policies, procedures and protocols to specific situations. Scenarios will be complex, may involve multiple responses and may have a high level of impact on individuals or the community. Identification and notification of a wide variety of resources both local and state will be included in simulation. Prerequisite: ETC 110.

ETC 112 Communication Center Operations- Advanced Skills 3.00: This is the third in a series of 9-1-1 simulation labs designed to build skills in emergency call-taking and emergency services radio communication. The types of calls handled will involve volatile situations, such as, crimes in progress, incidents involving weapons, serious injuries or those having a severe impact upon individuals and the community. This course demands a high level of multi-tasking ability, quick responses and rapid problem-solving skills, as well as a familiarity with 911 computer software and multi-function telephone systems. Prerequisites: ETC 110 and ETC 111.

ETC 115 Emergency Telecommunicator- Capstone 3.00: Provides the opportunity to demonstrate and document a variety of activities completed during the two-term program. Skills learned and the practical application of various lab techniques will be presented in a portfolio that may be used by prospective employers to determine job readiness. Pre-employment testing and screening will be covered, as well as, a variety of community based activities. Students will be prepared to sit for various state level certifications in emergency services related competencies, such as, law enforcement computer access, and emergency medical dispatch protocols.

ETC 201 Law Enforcement Data System (LEDS) 1.00: LEDS is the State of Oregon Law Enforcement data network. This course is designed as an overview of the LEDS system and to provide certification at the lowest level (Inquiry). Students will use the LEDS Operating Manual to format requests for information and to access links to state and local computer systems, as well as the National Crime Information System (FBI). State certification requires the application of certain programs to test records in the live system. Prerequisite: ETC 103.

ETC 202 Emergency Medical Dispatch Overview 2.00: Emergency Medical Dispatching consists of emergency medical pre-arrival instructions to assist the average citizen in stabilizing and in some cases treating a medical emergency prior to the arrival of trained medical personnel. This overview explores the basic concept of emergency medical assistance delivered over the telephone and familiarizes the student with various protocols for dealing with specific emergency situations. Prerequisite/Concurrent: EMT 120 or current 1st Aid/CPR certification.

ETC 203A Tactical Dispatching for High Risk Incidents 1.00: High risk incidents such as kidnapping, hostage situations, and suicidal or mentally unstable persons require a higher level of communication skills and a greater degree of commitment on the part of the first responders and the emergency communications personnel. This course through the use of scenarios and role-playing allows the student to test these skills in a safe environment. Prerequisite: ETC 103 Prerequisite/corequisite: ETC 104.

Facilities Maintenance Technology

FMT 100 Introduction to Facilities Maintenence Systems 2.00: Overview of industrial maintenance. OSHA approved industrial safety procedures are practiced. Includes use of basic tools and specialized equipment; lubrication, maintenance and repair motors, drive belts, pulley, and sheaves. Examines the interdependency of related systems. Prerequisistes: MTH 20; (WR or ESOL 262); (RD 90 or ESOL 260).

FMT 101 Refrigeration I 2.00: Covers refrigeration principles and different basic cycles which include heat transfer, temperature, and basic physics and gas laws. Lab includesthe use of tools and instruments used for charging and evacuation and recovery methods. FMT 101 and APR 131 both cannot be taken for credit. Prerequisites: MTH 20; (WR 90 or ESOL 262); (RD 90 or ESOL 260).

FMT 102 Refrigeration II 2.00: Cover and analyze the operation of refrigeration system components. Includes compressors, condensers, evaporators, refrigerants and metering devices. Lab includes system components and compressor testing methods, focusing on charging, evacuation and recovery methods. FMT 102 and APR 132 cannot both be taken for credit. Prerequisites: FMT 101 or APR 132 or TE 9242.

FMT 103 Refrigeration III 2.00: Covers the operation of refrigeration HVAC systems, emphasizing maintenance and controls. Lab includes troubleshooting systems along with evacuation and charging techniques. FMT 103 nand APR 133 cannot both be taken for credit. Prerequisites: FMT 102 or APR 132 or TE 9243.

FMT 111 Refrigeration Electrical I 2.00: Basic theory and applications of electrical concepts including Ohm's Law, electric power, and concepts of electric circuits are emphasized. Alternating current, power distribution and installation of HVAC systems using wiring diagrams and schematics are included. Prerequisites: MTH 20; (WR 90 or ESOL 262); (RD 90 or ESOL 260).

FMT 112 Refrigeration Electrical II 2.00: Theory and application of electrical motor concepts and electrical circuits are emphasized. Control system components, wiring diagrams and schematics are included. Prerequistes: FMT 111 or TE 9237

FMT 119 Water Treatment and Distribution 2.00: Covers the basics of cooling, tower, boiler, waste water, and water purification systems. Topics include corrosion, scale, fouling and bacteria related issues. Mechanical equipment pertaining to water treatment is included.

FMT 122 Introduction to Boilers 3.00: Fundamentals of hydronics systems, heat loss calculations, physical properties of water, types of biolers, piping systems and components for correct fluid flow including circulating pumps. Includes practical maintenance and component identification.

FMT 125 Natural Gas Equipment I 2.00: Covers natural gas and its properties, pressures, piping and the mechanical code requirements for natural gas installation. Utilizing basic knowledge gained in this course, students can apply this knowledge to basic diagnosis procedures.

FMT 128 Oil Furnance Service 2.00: Covers oil burner service and installation procedures, fuel oil principles, motors, fan couplings, nozzles, transformers burner construction, pumps, controls and troubleshooting procedures. FMT 131 Lock Service and Repair Lock Service and Repair Covers maintaining residential and commercial locks and related hardware. Includes basic operating principles of cylinders, types of locking mechanisms, desk type locks, and master key systems.

FMT 201 Introduction to Chiller Systems 3.00: Chilled water and its application in the industrial/institutional setting. Covers chiller compressors, refrigerants, air cooled and water cooled condensers, controls and piping. Prerequisites: FMT 103 or APR 133 or TE 9244.

FMT 204 Heat Pumps 3.00: Focus on operation and service requirements of heat pumps. Demonstrates the application and understanding of the test equipment required to service the heat pumps. Includes the function of the control system required for operation of the heat pump system. Prerequisites: FMT 103 or APR 133 or TE 9244.

FMT 207 Pneumatic Controls 2.00: Provides HVAC service technician with the proper methods of diagnosing malfunctions in Honeywell control systems. Also covers thermostat/controllers of Robert Shaw, Johnson, Honeywell, and Barber Coleman. Includes elements of pneumatic systems, valve assemblies, dampers, controllers, thermostats, sensors, relays and air supply equipment.

FMT 210 Basic HVAC/R Installation & Techniques 2.00: Introduces basic application of HVAC/R installation and techniques. Integrates code requirements and practical field installations; including sheet metal, piping, and venting. Prerequisites: (FMT 112 or TE 9238); (FMT 102 or APR 132 or TE 9243)

FMT 213 Commercial Refrigeration Shop 2.00: Troubleshooting, maintenance, and repair of typical commercial refrigeration equipment found in convenience stores, markets, restaurants, and related applications. Prerequisites: (FMT 112 or TE 9238); (FMT 102 or APR 132 or TE 9243)

FMT 216 Commerical Systems Design 3.00: Covers refrigeration loads, equipment selection, piping and installation procedures. Focuses on calculating loads for walk-in units, sizing condensing units, and evaporative coils. Includes use of catalogs to locate and properly select components, for design and troubleshooting new and existing applications. Prerequisites: FMT 103 or APR 133 or TE 9244.

FMT 219 Residential Systems Roofing 3.00: Covers residential heat loads, equipment selection, piping and installation procedures. Calculating loads for residential homes, sizing furnaces, condensing units, and evaporative coils. Includes use of catalogs to locate and properly select components and for design and troubleshooting new and existing applications. Prerequisites: FMT 103 or APR 133 or TE 9244.

FMT 222 Intermediate Boilers 3.00: Fundamentals of hydronics systems related to electrical controls and fluid flow. Includes burner control system, schematic diagrams, distribution systems, heat emitters, radiant floor heating, expansion tanks, entrained air, and auxiliary heat loads. Prerequisites: FMT 122 or TE 9161.

FMT 280A Cooperative Work Experience 1.00–8.00: Provides "hands-on" work experience for students enrolled in Facilities Maintenance Technology. Department permission required.

Foods and Nutrition

FN 110 Personal Nutrition 3.00: Basic nutrition course for students with little or no science background. Explores personal food habits and beliefs. Emphasizes practical application of nutrition knowledge to enhance general health. Analyze present diet and evaluate it according to latest nutritional guidelines.

FN 225 Nutrition 4.00: Introduces components of an adequate diet, nutrient availability and utilization. Analyze dietary intake and compare to current scientific guidelines. Examines peripheral factors influencing diet such as global and local issues, cultural environment, and elements of food safety. Strong background in life sciences recommended. Prerequisite: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

FN 225X Nutrition Bridge 1.00: Study the principles of diet therapy, routine hospital diets and commonly used diet modifications in therapeutic care. Diseases and conditions associated with the gastrointestinal tract, cardiovascular system and diabetes are emphasized. Learn the specfic roles of the health care team members in nutrition care management of the institutionalized patients.

FN 270 Normal and Applied Clinical Nutrition 4.00: Introduces relationship of foods to health, factors affecting food/nutrient intake, and role of food processing in nutrient availability. Evaluates use of modified diets used in treatment of disease. Primary emphasis: nutritional status of the young adult; secondary emphasis, institutionalized patient. Project includes a nutritional self-assessment. Required for PCC Nursing Program. Prerequisites: MTH 20 or higher, or placement into MTH 60; and WR 115 or higher, or placement into WR 121; placement into RD 115 or higher, and BI 103, or BI 122, or BI 231.

Fire Protection

FP 101 Introduction to Fire Protection 3.00: Studies the history and development of fire service as well as safety and security movements. Identifies general fire hazards and their causes and how to apply fire protection principles.

FP 111 Firefighter I Skills Academy 10.00: Designed to meet NFPA Standard 1001 "Firefigher I" training requirements, this course provides a program that presents comprehensive training in all aspects of basic firefighting skills. Knowledge obtained from classroom instruction is transferred to drill ground application, during hands-on training. Students study basic tools, procedures, techniques and safety precautions utilized by fire fighters, during fire ground operations. PCC

department application acceptance required.

FP 112 Firefighter II Skills Academy 7.00: Designed to meet NFPA Standard 1001 "Firefighter II" training requirements, this course continues to develop basic fire fighter skills learned in FP 111 while increasing technical knowledge of fire ground operations, placing more emphasis on team skills, through evolutions, and live fire training. Prerequisite: FP 111.

FP 113 Firefighting Skills III 4.00: Studies advanced fire fighting skills and applies these skills during weekly drill activities. Equipment and procedures learned in FF Skills I & II are utilized in an operational format. Students function as a firefighter, apparatus operator, company officer, and training officer during drill activities. Prerequisite: FP 111, 112.

FP 121 Fire Behavior and Combustion 3.00: Course explores the theories and fundamentals of how and why fires start, spread, and how they are controlled. There will be an emphasis on compartment fire behavior. Recommend: MTH 65.

FP 122 Fundamentals of Fire Prevention 3.00: Studies fundamentals of fire inspection standards and techniques of evaluation, identification of hazards and making practical recommendations. Students study fire prevention and education programs and conduct presentations.

FP 123 Hazardous Materials Awareness and Operations 3.00: Designed to prepare individuals to safely respond to hazardous materials emergencies. Individuals will learn to analyze an incident; detect the presence of hazardous materials; survey the scene; collect hazard information from the DOT Emergency Response Guidebook; implement actions consistent with standard operating procedures; initiate protective actions and initiate the notification process.

FP 131 Introduction to High Angle Rescue0.5: Studies practical procedures, techniques, and safety procedures utilized by rescue personnel during rope rescue. Covers organization of a rope rescue team, equipment, requirements, scene evaluation, and rescuer safety will be covered. Practices basic rappel, relay and victim retrieval techniques.

FP 132 Fire App/Pump Construction Operation and Hydraulics 3.00: Studies practical procedures, techniques, and safety precautions utilized during apparatus operations. Covers engine capabilities, pump construction, procedures for operation and hydraulic formulas utilized to calculate flow requirements. Prerequisite: FP 111.

FP 133 Wildland Firefighter 3.00: Trains students in the basic skills required for wildland fire fighting. Students will study wildland fire behavior, fire control tactics, human factors on the fireline, standards for fire fighter safety & survival and receive an introduction to the incident command system.

FP 141 Introduction Water Rescue 0.5: Studies practical procedures, techniques, and safety precautions utilized by rescue personnel during water rescue response. Practices organization of a water rescue team, equipment requirements, scene evaluation, rescuer drown-proofing and basic victim retrieval techniques.

FP 151 Aircraft Crash and Rescue Basics 0.5: Studies aircraft and airport systems, practical procedures, techniques, and safety precautions utilized by rescue personnel during aircraft crash and rescue response. Organization of a crash rescue team, equipment requirements, scene evaluation, and tactical and strategic considerations are covered. Prerequisite: FP 111.

FP 152 Emergency Response to Terrorism 2.00: Covers special needs of responders to incidents which may have been caused by terrorists. Includes definitions of terrorism, history of terrorists, suspicious circumstances, agents utilized by terrorists, self-protection, crime scene considerations, and special command issues.

FP 161 Vehicle Extrication Basics 0.5: Studies procedures utilized for extrication of injured victims from motor vehicles, tools, equipment and hazards associated with vehicle extrication and safety considerations during rescue operations.

FP 200 Fire Service Hydraulics & Water Supply 3.00: Provides a foundation of theoretical knowledge in order to understand the principles of the use of water in fire protection and to apply hydraulic principles to analyze and to solve water supply problems. Recommend: MTH 65.

FP 201 Emergency Service Rescue 4.00: Studies a variety of procedures, equipment, and tools utilized by emergency rescue personnel. Become familiar with building search, auto extrication, aircraft crash, high angle, and water rescue. Prerequisite: FP 111.

FP 202 Fixed Systems and Extinguishers 3.00: Studies portable extinguisher equipment, fire alarm and detection systems, sprinkler systems and standpipes, protection systems for special hazards, explosion release, ventilation systems, inert atmospheres and static bonding. Prerequisite: FP 111.

FP 203A Introduction to Firefighting Tactics & Strategy 3.00: Studies fireground tactics and strategy, responses and size-up, protection of exposures, containment, extinguishment, the command post, combined operations, analysis and post-mortem evaluation, pre-fire surveys and planning. Prerequisite: FP 111.

FP 211 Building Construction for Firefighters 3.00: Offers knowledge and skills in the various construction features of buildings. Includes structural features affecting fire spread and building collapse, the effect of fire on materials, fire stops and ratings. Use of blueprints and plans to understand building features and pre-fire planning emphasized. Prerequisite: FP 111.

FP 212 Fire Investigation (Cause Determination) 3.00: Studies burning characteristics of combustibles. Interprets clues and burn patterns leading to point of origin. Identifies incendiary indications, sources of ignition and materials ignited and how to preserve the fire scene evidence. Prerequisite: FP 111.

FP 213 Principles of Supervision for Firefighters 3.00: Studies fireline supervision. Future fire supervisors concentrate on the responsibilities of and opportunities for supervision, develop an understanding of human relations and study how to stimulate personal development of supervisory skills. Prerequisite: FP 111.

FP 214 Occupational Safety & Health for the Fire Science 3.00: Introduces the basic concepts of occupational health and safety as it relates to emergency service organizations. Topics include risk evaluation and control procedures for fire stations, training sites, emergency vehicles, and emergency situations involving fire, EMS, hazardous materials, and technical rescue.

FP 215 Urban Interface Fire Operations 3.00: Studies strategies for fire attack, action plans, tactics, structural triage, action plan assessment, public relations and safety precautions used in wildland fires during urban interface operations. Practices the sizing up and operational procedures required to operate as initial command on urban interface fires. Prerequisite: FP 133.

FP 231 Aircraft Crash Rescue Practices 3.00: Studies current techniques of aircraft firefighting and rescue, principles associated with aircraft design and mock situations involving varieties of aircraft disasters. Prerequisite: FP 111.

FP 232 Pump Construction and Hydraulics II 2.00: .00: Practical procedures, techniques, and safety precautions used during apparatus operations. Covers the history and development of fire apparatus capabilities, pump construction, procedures for operation and hydraulic formulas used to calculate flow requirements. Operational techniques required to operate an engine at a multiple alarm fire will be practiced. FSAB Apparatus Operator II (26-01), (26-02), (26-03). Prerequisite: FP 132.

FP 233 Aerial Ladder Operations for Firefighters 3.00: Studies the concepts of aerial ladder operation and becomes familiar with equipment used in construction, operation and maintenance. Situations involving field use, deployment and operation of equipment are explored. Prerequisite: FP 132.

FP 240 Emergency Services Instructor I 3.00: Designed to meet NFPA Standard 1041; Fire and Emergency Services Instructor I. Students will organize classroom, laboratory and outdoor learning environments and present prepared lessons utilizing recognized methods of instruction. Learn to adjust and modify presentations based on student learning styles and changing classroom environments and learn about course objectives and learning outcomes.

FP 242 Flammable, Explosive and Toxic Materials 3.00: Studies electrical exotic metal fires and space age fuel fires; how to handle radioactive materials involved in fire, the use of monitoring equipment and personnel safety practices. Prerequisite: FP 123.

FP 243 Laws Affecting Fire Fighting 1.00: Covers various federal, state and local statutes, codes and ordinances that have a bearing on firefighters. Personal and organizational responsibilities will be covered. Equal employment opportunity, operation of emergency vehicles and fire codes are included.

FP 250 Emergency Services Instructor II 3.00: Designed to meet NFPA Standard 1041; Fire and Emer-

gency Services Instructor II. Learn to manage instructional resources, staff, facilities, records and reports; develop instructional materials; conduct specialized and advanced training; develop evaluation instruments to support instruction and the evaluation of test results. Prerequisite: FP 240 or equivalent.

FP 252 High Angle Rescue I 3.00: Offers knowledge and skills to select, maintain, inspect and use basic high angle rescue equipment. Hands-on experience helps the student develop confidence in high angle rescue techniques, an appreciation for safety considerations used and provides a good foundation for continuation training. Prerequisite: FP 201.

FP 260 Emergency Services Instructor III 3.00: Learn to administer agency policies and procedures for the management of instructional resources, staff, facilities, records and reports; plan, develop and implement comprehensive fire training programs and curriculum; develop evaluation plans, collect, analyze and report data and utilize data for program validation and student feedback. Prerequisites: FP 240 and 250 or equivalent.

FP 262 Water Rescue for Emergency Services 3.00: Studies practical procedures, techniques, and safety precautions utilized by rescue personnel during water rescue response. Covers organization of a water rescue team, equipment requirements, scene evaluation and rescuer drown-proofing will be covered. Victim retrieval, rescue swimming and search techniques will be practiced. Prerequisite: FP 201.

FP 280A CE / Fire Science 3.00: Field placement in a municipal fire department as a fire intern, volunteer firefighter or cadet/explorer. Students are evaluated by a PCC field representative from Cooperative Education. Department permission required.

FP 280B CE / Fire Science - Seminar 2.00: Department permission required.

FP 283 Public Sector Employment Workshop (Fire) 3.00: Provides the opportunity to develop skills needed to successfully complete Civil Service and Public Sector employment examinations.

FP 293 Advanced Firefighting Tactics & Strategy 1.00: Studies response and size-up, fire-ground tactics and analysis, post-mortem, pre-fire survey and planning, combined operations, mutual aid, disaster planning and problems in unusual fire operations. Prerequisite: FP 203A.

FP 9010 Fire Management Practices Fire Management Practices 1.00: Outlines basic management skills for the mid-level manager. Includes organizational structure, communicating, financial management and controlling resources. Prerequisite: FP 213.

FP 9020 Fire Department Budgets 1.00: Outlines the budget process as required by Oregon laws to include types of budgets, the process of preparing the budget and classifying expenditures. Prerequisite: FP 213.

FP 9030 Planning Fire Protection 1.00: Covers the elements that are considered when planning for fire protection needs of a community. The techniques of risk analysis and problem solving are used. Prerequisite: FP 213.

FP 9040 Managing Fire Personnel 1.00: Covers the appointment/promotional process to include desirable traits of personnel. Discusses motivation and counseling as well as the legal responsibilities of management and utilization of employees. Prerequisite: FP 213.

FP 9050 Public Relations Information and Education 1.00: Covers company officer responsibilities for a basic understanding of public relations, information and fire education. Designed to offer a brief overview of these topics. Prerequisite: FP 213.

FP 9060 Fire Science II Chemistry 3.00: Studies physical and chemical properties of substances, chemical changes, elements, compounds, gases, chemical combinations, weights and measurements, as well as theories of metals, acids, bases, salts, solvents, solutions and emulsions. Prerequisite: MTH 60.

FP 9070 Major Emergency Tactics/Strategy 3.00: Studies response and size-up, fire-ground tactics and analysis, post-mortem, pre-fire survey and planning, combined operations, mutual aid, disaster planning and problems in unusual fire operations.

FP 9080 Fire Fighting Safety & Survival for Company Officers 1.00: Covers safety on the fireground, equipment, the officer's role in modifying behavior and identifying hazardous situations. Identifies state safety rules.

FP 9110 Fire Inspection Practices 3.00: Studies the various steps to be followed prior to and during an actual fire inspection. The legal aspects of fire inspections on both new and existing structures are covered. Prerequisites: FP 122, 202, 211.

FP 9120 Fire Codes & Related Ordinances 3.00: Studies fire, building, exit, flammable liquid and other fire prevention codes. Students go on supervised building inspection field trips. Primarily for fire department inspectors. Prerequisites: FP 122, 202, 211.

FP 9130 Hazardous Materials Inspection 3.00: Studies state codes and regulations pertaining to hazardous material storage, labeling, incident reporting, inspection and handling. Discusses characteristics and identification of hazardous materials, hazards associated with flammable, explosive, toxic, radioactive, corrosive and oxidizing agents. Prerequisites: FP 122, 202, 211.

FP 9140 Fire Officer I 4.00: Designed to meet National Fire Protection Association Standard 1021 (NFPA). Includes a contemporary look at the duties and responsibilities of first level supervisors. Covers first level supervisory functions associated with human resource management, community and government relations, fire administration, inspection and investigation emergency service delivery and safety.

FP 9150 Fire Officer II 4.00: Designed to meet NFPA qualifications. Includes contemporary look at duties and responsibilities of fire service supervisor. Covers company officer supervisory functions associated with human resource management, community and government relations, fire administration, inspection an and investigation and emergency service delivery and safety. First level supervisory and middle management responsibilities will be discussed and contrasted with Fire Office II duties and responsibilities.

FP 9210 Arson Law, Evidence, Motives 3.00: Introduces common law, statutory law and case law pertaining to arson and other willful burning. Arson as an economic crime and a part of organized crime operation is also discussed. Prerequisite: FP 212.

FP 9250 Advanced Fire and Arson Investigation 4.00: Examines areas of knowledge necessary for the identification and investigation of specific causes of fires. Designed to expand on information introduced in FP 212. Prerequisite: FP 212 or instructor permission.

French

FR 101 First Year French 4.00: Introduction to French stressing the development of listening, speaking, reading, writing, and cultural awareness through a communicative approach. Primary emphasis on the student's active use of the language. Proficiency target level: Novice high. For beginners.

FR 102 First Year French 4.00: Continues work of FR 101, further developing all skills. Primary emphasis on the student's active use of the language. Proficiency target level: Intermediate low. Recommended: Completion of: FR 101 or 150 or instructor permission.

FR 103 First Year French 4.00: Continues the work of FR 102, further developing all skills. Primary emphasis on the student's active use of the language. Proficiency target level: Intermediate mid. Recommended: Completion of: FR 102 or instructor permission.

FR 111A First Year French Conversation 3.00: Practice of structures and vocabulary of first year French in a conversational format. Recommended: Completion of or simultaneous enrollment in FR 101 or 150 or instructor permission.

FR 111B First Year French Conversation 2.00: Practice of structures and vocabulary of first year French in a conversational format. Recommended: Completion of or simultaneous enrollment in FR 101 or 150 or instructor permission.

FR 111C First Year French Conversation 1.00: Practice of structures and vocabulary of first year French in a conversational format. Recommended: Completion of or simultaneous enrollment in FR 101 or 150 or instructor permission.

FR 112A First Year French Conversation 3.00: Practice of structures and vocabulary of first year French in a conversational format. Recommended: Completion of or simultaneous enrollment in FR 102 or 151 or instructor permission.

FR 112B First Year French Conversation 2.00: Practice of structures and vocabulary of first year French in a conversational format. Recommended: Completion of or simultaneous enrollment in FR 102 or 151 or

instructor permission.

FR 112C First Year French Conversation 1.00: Practice of structures and vocabulary of first year French in a conversational format. Recommended: Completion of or simultaneous enrollment in FR 102 or 151 or instructor permission.

FR 113A First Year French Conversation 3.00: Practice of structures and vocabulary of first year French in a conversational format. Recommended: Completion of or simultaneous enrollment in FR 103 or 151 or instructor permission.

FR 113B First Year French Conversation 2.00: Practice of structures and vocabulary of first year French in a conversational format. Recommended: Completion of or simultaneous enrollment in FR 103 or 151 or instructor permission.

FR 113C First Year French Conversation 1.00: Practice of structures and vocabulary of first year French in a conversational format. Recommended: Completion of or simultaneous enrollment in FR 103 or 151 or instructor permission.

FR 150 First Year French For beginners. 6.00: Introduction to French stressing the development of listening, speaking, reading, writing, and cultural awareness through a communicative approach. Primary emphasis on the student's active use of the language. Proficiency target level: Novice high to intermediate low.

FR 151 First Year French 6.00: Continues the work of FR 150, further developing all skills. Primary emphasis on the student's active use of the language. Also provides a review before entering second year French. Proficiency target level: Intermediate mid. Recommended: Completion of FR 102 or 150; or instructor permission.

FR 201 Second Year French 4.00: Continues the work of first year French, reviewing, expanding, and perfecting listening, speaking, reading, writing, and cultural awareness through a communicative approach. Primary emphasis on the student's active use of the language. Proficiency target level: Intermediate mid; the successful student will be able to handle a variety of basic communicative tasks and social situations. Recommended: Completion of first year French at the college level or instructor permission.

FR 202 Second Year French 4.00: Continues the work of FR 201, reviewing, expanding, and perfecting listening, speaking, reading, writing, and cultural awareness through a communicative approach. Primary emphasis on student's active use of the language. Proficiency target level: Intermediate mid to high; the successful student will be able to handle many basic communicative tasks and social situations. Recommended: Completion of FR 201 or instructor permission.

FR 203 Second Year French 4.00: Continues the work of FR 202, reviewing, expanding, and perfecting listening, speaking, reading, writing, and cultural awareness through a communicative approach. Primary emphasis on student's active use of the language. Proficiency target level: Intermediate high; the successful student will be able to handle most uncomplicated communicative tasks and social situations. Recommended: Completion of FR 202 or instructor permission.

FR 211A Intermediate French Conversation 3.00: Stresses conversational skills at the second year level. Recommended: Completion of or simultaneous enrollment in FR 201, 250, or instructor permission.

FR 211B Intermediate French Conversation 2.00: Stresses conversational skills at the second year level. Recommended: Completion of or simultaneous enrollment in FR 201, 250, or instructor permission.

FR 211C Intermediate French Conversation 1.00: Stresses conversational skills at the second year level. Recommended: Completion of or simultaneous enrollment in FR 201, 250, or instructor permission.

FR 212A Intermediate French Conversation 3.00: Stresses conversational skills at the second year level. Recommended: Completion of or simultaneous enrollment in FR 202, 250, or instructor permission.

FR 212B Intermediate French Conversation 2.00: Stresses conversational skills at the second year level. Recommended: Completion of or simultaneous enrollment in FR 202, 251, or instructor permission.

FR 212C Intermediate French Conversation 1.00: Stresses conversational skills at the second year level. Recommended: Completion of or simultaneous enrollment in FR 202, 251, or instructor permission.

FR 213A Intermediate French Conversation 3.00: Stresses conversational skills at the second year level. Recommended: Completion of or simultaneous enrollment in FR 203, 251, or instructor permission.

FR 213B Intermediate French Conversation 2.00: Stresses conversational skills at the second year level. Recommended: Completion of or simultaneous enrollment in FR 203, 251, or instructor permission.

FR 213C Intermediate French Conversation 1.00: Stresses conversational skills at the second year level. Recommended: Completion of or simultaneous enrollment in FR 203, 251, or instructor permission.

FR 250 Second Year French 6.00: Continues the work of first year French, reviewing, expanding, and perfecting listening, speaking, reading, writing, and cultural awareness through a communicative approach. Primary emphasis on the student's active use of the language. Proficiency target level: Intermediate mid to high; the successful student will be able to handle a variety of basic communicative tasks and social situations. Recommended: Completion of first year French at the college level or the equivalent.

FR 251 Second Year French 6.00: Continues the work of FR 250, reviewing, expanding, and perfecting listening, speaking, reading, writing, and cultural awareness through a communicative approach. Primary emphasis on student's active use of the language. Proficiency target level: Intermediate high; the successful student will be able to handle most uncomplicated communicative tasks and social situations. Recommended: Completion of FR 250 or instructor permission.

FR 255 Accelerated French For beginners. 8.00: Covers the material of FR 101 and FR 102 in an accelerated format. Stresses the development of listening, speaking, reading, writing, and cultural awareness through a communicative approach. Primary emphasis on the student's active use of the language. Recommended to the highly motivated student. Proficiency target level: Intermediate low; the successful student will be able to handle a limited number of interactive social situations. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

FR 256 Accelerated French 8.00: Covers the material of FR 103 and FR 201 in an accelerated format. Stresses the development of listening, speaking, reading, writing, and cultural awareness through a communicative approach. Primary emphasis on student's active use of the language. Recommended to the highly motivated student. Proficiency target level: Intermediate mid; the successful student will be able to handle a variety of basic communicative tasks and social situations. Recommended: Completion of FR 102 or 255; or instructor permission. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

FR 257 Accelerated French 8.00: Covers the material of FR 202 and FR 203 in an accelerated format. Stresses the development of listening, speaking, reading, writing, and cultural awareness through a communicative approach. Primary emphasis on student's active use of the language. Recommended to the highly motivated student. Proficiency target level: Intermediate high; the successful student will be able to handle most uncomplicated communicative tasks and social situations. Recommended: Completion of FR 201 or FR 256 or instructor permission. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

FR 260A French Culture 3.00: Studies and discusses contemporary thought and life of the French speaking world. Recommended: Completion of one term of second year French at the college level or instructor permission.

FR 260B French Culture 2.00: Studies and discusses contemporary thought and life of the French speaking world. Recommended: Completion of one term of second year French at the college level or instructor permission.

FR 260C French Culture 1.00: Study and discussion of contemporary thought and life of the French speaking world. Recommended: Completion of one term of second year French at the college level or instructor permission.

FR 261A French Culture 3.00: Continuation of FR 260A. Recommended: Completion of two terms of second year French at the college level or instructor permission. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

FR 261B French Culture 2.00: Continuation of FR 260B. Recommended: Completion of two terms of second year French at the college level or instructor permission.

FR 261C French Culture 1.00: Continuation of FR 260C. Recommended: Completion of two terms of second year French at the college level or instructor permission.

FR 262A French Culture 3.00: Continuation of

FR 261A. Recommended: Completion of second year French at the college level or instructor permission. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

FR 262B French Culture 2.00: Continuation of FR 261B. Recommended: Completion of second year French at the college level or instructor permission.

FR 262C French Culture 1.00: Continuation of FR 261C. Recommended: Completion of second year French at the college level or instructor permission.

FR 270A Readings in French Literature 3.00: Emphasizes skills for reading in French. Reading and discussion of accessible works of French prose and poetry. Recommended: Completion of second year French at the college level, simultaneous enrollment in FR 203, 251 or 257, or instructor permission.

FR 270B Readings in French Literature 2.00: Emphasizes skills for reading in French. Reading and discussion of accessible works of French prose and poetry. Recommended: Completion of second year French at the college level, simultaneous enrollment in FR 203, 251 or 257 or instructor permission.

FR 270C Readings in French Literature 1.00: Emphasizes skills for reading in French. Reading and discussion of accessible works of French prose and poetry. Recommended: Completion of second year French at the college level, simultaneous enrollment in FR 203, 251 or 257 or instructor permission.

FR 271A Readings in French Literature (African & Caribbean) 3.00: Emphasizes skills for reading in French. Reading and discussion of accessible works of French prose and poetry written by African and Caribbean writers. Fulfills diversity requirement for AAOT degree. Recommended: Completion of second year French at the college level, simultaneous enrollment in FR 203, 251, or 257, or instructor permission. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

FR 271B Readings in French Literature (African & Caribbean) 2.00: Emphasizes skills for reading in French. Reading and discussion of accessible works of French prose and poetry written by African and Caribbean writers. Recommended: Completion of second year French at the college level, simultaneous enrollment in FR 203, 251, or 257; or instructor permission.

FR 271C Readings in French Literature (African & Caribbean) 1.00: Emphasizes skills for reading in French. Reading and discussion of accessible works of French prose and poetry written by African and Caribbean writers. Recommended: Completion of second year French at the college level, simultaneous enrollment in FR 203, 251, or 257; or instructor permission.

FR 272A Readings in French Literature (Women Writers) 3.00: Emphasizes skills for reading in French. Reading and discussion of accessible works of French prose and poetry written by women. Fulfills diversity requirement for AAOT degree. Recommended: Completion of second year French at the college level, simultaneous enrollment in FR 203, 251 or 257; or instructor permission. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

FR 272B Readings in French Literature (Women Writers) 2.00: Emphasizes skills for reading in French. Reading and discussion of accessible works of French prose and poetry written by women. Recommended: Completion of second year French at the college level, simultaneous enrollment in FR 203, FR 251 or FR 257; or instructor permission.

FR 272C Readings in French Literature (Women Writers) 1.00: Emphasizes skills for reading in French. Reading and discussion of accessible works of French prose and poetry written by women. Recommended: Completion of second year French at the college level, simultaneous enrollment in FR 203, FR 251 or FR 257; or instructor permission.

FR 290A French Speaking and Writing 3.00: Expands and perfects skills learned in second year French. Emphasizes speaking and writing, but students also practice listening and reading. Recommended: Successful completion of second year French at the college level or instructor permission. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

FR 290B French Composition 2.00: Practice in developing composition skills. Recommended: Instructor permission and either second year college French with grades of A or B or native or near native ability in French.

FR 290C French Composition 1.00: Practice in developing composition skills. Recommended: Instructor permission and successful completion of either second year college French with grades of A or B or native or near native ability in French.

FR 291A French Composition 3.00: Practice in developing composition skills. Recommended: Instructor permission. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores. FR 291B French Composition French Composition Continuation of FR 290B. Recommended: Instructor permission.

FR 291C French Composition 1.00: Continuation of FR 290C. Recommended: Instructor permission.

FR 292A French Composition 3.00: Continuation of FR 291A. Recommended: Instructor permission. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

FR 292B French Composition 2.00: Continuation of FR 291B. Recommended: Instructor permission.

FR 292C French Composition 1.00: Continuation of FR 291C. Recommended: Instructor permission.

Fitness Technology

FT 101 Fitness Technology Seminar 2.00: Explore careers in the fitness and health industry. Obtain practical experience and insight into the role of a fitness/health professional in health and fitness clubs and community based wellness centers. Recommended: Admittance to Fitness Technology Program. Prerequisites: WR 121 and MTH 65.

FT 102 Injury Prevention & Management 2.00: Provides information and knowledge concerning prevention and rehabilitation of athletics/sports/fitness injuries. Emphasis will be on prevention of injury by incorporating fitness principles related to cardiovascular strength & endurance, flexibility/range of motion, muscular strength & endurance, nutrition & body composition. Patterns will be discussed as they impact prevention and treatment options of sports injuries. Emphasis will be placed on the methods used to build, improve and maintain fitness, as a means of injury/illness prevention.

FT 103 Nutrition for Fitness Instructors 2.00: An overview of basic principles of nutrition with an emphasis on application to fitness, weight management and athletic performance Recommended: Completion of FN 225. Prerequisites: HPE 295; WR 121 and MTH 65.

FT 104 Fitness Assessment & Programming I 3.00: Introduces fitness testing for apparently healthy populations. Covers cardiovascular fitness, muscular strength and endurance, flexibility, nutrition, and body composition in both individual and group assessments. Prerequisites: HPE 295 and FT 101.

FT 105 Fitness Assessment & Programming II 3.00: Second course in sequence of Fitness Assessment and Programming. Introduces individual and group exercise plans and progressions, and recreational program planning. Covers reassessment and exercise compliance. Prerequisites: FT 104 and CAS 133 or equivalent.

FT 106 Analysis of Movement 3.00: Studies and analyzes human posture and movement as it applies to physical fitness and sport. Uses knowledge to design effective and safe exercise programs. Prerequisite: FT 131.

FT 107 Exercise Science I 3.00: Studies and analyzes human posture and movement as it applies to physical fitness and sport. Uses knowledge to design effective and safe exercise programs. Prerequisite: FT 131.

FT 131 Structure & Function of the Human Body 4.00: Presents basic principles in anatomy, physiology, and exercise science. This class will introduce terminology, concepts, basic chemistry, cell structure and function, tissues and the following systems: metabolic, cardiovascular, pulmonary, skeletal, muscular, endocrine, and nervous. Interpret and apply the fundamental concepts of human anatomy and physiology. Prepares students who are in the Fitness Technology program for their future course work.

FT 201 Fitness Assessment and Program III 3.00: Third in sequence of Fitness Assessment and Programming. Covers advanced testing procedures, assessments for special populations, exercise programming for special populations, and exercise programming for group exercise. Prerequisites: FT 105; PE 281, 282B, and 282A or 287.

FT 202 Fitness and Aging 3.00: Explores physiological aspects of aging as applied to fitness and exercise. Prerequisites: FT 107 and PE 282B

FT 203 Fitness Promotion 3.00: Develops skills to promote healthy and fit lifestyles to both individuals and groups. Learn skills to promote oneself in the job market. Applies skills gained from a variety of fitness

disciplines. Prerequisites: 5th term standing in Fitness Tech Program or instructor permission.

FT 204 Exercise Science II 2.00: Continues application of physiological concepts from Exercise Science I. This course will introduce environmental conditions, ergogenic aids, advanced training adaptations, and clinical exercise physiology. Students will spend additional time in the lab setting learning metabolic and ECG stress testing. Prerequisite: FT 107.

FT 280 CE / Fitness Technology 3.00–10.00: Provides required internship experiences for Fitness Technology majors. Required: 3rd term standing for Certificate students, 6th term standing for AAS Degree students in Fitness Tech program or instructor permission; must have current First Aid and CPR card.

Geology

G 160 Geology / Oregon Coast 1.00: Designed to introduce the relationships between the biology and geology of the Oregon Coast.

G 161 Geology / Malheur Region 2.00: This field trip experience is designed to introduce the relationships between the biology and geology of the Malheur geographical area.

G 200 Field Studies 1.00–4.00: Introduces basic concepts in geology through field experience. Includes both lecture and field components. Content varies based on site location. Students may repeat for credit with different sites. Prerequisite or concurrent enrollment: G 201 or instructor permission.

G 201 Physical Geology 4.00: Introduces physical geology which deals with minerals, rocks, internal structure of the earth and plate tectonics. Prerequisite: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

G 202 Physical Geology 4.00: Introduces physical geology which deals with mass wasting, streams, glaciers, deserts, beaches, groundwater, and use of topographic maps. Prerequisite: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

G 203 Historical Geology 4.00: Introduces historical geology which deals with geologic time, fossils, stratigraphic principles, and the geologic history of the North American continent. Prerequisite: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

G 207 Geology of the Pacific Northwest 3.00: Introduces the regional geology of the Pacific Northwest with emphasis on Oregon geology. Includes basic geologic principles, earth materials and geology of Pacific Northwest provinces. Prerequisite: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

G 208 Volcanoes and Their Activity 3.00: Covers the origin, activity, products, classification and hazards of volcanoes. Prerequisite: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

G 209 Earthquakes 3.00: Covers the nature and origin of earthquakes, the characteristics of seismic waves, how earthquakes are measured, the hazards of earthquakes and the historical and geological record of earthquakes. Prerequisite: WR 115, RD 115 and MTH 20, or equivalent placement test scores.

G 291 Elements of Rocks and Minerals 4.00: Introduces the study of rocks and minerals that includes their classification, origin and identification. Recommended for persons interested in rock and mineral collecting, mining and prospecting. Prerequisite: WR 115, RD 115, MTH 20 or equivalent placement test scores.

Graphic Design

GD 101 Macintosh for Graphic Designers 1.00: Course covers current Macintosh operating system computer fundamentals and techniques used to increase efficiency and productivity for professional Graphic Designers. Topics include an in-depth study of system desktop features, search and navigation, advanced file management, font organization and essential shortcuts specific to the Graphic Design industry. Required course for Graphic Design majors. Prerequisite: Placement into WR 115 or higher.

GD 114 Introductory Typography 3.00: Designed to introduce type as a design element. This non-computer course emphasizes exploration of letterforms through hand-rendering. Focuses on interaction of letterforms from single letters through multiple words. Includes font classification, composition and production techniques.

GD 116 Intermediate Typography 3.00: An intermediate typography course continuing the study of type as a design element. Concentration on typographic composition, hierarchy, type identification and typographic systems. Traditional and digital methods of production will be used. Student required to use some page layout software and output outside of class. Prerequisites: GD 120, GD 114. Corequisite: GD 140

GD 120 Graphic Design I 3.00: Introduces the basic concepts of graphic design, including design elements and principles. Emphasizes the design process, developing an idea from thumbnail sketch, through tight roughs, to a comprehensive design. Focuses on the importance of presentation, industry standards and professional tools and techniques.

GD 122 Graphic Design 2 3.00: Second in a series of six graphic design courses. Builds on the basic concepts of graphic design. Emphasizes color, including color theory, vocabulary, color schemes, and the effects of color. Focuses on identifying graphic styles, brainstorming techniques, and introduces 3-dimensional design. Attention continues being placed on design process, presentation, and industry standards. Prerequisites: GD 120, GD 114. Corequisite: GD 140

GD 124 Graphic Design 3 3.00: Third in a series of six graphic design courses. Builds on basic concepts of graphic design. Emphasizes research, identifying specific graphic design needs for a business, symbol design, and maintaining continuity while working with multiple colors, sizes and materials. Studies in-depth the relationships of type, layout and color in two- and three-dimensional graphic design projects. Prerequisites: GD 122, 140.

GD 139 Illustration for Graphic Designers 3.00: Covers basic spot illustration techniques used by graphic designers in print and web. Emphasizes generating illustration from photo references. Color, and black and white illustration include traditional as well as technology-enhanced techniques. Production issues focus on the illustration's eventual placement in the computer environment. Prerequisites: GD 120 and ART 131. Corequisite: GD 140.

GD 140 Digital Page Design 1 3.00: Explores beginning level graphic design and publishing using professional page layout software. Introduces typography design, basic page layout, computer file management, professional methods of design organization, keyboard work and the foundations of computer use in single-page layouts. To be taken sequentially. Placement permission slip required. Prerequisites: GD 101, GD 114 and GD 120.

GD 141 Digital Page Design 2 3.00: Intermediate course covering professional layout and design of multi-page documents. Focuses on using creativity to solve design projects. Additional course topics include basic prepress and output, file management and industry-standard design processes. Placement permission slip required. Prerequisite: GD 140.

GD 150 Digital Illustration 1 3.00: Course explores the basic tools and techniques of Adobe Illustrator and its use in creating appropriate solutions to graphic design problems. To be taken sequentially. Placement permission slip required. Prerequisite: GD 140.

GD 151 Digital Illustration 2 3.00: Course explores advanced tools and techniques of Adobe Illustrator, and its use in creating solutions to complex graphic design problems. To be taken sequentially. Placement permission slip required. Prerequisite: GD 150.

GD 170 Photoshop and Design Basics 2.00: Introductory Photoshop tools and techniques combined with basic design and composition principles. Ideal for learning digital photo page layout and design. Macintosh experience highly recommended.

GD 221 Graphic Design 4 3.00: Second-year course focusing on Publication Design. Single-page and multiple-page projects will emphasize hierachy, eyeflow, structure and organization. Projects, lessons and exercises are intended to build on first-year skills in typography and design using professional page layout software. Advanced computer production techniques build on previous coursework. To be taken concurrently with GD 241. Prerequisites: GD 124 and 141; second-year standing in the Graphic Design program.

GD 222 Graphic Design 5 3.00: Second-year course focusing on Logo Design and Identity Systems. Create design solutions to communicate client and product image through logos, logotypes, icons, and symbols. Projects, lessons and exercises draw on previous coursework in typography and design. Prerequisites: GD 150, 241, 221; second-year standing in the Graphic Design program.

GD 228 Professional Graphic Design Practices 3.00: Prepare self-promotion resume packages, visit graphics businesses and receive industry insights from guest speakers. Offered to second-year, graduating Graphic Design majors intending to seek employment in the industry. To be taken concurrently with GD 222. Prerequisites: GD 150, 221, 241.

GD 229 Portfolio Preparation 3.00: Develop a

professional portfolio comprised of design work that may be revised, redone or created. Define employment goals and participate in practice interviews and critiques. Offered to second-year, graduating Graphic Design majors intending to seek employment in the industry. To be taken concurrently with GD 223. Prerequisite: GD 228.

GD 241 Digital Imaging 1 3.00: Using professional software to explore digital image editing, photo manipulation and layer compositing. File formats, techniques and tools most used by graphic designers are emphasized. Projects are designed to achieve basic understanding of the software. Placement permission slip required. Prerequisites: Second year status in the Graphic Design Program required and GD 150.

GD 242 Combined Graphic Programs 3.00: Create graphic elements in multiple programs and explore importing, exporting and assembling in other programs. Advanced techniques are used to study cross-application issues. Placement permission slip required. Prerequisites: GD 241 and GD 150.

GD 243 Digital Imaging 2 3.00: Introduces advanced techniques in color correction and image manipulation for print and web-based graphics. The study of masks, channels and advanced selection methods will be incorporated in professional-level design projects. Export formats and cross-application issues are covered. Prerequisites: Second year standing in Graphic Design Program and GD 241.

GD 244 Preparing Files for Print 3.00: Presents the process graphics for print go through after the design phase. From correctly preparing design in the digital environment for successful printing on commercial presses to the business roles of the designer, the printer and the service bureau. Prerequisite: GD 222.

GD 249 Design Studio 3.00: Exercise graphic design theory in actual client-directed projects. Course is set up to simulate a working design studio providing the opportunity to experience the requirements and roles of a designer in the field, as well as the administrative tasks. Emphasizes client communication and professional practices. Acceptable substitution: PT280 Cooperative Work Experience. Second year status in the Graphic Design program required. To be taken concurrently with GD 221 and 150.

GD 280A CE / Graphic Design 1.00–6.00: Cooperative on-the-job experience allowing for the application and development of knowledge and skills acquired in the on-campus program. Variable credits: Receive one credit for every 40 hours of successful work experience. Department permission required.

Geography

GEO 105 Introduction to Human Geography 4.00: Introduces key geographic themes of location, place, region, human-environment interaction, and mobility. Includes an examination of spatial patterns of topics such as language, religion, culture, population, cooperation and conflict, natural resources, migration, and political organization. All of these are addressed at varying scales and with respect to their influence on the global landscape. Special attention is given to current issues and events. Prerequisite: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

GEO 106 Geography of the Developed World 4.00: An examination of world regions with developed industrial and service economies, including Europe, the Untied States, Canada, the former Soviet Union, Japan, Australia, and New Zealand. Topics include spatial patterns of economic development, resource use, international trade, population and migration, transportation, and urban landscapes. Each region is analyzed as part of the larger global community, with a specific emphasis on current issues and trends. Prerequisite: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

GEO 107 Geography of the Developing World 4.00: An examination of world regions, including non-western cultures, with an undeveloped or developing industrial base including lower standards of living. Particular attention is given to Asia, Central and South America, and Africa. Topics include the spatial patterns of agriculture, industrial development, resource use, population and migration, religious and political conflict, and cultural landscapes. Each region is analyzed as part of the larger global community, with a specific emphasis on current issues and trends. Prerequisite: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

GEO 204 Geography of Middle East 4.00: Examines the impacts of different physical and cultural factors in formation, development, and distribution patterns of human settlements, and studies the influence of religious beliefs as well as other cultural elements in the evolution of human landscapes and the quality of life within the region. Study the Middle East as a culturally diverse region (i.e. not a monolith) and learn about the dominant value systems held by different Middle Eastern societies. Among issues discussed in class are population issues, urbanization processes, traditionalism, modernity, male-female relations, feminism, democracy, and westernization.

GEO 206 Geography of Oregon 4.00: Examines various historical, social, economic and geographic factors that have made the Oregon landscape unique. Slides, films, videos, and overhead transparencies are utilized. Prerequisite: WR 115, RD 115 and MTH 20 or equivalent placement test scores. GEO 209 Phys Geog: Weather & Climate Physical Geography: Weather and Climate Examines the processes of the atmosphere, the distribution and character of climate types, climate change and humankind as a modifier of climate. Prerequisite: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

GEO 210 The Natural Environment 4.00: Focuses on natural processes that create physical diversity on the earth. Includes weather and climate, vegetation, soils, landforms, ecosystems, their distribution and significance. Prerequisite: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

GEO 221 Field Geography / The Local Landscape 4.00: Works with a community organization using field research methods in human geography and application of GIS to prepare cartographic presentation of community needs and resources. Prerequisite: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

GEO 230 Geography of Race & Ethnic Conflicts 4.00: Examines the issues of race and ethnicity and their interrelationships with contemporary global patterns of political factionalism, economic disparity, religious fervor and ethnic nationalism. Learn how these issues influence the processes of development for various countries (developed and developing) throughout the world.

GEO 250 Geography of Africa 3.00: Provides an understanding of the geographical perspectives - physical and cultural landscapes, people, natural resources, economic activities, regions, and political divisions - of Africa south of the Sahara or Sub-Saharan Africa. Special emphasis on the region's historical geography and on its political, cultural and demographic ramifications to explain its problems and the changes now occurring in the region.

GEO 265 Introduction to GIS (Geographical Information Systems) 4.00: Provides a conceptual overview and hands-on experience using ArcView GIS software. Introduces basic principles of maps and map design and use ArcView GIS to create, edit, display, query and analyze geographic and tabular data and create maps and charts. An introduction to GPS is included. Prerequisite: WR115, RD 115 and MTH 20 or equivalent placement test scores.

GEO 266 GIS Analysis 4.00: Provides a more advanced overview of ArcGIS software and introduces extensions to the main ArcMap interface. Topics include preparing data for analysis, creating and managing databases, geocoding, creating and editing spatial data, and analyzing data using the Spatial Analyst and 3D Analyst extensions. Prerequisite: GEO 265; or instructor permission.

GEO 267 Application Topics in Geographic Information Systems 4.00: Application focus varies and provides an opportunity for extended exposure to one or more of the analytical techniques first learned in prerequisite courses. Attention to institutional and professional GIS application issues and programming environments. Prerequisite: GEO 266; or instructor permission.

GEO 280A CE / Geography 1.00–4.00: Enables students to extend their knowledge of Geography through work in settings which provide learning experiences that are not available in the classroom, but which supplement classroom learning. Under the employer's supervision the student learns to apply classroom theory to actual work situations. Department permission required.

GEO 280B. CE / Geography - Seminar 1.00: Provides a forum in which to discuss work experiences with peers and instructor. Department permission required.

GEO 298 Independent Study / Geography 3.00: Offers individualized study at an advanced level in areas of geography not considered in other courses to meet special interests or program requirements. Students complete a term project and readings approved by the instructor. Recommended: prior study of geography.

German

GER 101 First Year German 4.00: Emphasizes active communication in German which includes listening, speaking, reading, writing, pronunciation, structure, vocabulary and culture. Proficiency target level: Novice high.

GER 102 First Year German 4.00: Continues the work of GER 101. Emphasis on active communication in German. Proficiency target level: Intermediate low. Recommended: Completion of GER 101, or 150, or instructor permission.

GER 103 First Year German 4.00: Continues the work of GER 102. Emphasizes active communication in German. Proficiency target level: Intermediate mid. Recommended: Completion of GER 102, or instructor permission.

GER 111A First Year German Conversation 3.00: Practice of structures and vocabulary of first year German in a conversational format. Recommended: Completion of or simultaneous enrollment in GER 101 or 150; or instructor permission.

GER 111B First Year German Conversation 2.00: Practice of structures and vocabulary of first year German in a conversational format. Recommended: Completion of or simultaneous enrollment in GER 101 or 150; or instructor permission.

GER 111C First Year German Conversation 1.00: Practice of structures and vocabulary of first year German in a conversational format. Recommended: Completion of or simultaneous enrollment in GER 101 or 150 or instructor permission.

GER 112A First Year German Conversation 3.00: Practice of structures and vocabulary of first year German in a conversational format. Recommended: Completion of or simultaneous enrollment in GER 102 or 151; or instructor permission.

GER 112B First Year German Conversation 2.00: Practice of structures and German vocabulary of first year German in a conversational format. Recommended: Completion of or simultaneous enrollment in GER 102 or 151; or instructor permission.

GER 112C First Year German Conversation 1.00: Practice of structures and German vocabulary of first year German in a conversational format. Recommended: Completion of or simultaneous enrollment in GER 102 or 151; or instructor permission.

GER 113A First Year German Conversation 3.00: Practice of structures and vocabulary of first year German in a conversational format. Recommended: Completion of or simultaneous enrollment in GER 103 or 151; or instructor permission.

GER 113B First Year German Conversation 2.00: Practice of structures and vocabulary of first year German in a conversational format. Recommended: Completion of or simultaneous enrollment in GER 103 or 151; or instructor permission.

GER 113C First Year German Conversation 1.00: Practice of structures and vocabulary of first year German in a conversational format. Recommended: Completion of or simultaneous enrollment in GER 103 or 151; or instructor permission.

GER 150 First Year German For beginners 6.00: First term of a two-term sequence which equals one full year of German. Students develop basic language skills in German: listening, speaking, reading, writing, pronunciation, structure, vocabulary and culture. At the end of this course the student will communicate in common day-to-day interactions.

GER 151 First Year German 6.00: Second term of a two-term sequence. Continues the work of GER 150. Students become adept at skills in listening, speaking, reading, writing, pronunciation, structure, vocabulary and culture. On completion, the student will be able to converse in a variety of situations. Recommended: Completion of GER 150 or instructor permission.

GER 201 Second Year German 4.00: First term of a three-term sequence that continues the work of first year German. Students expand on their skills in the five language areas: listening, speaking, writing, reading, and culture. Emphasizes proficiency in spoken German. Recommended: Completion of first year college German or instructor permission.

GER 202 Second Year German 4.00: Second term of a three-term sequence. Students continue to expand on their skills in the five language areas: listening, speaking, writing, reading, and culture. Emphasizes proficiency in spoken German. Recommended: Completion of GER 201, 250 or instructor permission.

GER 203 Second Year German 4.00: Third term of a three-term sequence. Students continue to expand on their skills in the five language areas: listening, speaking, writing, reading, and culture. Emphasizes proficiency in spoken German. Recommended: Completion of GER 202, 250 or instructor permission.

GER 211A Intermediate German Conversation 3.00: Stresses conversational skills at the second year level. Recommended: Completion of one year of college level German, simultaneous enrollment in GER 201, or instructor permission.

GER 211B Intermediate German Conversation 2.00: Stresses conversational skills at the second year level. Recommended: Completion of one year of college level German, simultaneous enrollment in GER 201, or instructor permission.

GER 211C Intermediate German Conversation 1.00: Stresses conversational skills at the second year level. Recommended: Completion of one year of college level German, simultaneous enrollment in GER 201, or instructor permission.

GER 212A Intermediate German Conversation 3.00: Stresses conversational skills at the second year level. Continues the work of GER 211A. Recommended: Completion of or simultaneous enrollment in GER 202 or instructor permission.

GER 212B Intermediate German Conversation 2.00: Stresses conversational skills at the second year level. Continues the work of GER 211B. Recommended: Completion of or simultaneous enrollment in GER 202 or instructor permission.

GER 212C Intermediate German Conversation 1.00: Stresses conversational skills at the second year level. Continues the work of GER 211C. Recommended: Completion of or simultaneous enrollment in GER 202 or instructor permission.

GER 213A Intermediate German Conversation 3.00: Stresses conversational skills at the second year level. Continues the work of GER 212A. Recommended: Completion of or simultaneous enrollment in GER 203 or instructor permission.

GER 213B Intermediate German Conversation 2.00: Stresses conversational skills at the second year level. Continues the work of GER 212B. Recommended: Completion of or simultaneous enrollment in GER 203 or instructor permission.

GER 213C Intermediate German Conversation 1.00: Stresses conversational skills at the second year level. Continues the work of GER 212C. Recommended: Completion of or simultaneous enrollment in GER 203 or instructor permission.

GER 250 Second Year German 6.00: First term of a two-term sequence that continues the work of first year German. Students expand on their skills in the five language areas: listening, speaking, writing, reading and culture. Emphasizes proficiency in spoken German. Recommended: Completion of first year German at the college level or instructor permission.

GER 251 Second Year German 6.00: Second term of a two-term sequence. Students continue to expand on their skills in the five language areas: listening, speaking, writing, reading and culture. Emphasizes proficiency in spoken German. Recommend: Completion of GER 202, 250 or instructor permission.

GER 260A German Culture Through Film 3.00: Enhances understanding of German culture and contemporary society through analysis of cultural and social issues presented in seven German films. May explore issues including but not limited to: interracial and cultural relations, ethnic conflict, Germany during the Second World War, economic, social and historical perspectives in post-war Germany, roles of German men and women, self-discovery, German humor, East versus West. Course conducted in English and all films with English subtitles. Students may take only one course in the 260 series: A, B, or C. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

GER 260B German Culture Through Film 2.00: Enhances understanding of German culture and contemporary society through analysis of cultural and social issues presented in five German films. May explore issues including but not limited to: interracial and cultural relations, ethnic conflict, Germany during the Second World War, economic, social and historical perspectives in post-war Germany, roles of German men and women, self-discovery, German humor, East versus West. Course conducted in English and all films with English subtitles. Students may take only one course in the 260 series: A, B, or C.

GER 260C German Culture Through Film 1.00: Enhances understanding of German culture and contemporary society through analysis of cultural and social issues presented in four German films. May explore issues including but not limited to: interracial and cultural relations, ethnic conflict, Germany during the Second World War, economic, social and historical perspectives in post- war Germany, roles of German men and women, self-discovery, German humor, East versus

West. Course conducted in English and all films with English subtitles. Students may take only one course in the 260 series: A, B, or C.

GER 261A German Culture Through Film 3.00: Enhances understanding of German culture and contemporary society through analysis of cultural and social issues presented in seven German films. May explore issues including but not limited to: interracial and cultural relations, ethnic conflict, the New German Cinema, morality of the bourgeoisie, alienation of youth, roles of German men and women, self-discovery, moral disaster of the Nazi legacy, authority and rebellion. Course conducted in English and all films with English subtitles. Students may take only one course in the 261 series: A, B, or C. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

GER 261B German Culture Through Film 2.00: Enhances understanding of German culture and contemporary society through analysis of cultural and social issues presented in five German films. May explore issues including but not limited to: interracial and cultural relations, ethnic conflict, the New German Cinema, morality of the bourgeoisie, alienation of youth, roles of German men and women, self-discovery, moral disaster of the Nazi legacy, authority and rebellion. Course conducted in English and all films with English subtitles. Students may take only one course in the 261 series: A, B, or C.

GER 261C German Culture Through Film 1.00: Enhances understanding of German culture and contemporary society through analysis of cultural and social issues presented in four German films. May explore issues including but not limited to: interracial and cultural relations, ethnic conflict, the New German Cinema, morality of the bourgeoisie, alienation of youth, roles of German men and women, self-discovery, moral disaster of the Nazi legacy, authority and rebellion. Course conducted in English and all films with English subtitles. Students may take only one course in the 261 series: A, B, or C.

GER 262A German Culture Through Film 3.00: Enhances understanding of German culture and contemporary society through analysis of cultural and social issues presented in seven German films. May explore issues including but not limited to: love as a medium for representing changing ideas in Germany, east vs. west, personal and national identity struggles, foreigners in Germany, stereotypes, roles of women in German society. Course conducted in English and all films with English subtitles. Students may take only one course in the 262 series: A, B, or C. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

GER 262B German Culture Through Film 2.00: Enhances understanding of German culture and contemporary social issues presented in five German films. May explore issues including but not limited to: love as a medium for representing changing ideas in Germany, East vs. West, personal and national identity struggles, foreigners in Germany, stereotypes, roles of women in German society. Course is conducted in English and all films with English subtitles. Students may take only one course in the 262 series: A, B, or C.

GER 262C German Culture Through Film 1.00: Enhances understanding of German culture and contemporary society through analysis of cultural and social issues presented in four German films. May explore issues including but not limited to: love as a medium for representing changing ideas in Germany, east vs. west, personal and national identity struggles, foreigners in Germany, stereotypes, roles of women in German society. Course conducted in English and all films with English subtitles. Students may take only one course in the 262 series: A, B, or C.

GER 270A Readings in German Literature 3.00: Read and discuss literary works of German prose and poetry. Skills for reading in German are also emphasized. Conducted in German. Recommended: Second year German at the college level, simultaneous enrollment in GER 203, 251 or 257 or instructor permission. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

GER 270B Readings in German Literature 2.00: Students read and discuss literary works of German prose and poetry. Skills for reading in German are also emphasized. Conducted in German. Recommended: Second year German at the college level, simultaneous enrollment in GER 203, 251 or 257 or instructor permission.

GER 270C Readings in German Literature 1.00: Read and discuss literary works of German prose and poetry. Skills for reading in German are also emphasized. Conducted in German. Recommended: Second year German at the college level, simultaneous enrollment in GER 203, 251 or 257 or instructor permission.

GER 271A Readings in German Literature 3.00: Continuation of GER 270. Recommended: GER 270 or instructor permission. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

GER 271B Readings in German Literature 2.00: Continuation of GER 270B. Recommended: GER 270B or instructor permission.

GER 271C Readings in German Literature 1.00: Continuation of GER 270C. Recommended: GER 270C or instructor permission.

GER 272A Readings in German Literature 3.00: Continuation of GER 271. Recommended: GER 271 or instructor permission. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

GER 272B Readings in German Literature 2.00: Continuation of GER 271B. Recommended: GER 271B or instructor permission.

GER 272C Readings in German Literature 1.00: Continuation of GER 271C. Recommended: GER 271C or instructor permission.

GER 290A German Composition 3.00: Practice in developing composition skills. Conducted in German. Recommended: Instructor permission and completion of second year college German with grades of A or B or native or near native ability in German. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

GER 290B German Composition 2.00: Practice in developing composition skills. Conducted in German. Recommended: Instructor permission and completion of second year college German with grades of A or B or native or near native ability in German.

GER 290C German Composition 1.00: Practice in developing composition skills. Conducted in German. Recommended: Instructor permission and completion of second year college German with grades of A or B or native or near native ability in German.

GER 291A German Composition 3.00: Continuation of GER 290. Instructor permission required. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

GER 291B German Composition 2.00: Continuation of GER 290B. Instructor permission required.

GER 291C German Composition 1.00: Continuation of GER 290C. Instructor permission required.

GER 292A German Composition 3.00: Continuation of GER 291. Instructor permission required. Prerequiisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

GER 292B German Composition 2.00: Continuation of GER 291B. Instructor permission required.

GER 292C German Composition 1.00: Continuation of GER 291C. Instructor permission required.

Gerontology

GRN 165 Activity Director Training 2.00: Course prepares students to manage an activity department; do assessments and documentation; design, schedule, and implement appropriately designed activity programs; foster healthy resident and family dynamics; facilitate resident council meetings; and manage personnel and resources.

GRN 181 Exploring the Field of Aging 2.00: Introduces the range of emerging professional opportunities in the field of aging, and guides students to explore and identify potential career pathways. Course work includes career and market research, coaching from course instructor, self assessment, reflection, fieldwork, informational interviews and other activities to identify potential internships, entry level positions, and educational and training opportunities fitting the student's goals and trends in the field.

GRN 235 Advanced Care Issues 2.00: Focuses on issues related to the care of older adults presenting behavioral and cognitive challenges, using a person-centered, person-directed approach. Introduces students to assessment, treatment and care of persons experiencing dementia, problematic mental health conditions, and the dying process. Recommend: WR 115 and RD 115.

GRN 236 Advanced Care Practice 2.00: A case study approach to advanced behavioral and cognitive care issues, based on realistic scenarios in a variety of settings. Includes assessing appropriate long term care options for memory care, problem-solving, functional levels and other challenges, managing surveys, responding to deficiencies, problem solving repetitive

incident reports, implementing fall prevention programs, and developing family education and support programs. Prerequisite: GRN 235.

GRN 265 Activity Professional Training 1 3.00: Course provides didactic and experiential learning to prepare for a career as an activity professional with older adults in long term care facilities, adult daycare and community settings. Includes overview of the activity profession, late-life human development and health, standards of practice, activity planning for quality of life in a person-centered care model, and methods of service delivery for diverse populations. Prerequisite: GRN 165.

GRN 266 Activity Prof Training 2 3.00: Course provides didactic and experimental learning to prepare management level careers as an activity professional with older adults in long term care facilities, adult daycare and community settings. Includes professional responsibilities of the Activity Director, the system of activity program development in diverse settings, administrative practices in the Activity Profession, communications, leadership, and community relations. Prerequisite: GRN 265.

GRN 280A CE / Gerontology Internship 1.00–3.00: Students engage in intentional internships to gain practical experience, skill development and professional direction in achieving their career goals, working under supervision in an approved worksite. Prerequisite: Instructor approval.

GRN 280B Gerontology Internship Seminar 1.00: Students prepare for intentional internships appropriate to their career pathway, identify and negotiate worksite placements, and acquire skills essential for successful internships. Course focuses on work-based learning outcomes, working under supervision, effective communication and teamwork in organizations, stress and conflict management, professional ethics, boundary setting, and burnout prevention. Prerequisite: CG 181 or GRN 181.

GRN 282 Gerontology Professional Seminar 1.00: Seminar provides gerontology students close to graduation the opportunity to participate in a supportive seminar environment with other gerontology students, prepare and get feedback on portfolios and resumes appropriate to the student's career goals in the field, receive guidance from a gerontology specialist, and participate in other activities to prepare for entry into or path change within the field. Prerequisite: GRN 181 or CG 181.

General Science

GS 106 Physical Science (Geology) 4.00: Covers minerals, rocks, volcanism, earthquakes, plate tectonics, erosion and deposition by wind, glaciers and streams, weathering, fossils and geologic history. Prerequisite: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

GS 107 Physical Science (Astronomy) 4.00: Surveys astronomy to include historical development of the universe, earth as a planet, earth's moon, planets of the solar system, the sun, stars and galaxies. Prerequisite: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

GS 108 Physical Science (Oceanography) 4.00: Includes the chemical, biological, physical and geological nature of the oceans. Prerequisite: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

GS 109 Physical Science (Meteorology) 4.00: Covers characteristics of our atmosphere, air pressure and winds, atmospheric moisture, large air masses, violent storms, the effect of oceans on weather, and climates. Prerequisite: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

Health

HE 110 Cardiopulmonary Resuscitation 1.00: Provides education and training in infant, child and adult CPR, respiratory emergencies and cardiac arrest.

HE 112 First Aid and Emergency Care 1.00: Describes emergency procedures and techniques of basic life support for adult, child, or infant victims of airway obstruction, respiratory arrest and/or cardiac arrest. Provides education and training in Automated External Defibrillator.

HE 120 Health in the Dental Workplace 2.00: Provides opportunity to examine current health issues for personnel working in the dental areas. Topics include ergonomics, managing stress, nutrition, personal and dental health.

HE 125 First Aid & Industrial Safety 3.00: Presents overview of industrial safety regulations, accident prevention, ergonomics, hazardous materials, first aid and adult CPR. Successful students attain a First Aid and Adult CPR card.

HE 212 Women's Health 4.00: Examines women's health issues from a local, national and international perspective exploring the impact of bio-psycho-socio-cultural factors on the diagnosis, treatment, prevention and promotion of women's health.

HE 213 Men's Health 4.00: Examines general and specific men's health issues such as heart disease, prostate disorders, impotence and sexual dysfunction, HIV disease, human relationships and accidents/violence from a holistic wellness perspective.

HE 242 Stress and Human Health 4.00: Surveys and critically analyzes the stress concept and its impact on individual health. Using a multi-dimensional model, students will explore their personal stressors and the interaction between stress, human health and disease. Recommended: WR 121

HE 250 Personal Health 3.00: Explores current general health issues in emotional health and stress, physical fitness, nutrition, human sexuality, communicable and degenerative diseases and drugs from a wellness perspective. HE 251 Community/Public Health Issues Community and Public Health Issues Inquires into the causes and potential solutions for current community health issues, overviews the organization of community and health care agencies, and explores career opportunities in community health. Includes Service Learning.

HE 252 First Aid - Basics and Beyond 4.00: Explores and demonstrates basic first aid, addresses first aid in remote settings, and provides education and training in Automated External Defibrillations (AED) and Bag-Valve Mask. A student who satisfactorily completes the course requirements is eligible to receive a Responding to Emergencies First Aid Card and CPR for the Professional Rescuer Card.

HE 254 Weight Management and Health 3.00: Course examines the causes of obesity, its impact on human health and explores weight loss and diet options for the individual from a holistic perspective, including social, emotional, and physical dimensions of human health. Recommended: Students have a WR 121 skill level.

HE 255 Film and Public Health 4.00: Critically explores public health issues as they are portrayed in popular films and discusses the scientific and social underpinnings of the public health issues. Recommended: WR 121

HE 262 Children's Health, Nutrition & Safety 3.00: Explores current health and safety issues for infants and young children. Issues examined include childhood illnesses and ailments, nutrition, obesity, stress, safe environment, self esteem and general first aid.

HE 264 Health, Food Systems, and the Environment 3.00: This course will examine how food systems influence human and environmental health. Students will explore the connections between sustainable agriculture concepts/practices, food systems, and personal and environmental health.

Consumer and Family Studies

HEC 157 Parenting Skills 1.00: Designed for parents or prospective parents to examine the current issues affecting the role of parents in today's society. Studies the stages of child development, influences parents have on their child's development and how those influences can shape their child's development over time.

HEC 201 Family Partnership Education 3.00: The study of influences on children and their families which impact child and family behaviors, values, attitudes, beliefs, and morals. Topics include: parenting patterns: cultural, religious and socioeconomic influences: peer, school, media, impacts; family development, community ecology, special needs children, prejudice, and public policy.

HEC 226 Child Development 4.00: Basic theories, research and principles of physical, cognitive, language, social and emotional development of children from the prenatal period through adolescence. Includes observation and classroom processes. Prerequisite: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

HEC 280A CE / Consumer and Family Studies 1.00–10.00: Offers hands-on skill in planned, supervised and regularly evaluated experiences at appropriate work sites. Each cooperative education placement site is planned to meet the student's individual and specific skill needs. Department permission required.

HEC 9421 Living and Learning with Your Toddler 1.00: Designed for parents and their children between the walking stage and two and one-half years of age. Parents observe and participate with their children in

developmentally designed activities. In addition, they participate in a parent seminar focusing on parenting topics and needs.

Health Information Management

HIM 101 Service Learning 2.00: Allows students to volunteer in a community service project.

HIM 103 Seminar 3 1.00: Assists students in developing job search skills, resume preparation, and interviewing skills for health care facilities.

HIM 105 Ancillary Information 3.00: Analysis Develops knowledge of health care ancillary services, laboratory tests, and imaging services. English communication skills necessary.

HIM 107 Ancillary Information Analysis Lab 1.00: Develops proficiencies in the skills taught in HIM 105. Corequisite: HIM 105.

HIM 110 Health Information Technology 1 3.00: Introduces the concept of health information management including the components of content, use and structure of hospital healthcare data along with information keeping practices in both paper and electronic systems. Corequisite: HIM 120. Prerequisites: Placement into RD 90, WR 90, MTH 20.

HIM 120 Health Information Technology 1 Lab 1.00: Laboratory course for HIM 110 Health Information Technology 1 and allows students to practice the skills and knowledge learned in that course. Corequisite: HIM 110.

HIM 121 Legal and Ethical Aspects of Healthcare 3.00: Overview of the legal system and the legal principles that govern the delivery of healthcare. Covers patient confidentiality and the disclosure of patient information. Discusses codes of ethics and bioethical issues facing today's healthcare professionals. English communication skills necessary.

HIM 131 Medical Science 5.00: Concepts of disease processes as they relate to the normal physiology of the major body systems.

HIM 136 Medications 3.00: Covers appropriate drug uses, effects, dangers, and precautions; routes of administration. Review common prescription abbreviations, forms of medications and basic drug categories.

HIM 140 Health Record Content 1 2.00: Explains the content and structure for health care records. Emphasizes hospital records.

HIM 141 Health Information Technology 2 3.00: Continues the concepts of health information management covered in Health Information Management 1 including components of the content, use and structure of non-hospital healthcare data.

HIM 182 Health Care Delivery Systems 3.00: Explains the past, present, and future influences on the delivery of health care. Covers provider organizations and settings in health care, financing of health care, causes and characteristics of health care utilization in the Unites States, regulation and monitoring of health care systems and ethical issues associated with health care technology.

HIM 270 Classification Systems I 4.00: Classification of diseases and current reimbursement systems utilizing ICD.

HIM 271 Quality Improvement in Healthcare 3.00: Covers medical staff organization, physician credentialing, and quality improvement techniques in the healthcare setting.

HIM 272 Health Information Management 3.00: Principles of personnel supervision and management of a health information department.

HIM 273 Classification Systems 2 4.00: Continuation of HIM 270. Prerequisite: HIM 270.

HIM 274 Quality Improvement in Healthcare Lab 1.00: Corequisite: HIM 271.

HIM 275 Classification Systems 3 3.00: Introduces coding and classification systems for outpatient procedures and ambulatory care facilities. Prerequisite: HIM 273.

HIM 276 Classification Systems Lab 2.00: Laboratory course for HIM 273 and HIM 275. Allows students to practice the skills and apply the knowledge learned in Classification Systems 2 and Classification Systems 3. Corequisites: HIM 273 and HIM 275

HIM 277 Health Info Management Lab 2.00: Develop proficiencies in the skills included in HIM 272. Corequisite: HIM 272.

HIM 281 Data Management & Analysis 1 3.00: Collection, retrieval, analysis, and quality review of administrative and clinical information and data.

HIM 282 Data Management & Analysis 2 3.00: Statistical analysis and presentation of administrative and clinical information and data. Prerequisite: HIM 281.

HIM 283 Health Information Systems 3.00: Examines the goals and features of health information systems including administrative and clinical applications. Teaches health information management students strategies and tools to insure the development and/or selection of health information systems.

HIM 285 Healthcare Financing and Compliance 3.00: Provides an understanding of the essential components of financing and compliance in health care facilities.

HIM 286 Data Management and Analysis 1 Lab 2.00: Laboratory course for HIM 281. Allows students to practice skills and apply the knowledge learned in Data Management and Analysis 1. Corequisite: HIM 281

HIM 290 Health Information Tech 3 3.00: Examins and develops skills for training healthcare teams, healthcare entities, and consumers on health information. Project management and the management of change in relation to health information management are also covered.

HIM 292 Health Information Directed Practice 1 1.00: Work under supervision of facility personnel in local health care facilities. Experience actual working conditions and various aspects of medical records. Department permission required.

HIM 293 Health Information Directed Practice 2 1.00: Work under supervision of facility personnel in local health care facilities. Experience actual working conditions and various aspects of medical records.

HIM 294 Health Information Directed Practice 3 4.00: Work under supervision of facility personnel in local health care facilities. Experience actual working conditions and various aspects of medical records.

HIM 295 Certification Review Seminar 1.00

Horticulture

HOR 226 Deciduous Plant Materials 4.00: Deciduous Botanical characteristics and field identification. Cultural requirements, pests, diseases, and landscape uses of plants with concentration on deciduous material and plants of Fall interest.

HOR 227 Plant Materials - Evergreens 4.00: Botanical characteristics and field identification. Cultural requirements, pests, diseases, and landscape uses of plants with concentration on deciduous material and plants of Winter interest.

HOR 228 Plant Materials - Flowering 4.00: Botanical characteristics and field identification. Cultural requirements, pests, diseases, and landscape uses of plants with concentration on flowering plants and plants of Spring interest.

HOR 255 Spring Annuals and Perennials 3.00: Identification of Spring herbaceous annuals and perennials most commonly used in landscapes. Care, culture, pests, diseases, propagation and landscape use.

HOR 272 Summer Annuals & Perennials 3.00: Identification of summer herbaceous annuals and perennials most commonly used in landscapes. Care, culture, pests, diseases, propagation and landscape use.

HOR 290 Introduction to Landscape Design 3.00: Basic steps and elements used in landscape design. Establishment of specific design criteria, field measurements and basic drawing techniques required in production of finished design.

HOR 291 Landscape Design Process 3.00: Critical thinking approach to landscape design. Methods of developing use of line, proportion, color, scale and texture in the creation of landscape spaces. Landscape architectural history and sites used as background material. Prerequisites: HOR 226, 227, 228, 290; LAT 106, 108, 110, 111, 236; CSS 200 and concurrent enrollment or completion of LAT 217, or department permission.

Health and Physical Education

HPE 295 Health & Fitness for Life 3.00: Explores the role of wellness, physical fitness, stress, nutrition and cardiovascular health in promoting an individual's health and well being. Fitness testing and fitness lab are included.

HPE 296 Health & Fit for Industry I 2.00: Explores the roll of wellness, physical fitness, stress, nutrition and cardiovascular health in promoting an individual's health & well-being. Individual exercise program planning with emphasis on skills needed for industry and non-traditional occupations. Corequisite: Concurrent enrollment in HPE lecture section.

HPE 297 Health & Fitness for Ind II 2.00: Continuation of fitness lab principles begun in HPE 296. Prerequisite: HPE 296.

Culinary Assistant

HR 107 Culinary Assistant Training 15.00: Complete individualized vocational training in food services or clerical areas. Classroom sessions cover customer service skills, and developing effective communication and appropriate social skills at work.

HR 108 Culinary Assistant Training 15.00: Complete individualized vocational training in food services or clerical areas. Classroom sessions cover career exploration. Topics include: identification of values, interests, skills, and barriers to employment.

HR 109 Culinary Assistant Training 15.00: Complete individualized vocational training in food services or clerical areas. Classroom sessions cover job search skills including ADA regulations, identifying accommodations needed for employment, resume writing, developing a portfolio, preparing for interviews, and contacting potential employers.

History

HST 100 Introduction to History 3.00: This course will provide a general introduction to the nature and methods of history. Students will explore how history is reconstructed through the study of various historical sources such as primary documents, secondary accounts, films, posters, art, and more. Prerequisite: Placement into WR 115.

HST 101 Western Civilization / Ancient World to Medieval 4.00: Studies the ancient civilizations of Egypt, Mesopotamia, Greece and Rome. Covers development of Judeo-Christian beliefs, early Islamic civilization, the Byzantine Empire and the early Medieval period. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

HST 102 Western Civilization / Medieval to Early Modern Europe 4.00: Studies the High Middle Ages and early modern Europe, including the Renaissance, Reformation, Scientific Revolution, Enlightenment and the French Revolution. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

HST 103 Western Civilization / Modern Europe 4.00: Studies history of the 19th and 20th centuries, including the Industrial Revolution, nationalism, imperialism, socialism, the Russian Revolution, Nazism, world wars and their aftermath. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

HST 104 History of Eastern Civilizations / Middle East 4.00: Surveys the Middle East from ancient to modern times. Includes political, economic, social, religious and cultural themes from pre-history to modern times. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

HST 105 History of Eastern Civilizations / India and Subcontinent 4.00: Surveys India and Subcontinent, including Pakistan and Afghanistan. Includes political, economic, social, religious and cultural themes from pre-history to modern times. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

HST 106 History of Eastern Civilizations / East Asia 4.00: Surveys the eastern regions of Asia, specifically China and Japan. Includes political, social, religious and cultural themes from pre-history to modern times. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

HST 111 U.S. History / Skills and Issues 1.00: Helps students increase academic skills and deepen their understanding of American history as a discipline while supporting work performed in HST 201, 202, or 203. Includes 1) a tutorial relating to course concepts and content, 2) academic skill building, and 3) a brief community-related learning project to allow for direct application of learning. Corequisites: HST 201 or HST 202 or HST 203.

HST 201 History of the U.S. - I 4.00: Studies cause and effect, and significant trends and movements related to political, social and economic ideas and events from Colonial times to 1840. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

HST 202 History of the U.S. - II 4.00: Studies cause and effect, and significant trends and movements related to political, social and economics ideas and events from 1840 to 1914. Prerequisites: WR 115, RD 115, and MTH 20 or equivalent placement test scores.

HST 203 History of the U.S. - III 4.00: Studies cause and effect, and significant trends and movements related to political, social and economic ideas and events from 1914 to present. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

HST 204 History of US Women / Pre-colonial to 1877 4.00: Examines the lives of women in terms of family relations, religion, culture, sexuality and reproduction, and work roles, as well as educational opportunities and social reform activities. Explores diversity in terms of class, race, ethnicity, legal status, and region. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

HST 205 History of Women in the U.S. / 1877 to Present 4.00: Examines women's work in maturing industrial economy, women's reform activities, and changing family and social relationships. Explores class, ethnic, racial, and regional diversity. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

HST 206 History of Women in the U.S. / 1920 to Present 4.00: Examines women's work, family, social reform, and educational experiences in modern America and traces the history of the feminist movement. Explores class, ethnic, racial, and regional variation. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

HST 218 Native American Indian History 4.00: Explores examples of Indian culture, general history of Indian life during the white occupation of North America and nature and effects of Native American and European American contact and conflict. Prerequisite: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

HST 225 History of Women, Sex, and the Family 4.00: Examines the historical and cultural variations in family life and sexuality in the 19th and 20th centuries in an international context (including the United States) through topics such as courtship, marriage, reproduction, violence, colonialism, homosexuality, and work. Prerequisite: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

HST 240 Oregon History 4.00: Examines the rich and diverse history of Oregon including the significance of Oregon's frontier heritage and Oregon's role in American history from pre-European contact to the modern era. Explores economic, political, social, and cultural factors in terms of race, ethnicity, gender, class, and religion. Prerequisites: WR115, RD 115 and MTH 20 or equivalent placement test scores.

HST 246 Religion in U.S. to 1840 4.00: Studies basic features of native American religions, European backgrounds of Christianity in the United States, development of different religious groups in America and their impact on American life, and trends and development of religion in the United States in the first half of the 19th century. Prerequisite: WR 115, RD 115 and MTH 20 or requivalent placement test scores.

HST 247 Religion in U.S. since 1840 4.00: Covers basic features of native American religions, European backgrounds of Christianity, development of different religious groups in the United States and their impact on American life. Prerequisite: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

HST 270 History of Mexico 4.00: Surveys Mexican history from pre-Columbian to modern times. Focus on post contact history: the Spanish conquest, colonial Mexico, independence and its aftermath to contemporary times. Emphasizes on social, political and cultural developments and contributions by a diversity of Mexico's peoples. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

HST 274 African American History - I 4.00: Presents a framework for understanding the early Black experience in America. Examines Western African societies, the Diaspora, and the development of African American culture from colonial times through the Civil War and the abolition of slavery. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

HST 275 African American History - II 4.00: Focuses on interpretation of major events in the Black experience from emancipation at the end of the Civil War to the beginning of the civil rights movement at the outbreak of World War II. Examines social, political, economic, artistic and intellectual endeavors. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

HST 276 African American History- III 4.00: Offers a historical perspective of political, economic, social and cultural development of the Black experience in the United States from 1941 to present. Prerequisties: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

HST 277 Oregon Trail 4.00: Examines Euro-American motivations for westward migration; indigenous

peoples; predecessors of the route; trail life; impact on humans and environment; diversity in terms of race, class, ethnicity, gender, and religion. grade. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

HST 278 Russian History I 4.00: Helps to build an historical basis to better understand current issues. The main lines of Russian history will be reviewed: the rise of Kiev to the reign of Catherine the Great. Through historical analyses, a critical understanding will be gained of the cultural, social, political, and economic forces that shaped Russian history from the ninth through the eighteenth centuries. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

HST 279 Russian History II 4.00: The main lines of Russian history will be reviewed from the late eighteenth century to the present. Through historical analysis, a critical understanding will be gained of the cultural, social, political, and economic forces that shaped Russian history from the late eighteenth century to the present. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

HST 280A CE / History 1.00–4.00: Offers the chance to extend knowledge of history through work in settings which provide learning experiences supplementing classroom learning. Department permission required.

HST 280B CE / History - Seminar 2.00: Provides a forum in which to discuss work experiences with peers and instructor. Department permission required.

HST 284 History of Africa 2.00: An introductory course designed to provide students with an understanding of major themes and issues in the culture and history of the African continent, the course will consider the rise of complex indigenous empires, smaller African societies, agricultural and technological achievements, African state systems, as well as the impact of international trade and Islam on Africa. It will examine colonialism, independence and social, political and cultural contributions of Africa's diverse people to the global enterprise. Recommended: completion of WR 115 with a C or better grade.

HST 285 The Holocaust 4.00: The aftermath of World War I and the rise of the Nazis, the historical roots of anti-Semitism, the evolution of the Final Solution and its coordination in Nazi-occupied Europe, the victims of Nazi policies, the camps, the perpetrators, bystanders, and the aftermath of the Holocaust will be discussed. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

HST 298 Independent Study / History 3.00: Offers individualized study at an advanced level. Emphasizes areas of history not considered in other courses which meet special interests or program requirements. Complete a term project and readings approved by the instructor. Recommended: Prior study in history. Instructor approval required.

Humanities

HUM 100 Introduction to Humanities 4.00: Introduces students to college-level study in the humanities; promotes a sense of humanity through such topics as literature, theatre, art, music, architecture, philosophy, and religion by critically thinking about moral values, myths, aesthetics, and liberty; all of this within historical frameworks. It is designed to reawaken our sense of wonder and curiosity about the meaning of life. It shows how the various arts and sciences intersect, influence and are influenced by cultural and historical circumstances. Prerequisite: WR 115, RD 115, and MTH 20 or equivalent placement test scores.

HUM 201 Humanities & Technology / Exploring Origins 4.00: Introduces concepts and approaches used in study of humanistic disciplines and surveys visions and perspectives that our culture has inherited from literature, philosophy, theology, visual arts, music, history, and mythology of Western and non-Western traditions. Focuses on selected historical periods and themes. Demonstrates quest for knowledge as a synthetic activity, relating various disciplines, traditions, and historical periods to each other. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

HUM 202 Humanities & Technology / Contemporary Issues 4.00: Offers critical examination of the relationship between people and technology. Uses insights derived from a study of the Humanities in conjunction with those from the Social Sciences to inquire into the appropriate use and possible misuse of technology in contemporary society. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

HUM 203 Humanities & Technology / Future Directions 4.00: Looks for ways in which technology can be applied in new, socially and ethically responsible forms. Recommended: Courses should be taken sequentially. Prerequisite: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

HUM 204 African History 4.00: Introduces students to some major themes in the history of the African continent from ancient times to the present. It is the first course in the Humanities sequence on Africa, and provides a wide background for subsequent courses. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

HUM 205 African Literature 4.00: Introduces written and oral literature of the African continent, from ancient to modern and from many different geographic regions, cultures and religions. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

HUM 206 African Art 4.00: Part of three course series. Introduces a variety of art forms from different time periods and geographic areas of the African Continent. Explores how art is influenced by culture, myth, economics, politics, gender, and region. Ability to understand and participate in class discussions required. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

HUM 221 Leadership Development 4.00: The primary focus of the course is the development of leadership skills. It provides a basic understanding of leadership principles and group dynamics and helps students develop a personal leadership philosophy and style. The course integrates readings from classic works of literature, contemporary multicultural readings, experiential exercises and films. Issues of diversity, personal growth and interpersonal relationships are explored within the context of leadership development. Prerequisites: WR 115 and MTH 20 or equivalent placement test scores.

Interior Design

ID 120 Interior Products and Materials I 3.00: Analysis and evaluation of products utilized in the design profession including selecting case goods and upholstered goods, and emphasis on measuring and specifying floor coverings and window treatments. This course is recommended for ID 121, Interior Products/Materials II. Prerequisite: ID 131; WR 115 or placement into WR 121; MTH 20 or placement into MTH 60.

ID 121 Sustainable Materials for Residential Interiors 3.00: Analysis and evaluates materials utilized in interior design including walls, ceilings, counters, accessories, and other products. Prerequisites: ID 120, WR 115 or placement into WR 121; MTH 20 or placement into MTH 60.

ID 122 History of Furniture-Ancient to 1800 3.00: Studies and analyzes styles of furnishings from antiquity through the 18th century. Includes contemporary usage as well as the mixing of period furniture styles.

ID 123 History of Furniture-1800 to Present 3.00: Studies and analyzes furnishings from the 19th century to the present. Includes contemporary usage as well as the mixing of period furniture styles. Prerequisites: ID 122;WR 115 or placement into WR 121.

ID 125 Computer Drafting for Interior Designers 3.00: Introduces computer aided design software as a drafting tool for residential interior design. Covers creation and modification of drawings such as floor plans, elevations, furniture and lighting plans, and three-dimensional projections. Focuses on interior plans and elevations of cabinetry for kitchen/bath design, writing/calculating specifications, and how to use drawings to communicate design concepts to clients. Prerequisite: ID 131. Prerequisite/Concurrent: ID 132.

ID 131 Introduction to Interiors 3.00: A study of the design elements and principles as applied to interiors. Includes skill development in drawing floor plans, analyzing furniture arrangement, and basic techniques for creating interior design presentation boards including floor plans, color boards, and elevation drawings. ARCH 110 recommended for students with no previous drafting experience. (can be taken concurrently)

ID 132 Planning Interiors 3.00: Covers designing interiors utilizing design and furniture arrangement skills, and developing skills in selection of furniture, floor coverings, wall and window treatments, color, fabric and pattern, lighting and accessories. Prerequisites: ARCH 110 and ID 131. Prerequisite/Concurrent: ARCH 100.

ID 133 Space Planning and Design 3.00: Studies functional and aesthetic design requirements in residential space planning, kitchens and storage spaces. Relates housing aspects to needs of individuals, families, and special groups. Prerequisites: ID 131 or ARCH 201,

ARCH 110, ARCH 124, and placement into MTH 60 and WR 121. Prerequisite/Concurrent: ARCH 100.

ID 135 Professional Practices for Designers 3.00: Covers the business aspects of Design. Includes topics on ethics, contracts, licensing, ordering, client- designer relationships, costs, billing and fee structures, and legal considerations. Prerequisites: ID 132 or ARCH 201, MTH 20 or placement into MTH 60. ID 138 Introduction Kit/Bth Plng Introduction to Kitchen and Bath Planning Incorporates basic functional and aesthetic design principles for residential kitchen and bath planning, and chronicles the kitch and bath planning process from conceptual design to construction completion. Prerequisites: ARCH 111 or BCT 220, ID 133 or ARCH 201 or BCT 220.

ID 225 CAD for Kitchen and Bath Design 1.00: Introduces kitchen and bath design software as a drafting tool and its applications to the kitchen and bath planner. Covers the creation, retrieval and modification of drawings using basic commands. Advances prior knowledge of Kitchen and Bath design skills. Prerequisites: ID 138, ID 125 or ARCH 126 or BCT 105.

ID 230 Textiles for Interiors 3.00: Provides students with knowledge and critical thinking skills required for the identification, selection, usage and care of textile products. Prerequisite: WR 115 or placement into WR 121.

ID 234 Advanced Interiors 3.00: Creative problems in interior design intended to develop an analytical approach to interiors. Based upon individual projects and includes advanced presentation skills. Prerequisites: ID 120, 121, 122, 123, 131, 132, 133, 135, 138; ARCH 101, 111, 124. A "C" grade or better is required in all prerequisites.

ID 236 Lighting Design 3.00: A study of interior lighting as it relates to residential interiors including terminology, lamps, fixtures, cost factors, developing lighting plans, design techniques and energy saving concerns. Prerequisites: ARCH 110; ID 131 or ARCH 201; Placement into MTH 60 and WR 121.

ID 238 Advanced Kitchen and Bath Planning 3.00: Incorporates advanced understanding of design principles and elements to analyze and evaluate functionality and aesthetic principles for residential kitchen and bath planning. Includes Universal Design as it relates to the kitchen and bath and incorporates an advanced understanding of the guidelines as established by the National Kitchen and Bath Association. Prerequisites: ID 138; ID 225; ARCH 121 or BCT 103; ARCH 132 or INSP 151.

ID 240 Interior Design Internship 3.00: Supervised and educationally directed internship. Weekly lectures relate on-the-job experiences with academic program. Prerequisites: ID 120, 121, 122, 123, 131, 132, 133, 135, 138, 236; ARCH 101, 111, 124. A "C" grade or better is required in all prerequisites.

ID 280A CE / Kitchen and Bath 2.00–6.00: Work or observe on approved job sites. Student receives as varied and complete an experience as possible under job conditions. Credits are variable and based on the number of clock hours students spend on job site. Must be coordinated with the supervisor, instructor, and cooperative education specialist. Department permission required.

Building Inspection Technology

INSP 101 Architectural Graphics 1 – 2.00: Introduction to design and drawing for residential design. Includes programming, code/zoning/site analysis, concept diagrams, and design development for plans and elevations.

INSP 102 Architectural Graphics 2 – 2.00: Introduction to design and drafting for a small commercial project. Includes programming, code/zoning/site analysis, concept diagrams, and design development for plans and elevations.

INSP 151 International Residential Code - Structural 4.00: Covers residential building code as applied to residential construction practices. This course is 40 total contact hours and also worth 80 HSW credits to AIA members. Prerequisites: RD 115 or WR 115 or placement into RD 121 or WR 121 and MTH 20.

INSP 152 International Residential Code - Mechanical 2.00: Study of residential mechanical systems code requirements. This course is 20 total contact hours and also worth 40 LU credits to AIA members. Prerequisites: RD 115 or WR 115, MTH 20 or equivalent.

INSP 154 Introduction to Residential Inspection 1.00: Introduction to processes, procedures, and expectations related to residential inspections. This course is taught in the classroom. Prerequisite: INSP 151.

INSP 201 Plans Exam - Commercial 4.00: Covers development of procedures in plans examination to determine code compliance of building permit applications. Includes blueprint reading and code administration. Emphasis is placed on presenting plan review processes and procedures for the student with limited construction background. This course is 40 total contact hours and also worth 60 LU credits to AIA members. Prerequisite: INSP 252, placement into MTH 65.

INSP 202 Plans Exam – Residential 4.00: Covers development of procedures in residential plan examination to determine code compliance of building permit applications. Includes residential blueprint reading and code administration. Prerequisite: INSP 151 Prerequisiste/concurrent: ARCH 123.

INSP 211 Building Department Administration 1 3.00: Prepares students in understanding the responsibilities of the Building Official under State of Oregon guidelines.

INSP 212 Building Department Administration 2 3.00: Prepares students in understanding the responsibilities of the Building Official under State of Oregon guidelines.

INSP 220 Fire and Life Safety 3.00: Addresses Fire and Life Safety requirements in the International Fire and Building codes including building occupancies, exit systems, hazardous materials regulations, site access, water availability, and fire protection systems. Prerequisites: INSP 252 and INSP 201.

INSP 251 International Building Code 1 4.00: Covers nonstructural regulations of the International Building Code, including administration, occupancy classification, building area, height and location limits, type of construction, interior environments and fire resistive standards for small commercial buildings including multi story structures. Emphasis is placed on presenting basic code and building element concepts for the student wit limited construction background. This is 40 total contact hours and is also worth 60 HSW credits to AIA members. Prerequisites: RD 115 or WR 115, placment into MTH 60.

INSP 252 International Building Code 2 – 3.00: Study of the International Building Code including fire protection systems, egress systems, accessibility, sanitation, exterior finishes, glazing, plastics, chimneys, and fireplaces. Prerequisite: INSP 251.

INSP 253 International Building Code 3 3.00: Introduces the loading parameters for structural engineering in the International Building Code chapters that apply to Small Commercial Structures of three stories and less. Also covers glazing, temporary structures and prefabrication construction. This courseis worth 60 HSW credits to AIA members. Prerequisites: RD 115 or WR 115 and placement into MTH 60 or equivalent/higher.

INSP 255 International Mechanical Code 1 – 2.00: Study of the International Mechanical Code regulations for permitting, general requirements, ventilation, exhaust systems including kitchen hoods and duct systems. This course is 20 total contact hours and also worth 40 LU credits to AIA members. Prerequisite: RD 115 or WR 115; and placement into MTH 60.

INSP 256 International Mechanical Code 2 – 3.00: Study of the International Mechanical Code, including combustion air, chimneys and vents, refrigeration, and specific appliances/systems. This course is 30 total contact hours and also worth 60 LU credtis to AIA memebers. Prerequisite: INSP 255.

INSP 257 International Fuel-Gas Code 3.00: Studies the International Mechanical Code including new code requirements, application of code to inspection requirements and methods used to inspect mechanical installations. This course worth 60 LU credits to AIA members. Prerequisite: RD 115 or WR 115; placement into MTH 60.

INSP 260 Oregon Inspection Certificate 2.00: This course reviews Oregon construction standards, such as architectural barrier regulations and the Oregon Administrative Rules an inspector may enforce. This course is intended to be taken near the end of the student's code studies.

INSP 280A CE / Field Examination 1.00–5.00: Student receives as varied and complete an experience as possible inspecting a building. Student will complete all necessary forms. Credits are variable and based on experience required. Department permission required.

INSP 280B CE / Field Experience 1.00–5.00: Work on approved job sites where student will receive as varied and complete an experience as possible under job conditions. Credits are variable and based

on the number of clock hours student spends on job site. Must be coordinated with supervisor, instructor, and cooperative education specialist. Department permission required.

Sign Language Interpretation

ITP 111 American Sign Language I 5.00: Accelerated course designed for interpreting students. Focuses on grammar features, non-manual behaviors and higher language skill development in ASL. Admission into Sign Language Interpretation program and department permission required.

ITP 112 American Sign Language II 5.00: Continues work of ITP 111. An accelerated course designed for interpreting students. Focuses on grammar features, non-manual behaviors and higher language skill development in ASL. Includes wide range of topics. Admission into Sign Language Interpretation program and department permission required.

ITP 113 American Sign Language III 5.00: Continues work of ITP 112. Focuses on additional grammar features, non-manual behaviors, higher language skill development including discourse skill in ASL. Includes wide range of topics. Admission into Sign Language Interpretation program and department permission required.

ITP 120 Fingerspelling I 2.00: Emphasizes increased fingerspelling skill by incorporation into the context of ASL conversation. Introduces some strategies and proper position when fingerspelling. Admission into Sign Language Interpretation program required.

ITP 121 Fingerspelling II 2.00: Continues work of ITP 120. Emphasizes increased fingerspelling skill by incorporation into the context of ASL conversation in depth. Admission into Sign Language Interpretation program required. Prerequisite: ITP 120. ITP

ITP 131 Deaf Culture 4.00: Studies values, social customs, literature, folklore, language, Deaf - hearing interaction, cross-cultural issues and current perspectives of Deaf-World. Admission into Sign Language Interpretation program required. Prerequisite: ASL 130.

ITP 180 Field Experience 1.00: Provides practical experience through observations of professional interpreters. Participation in professional development, Deaf community activities, and contact with Deaf children/adults. Discuss relevant issues through journals and recitation. Criminal background check required. Good standing in Sign Language Interpretation program required. Department permission may be required. Corequisites: ITP 113, ITP 260.

ITP 211 American Sign Language IV 3.00: Continues work of ITP 113. Focuses on more advanced grammar features, non-manual behaviors, language skill development, register continuum, and discourse skill in ASL. Includes wide range of topics. Admission into Sign Language Interpretation program and department permission required.

ITP 212 American Sign Language V 3.00: Continues work of ITP 211. Focuses on more advanced grammar features, non-manual behaviors, language skill development, register continuum, and discourse skill in ASL. Includes wide range of topics. Admission into Sign Language Interpretation program and department permission required.

ITP 230 American Sign Language Linguistics I 3.00: Explores the basic concepts of linguistics as they pertain to ASL structure. Analyzes and discusses phonology, morphology, syntax, semantics, use of language, and sociolinguistic structure of ASL. Examines current research. Admission into Sign Language Interpretation Program and instructor permission required.

ITP 231 American Sign Language Linguistics II 2.00: Continues work of ITP 230. Analyzes and explores additional phonology, morphology, syntax, semantics, variation and historical change of ASL. Analyzes and explores the discourse organization of ASL. Admission into Sign Language Interpretation Program and instructor permission required. Prerequisite: ITP 230.

ITP 260 Interpreting Theory I 3.00: Introduces the profession of sign language interpretation, the role and function of an interpreter, the National Registry of Interpreters for the Deaf Code of Ethics, professionalism, the history of the profession, and the basic theories and practices of interpretation. Admission into Sign Language Interpretation Program or department permission required.

ITP 261 Interpreting Theory II 3.00: Focuses on the role and function of interpreters and interpreting theories, principals and practices in educational settings: K-12 and post-secondary. Prerequisite: ITP 260.

ITP 262 Interpreting Theory III 4.00: Covers special settings and clients, including the following: oral, deaf/blind, minimal language competency, telephone, religious, performing arts, social service, medical, mental health and legal. Freelance practices and national, state, and local certification evaluations are covered. Prerequisite: ITP 260.

ITP 270 Interpreting Process I 4.00: Introduces the interpreting process, beginning with theories of discourse/text analysis and a view of "dynamic equivalency" between source and target languages. Applies principles of text analysis to interpreting from ASL to English and English to ASL. Admission to the Sign Language Interpretation Program or department permission required.

ITP 271 Interpreting Process II 4.00: Continues work on consecutive interpretation from ASL to English and from English to ASL. Department permission may be required. Prerequisite: ITP 270.

ITP 272 Interpreting Process III 4.00: Continues to develop students' consecutive interpretation skills, and introduces simultaneous interpretation from ASL to English and from English to ASL. Department permission may be required. Prerequisite: ITP 271.

ITP 273 Interpreting Process IV 6.00: Increases simultaneous ASL to English and English to ASL interpreting skills. Focuses on individual areas of needed skill growth. Includes in-and out-of class interpretation practice sessions. Department permission may be required. Prerequisite: ITP 272.

ITP 274 Interpreting Process V 6.00: Increases simultaneous ASL to English and English to ASL interpreting skills. Focuses on individual areas of needed skill growth. Includes in-class interpretation of live presenters, specialized topics and group discussions. Department permission may be required. Prerequisite: ITP 273.

ITP 275 Interpreting Process VI 4.00: Develops interpretation skill development appropriate for educational settings K-12 and community college, and introduces transliteration, including the use of Signed English. Department permission may be required. Prerequisite: ITP 274.

ITP 276 Specialized Discourse I 3.00: Introduces Deaf guest speakers (live or on videotape) to talk about wide range of specialized topics in ASL. Explores wide range of topics incorporating the skill to know about and discuss in ASL. Admission into Sign Language Interpretation Program and department permission required.

ITP 277 Specialized Discourse II 3.00: Continues work of ITP 276. Introduces Deaf guest speakers to talk about wide range of specialized topics in ASL. Explores wide range of topics incorporating the skill to know about an discuss in ASL Admission to Sign Language Interpretation Program and department permission required.

ITP 279 Mock Interpreting I 1.00: Works with team interpreters to interpret live presenters in class. Applies text analysis to prepare content. Prerequisite: ITP 270. Corequisite: ITP 272.

ITP 281 Mock Interpreting II 2.00: Practices interpreting in ongoing classroom settings where interpreting services are not needed. Develops simultaneous interpreting skills and stamina. Qualifying exam given at end of course to assess readiness to enter ITP 283. Prerequisite: ITP 271. Corequisite: ITP 273.

ITP 283 Interpreting Internship I 3.00: Applies interpreting skills in business, agency, or college settings to gain practical experience assuming the role of a professional interpreter in a structured setting with on-going feedback from professional interpreters acting as mentors. Passing the qualifying exam the term prior to enrollment is required.

ITP 284 Interpreting Internship II 3.00: Applies interpreting skills in educational settings to gain practical experience assuming the role of an educational interpreter in a structured setting with on-going feedback from professional educational interpreters acting as mentors. Passing the qualifying exam the term prior to enrollment or completion of ITP 283 is required.

ITP 285 Deaf Studies Internship 3.00: Students gain practical experience working under the supervision of onsite mentors in an agency that serves deaf people. Prerequisite: Fifth term standing in the Sign Language Interpretation Program or Deaf Studies Program.

Journalism

J 200 Introduction to Media Writing 4.00: Introduces the basic process and practice of writing media. Discusses style and story structure for print and electronic media and the rights and responsibilities of the public communicator. Emphasizes journalistic style and format, accuracy and clarity in writing. Recommended:

Concurrent enrollment in J 202. Prerequisite: WR 121.

J 201 Mass Media and Society 4.00: Survey of the various media of mass communication and their effects on society. Introduces the history and development of mass communication systems and their role in society. Analysis of print and broadcast journalism, advertising, public relations, television and film. Prerequisite: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

J 202 Information Gathering 4.00: Surveys methods and strategies for acquiring information for the various mass media. Examines records, databases, sources and interview methods. Prerequisite: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

J 204 Visual Communication for Media 4.00: Theory and application of visual communication in newspapers, magazines, television news, advertising, and public relations. May include a Service Learning component. Prerequisite: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

Japanese

JPN 101 First Year Japanese 5.00: Emphasizes the spoken language of Japanese. Skills of listening, speaking, reading, and writing are developed with emphasis on active use of these skills. Hiragana and Katakana syllabaries are introduced. Information is offered to help gain cultural awareness and appreciation. For beginners.

JPN 102 First Year Japanese 5.00: Expands communicative use of Japanese and cultural awareness. Practice of Hiragana and Katakana syllabaries continued. Kanji characters are introduced. Communicative proficiency is the main objective of the sequence. Recommended: Completion of JPN 101 or instructor permission.

JPN 103 First Year Japanese 5.00: Expands further the communicative use of Japanese and cultural awareness. The practice of Hiragana and Katakana syllabaries, and Kanji characters are continued. Communicative proficiency is the main objective of the sequence. Recommended: Completion of JPN 102 or two and a half to three years high school Japanese.

JPN 111A First Year Japanese Conversation 3.00: Offers a review of and additional practice with structures and vocabulary presented in JPN 101. For beginners.

JPN 111B First Year Japanese Conversation 2.00: Provides extended practice for better understanding of the materials presented in JPN 150. Recommended: Concurrent enrollment in JPN 150 or instructor permission.

JPN 111C First Year Japanese Conversation 1.00: Provides extended practice for better understanding of the materials presented in JPN 101. For beginners.

JPN 112A First Year Japanese Conversation 3.00: Offers a review of and additional practice with structures and vocabulary presented in JPN 102. Recommended: Completion of JPN 101 or instructor permission.

JPN 112B First Year Japanese Conversation 2.00: Provides extended practice for better understanding of the materials presented in JPN 151. Recommended: Concurrent enrollment in JPN 151 or instructor permission.

JPN 112C First Year Japanese Conversation 1.00: Provides extended practice for better understanding of the materials presented in JPN 102. Recommended: Completion of JPN 101 or instructor permission.

JPN 113A First Year Japanese Conversation 3.00: Offers a review of and additional practice with structures and vocabulary presented in JPN 103. Recommended: Completion of JPN 102 or instructor permission.

JPN 113B First Year Japanese Conversation 2.00: Provides extended practice for better understanding of the materials presented in JPN 103. Recommended: Completion of JPN 102 or instructor permission.

JPN 113C First Year Japanese Conversation 1.00: Provides extended practice for better understanding of the materials presented in JPN 103. Recommended: Completion of JPN 102 or instructor permission.

JPN 150 First Year Japanese 6.00: Emphasizes the spoken language of Japanese. Skills of listening, speaking, reading, and writing are developed with emphasis on active use of these skills. Hiragana and Katakana syllabaries are introduced. Offers to enhance cultural awareness and appreciation. For beginners. Recommended: Concurrent enrollment in JPN 111B.

JPN 151 First Year Japanese 6.00: Continuation of JPN 150. Expands the communicative use of Japanese and cultural awareness. Practice of Hiragana and Katakana syllabaries are continued. Kanji characters are introduced. Recommended: Completion of JPN 150 or instructor permission and concurrent enrollment in JPN 112B.

JPN 201 Second Year Japanese 5.00: Development of the four skills of listening, speaking, reading, and writing is continued. Kanji characters are further explored. Offers to expand cultural awareness and appreciation. Recommended: Completion of first year Japanese at the college level, or three years high school Japanese, or instructor permission.

JPN 202 Second Year Japanese 5.00: Continues work begun in JPN 201, expanding the communicative use of Japanese and cultural awareness. Study of Kanji characters is further explored. Recommended: Completion of JPN 201 or instructor permission.

JPN 203 Second Year Japanese 5.00: Continues work begun in JPN 201 and 202, expanding further the communicative use of Japanese and cultural awareness. Kanji characters are further explored. Recommended: Completion of JPN 202 or instructor permission.

JPN 211A Intermediate Japanese Conversation 3.00: Offers a review of and additional practice with structures and vocabulary presented in JPN 201. Recommended: Completion of first year Japanese at the college level, or three years of high school Japanese, or instructor permission.

JPN 211B Intermediate Japanese Conversation 2.00: Designed to provide extended practice for better understanding of the materials presented in JPN 201. Recommended: Completion of JPN 103 or JPN 151, or concurrent enrollment in JPN 250 or instructor permission.

JPN 211C Intermediate Japanese Conversation 10.00: Designed to provide extended practice for better understanding of the materials presented in JPN 201. Recommended: Completion of first year Japanese at the college level, or three years of high school Japanese or instructor permission.

JPN 212A Intermediate Japanese Conversation 3.00: Offers a review of and additional practice with structures and vocabulary presented in JPN 202. Recommended: Completion of JPN 201 or instructor permission.

JPN 212B Intermediate Japanese Conversation 2.00: Designed to provide extended practice for better understanding of the materials presented in JPN 202. Recommended: Completion of JPN 201 or JPN 250 or concurrent enrollment in JPN 251 or instructor permission.

JPN 212C Intermediate Japanese Conversation 1.00: Designed to provide extended practice for better understanding of the materials presented in JPN 202. Recommended: Completion of JPN 201 or JPN 250 or instructor permission.

JPN 213A Intermediate Japanese Conversation 3.00: Offers a review of and additional practice with structures and vocabulary presented in JPN 203. Recommended: Completion of JPN 202 or instructor permission.

JPN 213B Intermediate Japanese Conversation 2.00: Designed to provide extended practice for better understanding of the materials presented in JPN 203. Recommended: Completion of JPN 202 or instructor permission.

JPN 213C Intermediate Japanese Conversation 1.00: Designed to provide extended practice for better understanding of the materials presented in JPN 203. Recommended: Completion of JPN 202 or instructor permission.

JPN 250 Second Year Japanese 6.00: Emphasizes the spoken language of Japanese. Skills of listening, speaking, reading, and writing are continued. Kanji characters are further explored. Offers to expand cultural awareness and appreciation. Recommended: Completion of first year Japanese at the college level or three years of Japanese in high school or instructor permission or concurrent enrollment in JPN 211B.

JPN 251 Second Year Japanese 6.00: Continues work begun in JPN 250, expanding the communicative use of Japanese and cultural awareness. Kanji characters are further explored. Recommended: Completion of JPN 250 or equivalent, or concurrent enrollment in JPN 212B.

JPN 260A Japanese Culture 3.00: Japanese Culture through Film. Increases understanding of Japanese

traditional and modern culture and society through analysis of cultural, historical and social issues presented ten Japanese films. May explore concepts such as families, social roles, friendship, WWII, traditions and pop culture, morality, philosophies, economics. Course conducted in English. Japanese films will be subtitled in English. Prerequisites: WR 115 and RD 115 or equivalent placement test scores.

JPN 260B Japanese Culture 2.00: Japanese Culture through Film. Increases understanding of Japanese traditional and modern culture and society through analysis of cultural, historical and social issues presented in five Japanese films. May explore concepts such as families, social roles, friendship, WWII, traditions and pop culture, morality, philosophies, economics. Course conducted in English. Japanese films will be subtitled in English.

JPN 260C Japanese Culture 1.00: Provides intermediate level students of Japanese with opportunity to increase skills in listening, reading, reading, speaking, and vocabulary usage and to gain cultural awareness. Recommended: Completion of JPN 203, 251 or instructor permission or concurrent enrollment in JPN 201.

JPN 261A Japanese Culture 3.00: Japanese Culture through Film. Increases understanding of Japanese traditional and modern culture and society through analysis of cultural, historical and social issues presented in five Japanese films. May explore concepts such as self- identity, Japanese views of the West, gender roles, youth and social issues, social groups, social events, perspectives on death, organized crime. Course conducted in English. Japanese films will be subtitled in English. Prerequisites: WR 115 and RD 115 or equivalent placement test scores.

JPN 261B Japanese Culture 2.00: Japanese Culture through Film. Increase understanding of Japanese traditional and modern culture and society through analysis of cultural, historical and social issues presented in five Japanese films. May explore concepts such as self- identity, Japanese views of the West, gender roles, youth and social issues, social groups, social events, perspectives on death, organized crime. Course conducted in English. Japanese films will be subtitled in English.

JPN 261C Japanese Culture 1.00: Provides intermediate level students of Japanese with opportunity to increase skills in listening, reading, speaking and vocabulary usage and to gain cultural awareness. Recommended: Completion of JPN 203, 251 or instructor permission or concurrent enrollment in JPN 202.

JPN 262A Japanese Culture 3.00: Japanese Culture through Film. Increases understanding of Japanese traditional and modern culture and society through analysis of cultural, historical and social issues presented in five Japanese films. May explore concepts such as imperialistic past, neo-nationalism, cultural pride, modern social issues, marriage, emigration, workforce and religions. Course conducted in English. Japanese films will be subtitled in English. Prerequisites: WR 115 and RD 115 or equivalent placement test scores.

JPN 262B Japanese Culture 2.00: Japanese Culture through Film. Increases understanding of Japanese traditional and modern culture and society through analysis of cultural, historical and social issues presented in five Japanese films. May explore concepts such as imperialistic past, neo-nationalism, cultural pride, mode social issues, marriage, emigration, workforce and religions. Course conducted in English. Japanese films will be subtitled in English.

JPN 262C Japanese Culture 1.00: Provides intermediate level students of Japanese with opportunity to increase skills in listening, reading, speaking and vocabulary usage and to gain cultural awareness. Recommended: Completion of JPN 203, 251 or instructor permission or concurrent enrollment in JPN 203.

JPN 270 Reading in Japanese Literature 3.00: Emphasizes Japanese reading skills. Reading and discussion of accessible works of Japanese prose and poetry. Prerequisite: Second year Japanese at the college level or equivalent or instructor permission.

JPN 271 Reading in Japanese Literature 3.00: Emphasizes Japanese reading skills. Reading and discussion of accessible works of Japanese prose and poetry. Prerequisite: Second year Japanese at the college level or equivalent or instructor permission.

JPN 272 Reading in Japanese Literature 3.00: Emphasizes Japanese reading skills. Reading and discussion of accessible works of Japanese prose and poetry. Prerequisite: Second year Japanese at the college level or equivalent or instructor permission.

JPN 290 Japanese Composition 3.00: Practice in developing composition skills. Prerequisite: Second year Japanese at the college level or equivalent AND instructor permission.

JPN 291 Japanese Composition 3.00: Practice in developing composition skills. Prerequisite: Second year Japanese at the college level or equivalent AND instructor permission.

JPN 292 Japanese Composition 3.00: Practice in developing composition skills. Prerequisite: Second year Japanese at the college level or equivalent AND instructor permission.

Paralegal

LA 101 Introduction to Law - Fundamentals 3.00: Covers sources and function of law in the United States, court systems and procedure, introductory legal analysis, and an overview of civil and administrative law. Prerequisite: WR 121.

LA 102 Introduction to Law - Substantive Areas 3.00: Continues the study of several substantive areas of law. Prerequisite: LA 101.

LA 103 Introduction to Law - Ethics 3.00: Covers Oregon ethics rules and their practical application for the legal assistant. Includes application of rules via systems and procedures used in law practice. Prerequisite: LA 102.

LA 104 Investigation Techniques for Legal Assistants 3.00: Explores fundamental techniques of legal investigation from the incident scene to the courtroom. Includes ethics, research techniques, investigative strategies, recordkeeping, information sources, witness location, report writing, subpoenas, physical and demonstrative evidence. Prerequisite: LA 101.

LA 105 Litigation 3.00: Covers litigation process with emphasis on civil litigation. Includes a study of tort law principles focusing on the trial process (investigation, discovery and motion practice) emphasizing preparation of documents and pleadings. Prerequisites: LA 101.

LA 106 Computer Research in Law 3.00: Covers how and when to use computers for legal research and operational content differences between Westlaw and Lexis. Includes retrieving specific documents, checking citations, and practice research. Prerequisite: LA 203.

LA 107 Techniques of Interview 3.00: Students study and conduct simulated interviews. Prerequisite: WR 121; Prerequisite or concurrent LA 101.

LA 109 Estate Planning 3.00: Approaches to estate planning, including wills, trusts, shared ownership, gifts and life insurance are covered. Includes objectives people have for estate planning, probate and the estate, and structures and results of different estate plans.

LA 111 Probate Practice 3.00: Covers preparation and filing of necessary papers used to administer an estate under Oregon state law.

LA 113 Income Tax Law 3.00: Students study how to assist the attorney in preparation of income tax returns for estates, trusts and individuals and study Oregon and federal income tax law.

LA 116 Real Property Law I 3.00: Covers introductory principles and procedures in real and personal property law including possessory interests, estates, deeds, contracts, servitudes, leases, title issues and real estate transactions.

LA 124 Law Office Management 3.00: Covers law office organization and management, personnel management, accounting, procedural and automated systems, and other aspects of law office management.

LA 128 Legal Correspondence and Forms 3.00: Covers basic forms of legal writing generally required of a legal assistant in a general law practice. Uses writing techniques and tools common to internal law office communications as well as communicating techniques between lawyer and client. Prerequisite: WR 121, 122; LA 101, 102. Prerequisite or concurrent: LA 203.

LA 203 Legal Research and Library Use 3.00: Covers function of the law library and develops research skills through the use of digests, encyclopedias, reporter systems and practice manuals. Prerequisite: LA 101.

LA 204 Applied Legal Research and Drafting 3.00: Students practice legal research skills and draft legal memoranda common to the practice of law. Prerequisite: LA 203.

LA 206 Intellectual Property Law 3.00: Introduces the basic terms, concepts, laws, and administrative rules necessary to interpret and accomplish tasks typically assigned to legal assistants by attorneys in intellectual property (IP) law practices. Emphasizes patent and trademark prosecution (filing documents with the United

States Patent and Trademark Office), copyrights, and to lesser extent, unique facets of IP litigation.

LA 208 Family Law 3.00: Covers theory, procedure, and practical aspects of a domestic relations practice. Includes dissolution of marriage, issues of custody, visitation, property and debts, adoption, paternity, domestic violence, and prenuptial and co-habitation agreements.

LA 210 Advanced Estate Planning 3.00: Covers estate planning as it applies to estate building. Includes pensions and business interests, retirement concerns including the living trust, taxation, entitlement, insurance, residence choices, use of charities. Also covers the interrelationship of the complexities of acquiring, using, protecting and passing an estate. Prerequisite: LA 109.

LA 214 Fiduciary Tax & Accounting 3.00: Covers basic federal and Oregon income taxation of estates and trusts and skills necessary to prepare required documents. The basic form of fiduciary accounting for filing of accounts with the court is also covered. Prerequisite: LA 113.

LA 215 Employee Benefits Programs 3.00: Introduces various types of employee benefits programs emphasizing tax qualified retirement plans. Non-qualified plans and other types of employee benefits are covered as time allows.

LA 216 Employment Law 3.00: Overview of Employment Law and remedies under state and federal law, including employment at will doctrine; wrongful discharge claims; discrimination based upon disability, age, gender and other claims; retaliation claims; Equal Pay Act, Family Medical Leave Act; health and safety issues; BOLI process; and other relevant issues.

LA 217 Real Property Law II 3.00: Covers key real estate transaction documents and concepts, including earnest money agreements, deeds, title insurance escrow instructions, financing documents and closing documents.

LA 219 Consumer Law 3.00: Covers current consumer law, examines the legal assistant's role in consumer law.

LA 220 Worker's Compensation 3.00: Covers principals and procedures that exist in the Oregon's workers' compensation system. Familiarization with a general understanding of the rules and concepts that control the right to compensation in the system as well as the procedural skills.

LA 221 Bankruptcy Law 3.00: Covers Bankruptcy Code, Rules of Procedure, types of bankruptcy relief, exempt and non-exempt property, dischargeability of debts, and bankruptcy forms.

LA 222 Corporate Law Practice 3.00: Covers most significant state corporation law, how to assist in preparation and filing of documents necessary to form a corporation, how to draft resolutions for corporate shareholders and directors' meetings, and how to pay dividends to shareholders or to terminate business and distribute property.

LA 224 Torts and Personal Injury 3.00: Provides an overview of tort law and handling personal injury claims, including paralegal's role. Includes study of international torts, negligence and strict liability claims; defenses; vicarious liability; tort claims act; damages; analyze fact situations; review case law; draft pleadings; evaluate damages; discovery issues; and apply principles discussed in class. Prerequisites: LA 101 and LA 102.

LA 225 Advanced Law Office Management 3.00: Examines practical solutions to law office management problems through application of theory and concepts discussed using a case study approach.

LA 226 Criminal Law for Legal Assistant 3.00: Covers general criminal law and procedure to gain a basic understanding of the criminal justice system as well as the legal assistant's role in the criminal justice system.

LA 280A CE / Legal Assistant1.00–3.00: Students work at approved job sites to receive as varied and complete a job experience as possible under job conditions. Designed to meet the needs of the individual student and the conditions of the work site. Completion of core courses, or at least 18 credit hours in the Legal Assistant program, or departmental approval required.

Landscape Technology

LAT 104 Pesticides 3.00: Federal and Oregon pesticide laws, safety, application equipment, types of pesticides and alternatives to pesticides. Recommended basic information for use in preparation for state pesticide certification. Credit is accepted towards recertification of valid Oregon pesticide license.

LAT 106 Basic Horticulture 4.00: Botany and biology of plant physiology. Plant growth and reaction to nutrients, light, air, water, pests, and diseases.

LAT 108 Landscape Irrigation I 3.00: Materials used, installation, and maintenance for residential and small commercial spray and drip irrigation systems. Applied math calculations used in basic hydraulics and system layout. Students will install sprinkler and drip zones.

LAT 109 Plant Propagation 3.00: Covers propagation techniques in hardwood, softwood and conifer cuttings; budding and grafting; layering; division; seed sowing; as well as an overview of propagation facilities, irrigation and pest control.

LAT 110 Grounds Maintenance 4.00: Operational procedures, materials, safety, and equipment. Emphasis on industry standards for scheduling seasonal, yearly approach to maintenance operations and hands-on, practical experience.

LAT 111 Landscape Construction Practices 3.00: Basic materials, safety, equipment and techniques used in the construction of landscapes. Basic tool and hardware identification and use in fences, decks, hardscapes, planters and retaining walls. Hands-on projects in wood, concrete, stone, and modular pavers.

LAT 214 Plant Composition I 3.00: Aspects of plant arrangement in landscape projects with emphasis on plant use, styles of planting, color, texture, form and scale. Prerequisites: Completion of first year and LAT 217 or department permission.

LAT 217 Landscape Drafting 3.00: Basic drafting skills and layout techniques to produce quality design drawings. Drafting equipment, linework, lettering and drafting shortcuts. Prerequisite: HOR 290. LAT 219 Landscape Illustration Landscape Illustration Basic principles of graphic presentation for landscape design. Produce perspectives, isometric drawing, botanical drawings and plan renderings.

LAT 223 Site Surveying and Analysis 3.00: Application of basic surveying techniques to landscape sites. Topographic maps and land divisions. Techniques for measuring, recording, and interpreting site information needed in the design and construction of landscapes. Prerequisite: LAT 236 or department permission.

LAT 225 Water Gardens 2.00: Layout and construction of water features. Hands-on techniques for site development, use of liners, placement of rock and plants, pumps and plumbing. Selection of water plants and fish.

LAT 232 Landscape Irrigation II 4.00: Information and calculations needed to layout and draw irrigation plans for conventional spray and drip systems. Irrigation controller programming and auditing. Prerequisites: LAT 108, LAT 236; or department permission.

LAT 235 Tree Care-Fall 3.00: Principles and practices of modern arboriculture (tree work). Tree biology, basic rope work, climbing with rope and saddle, diseases and pests, and urban forestry issues.

LAT 236 Landscape Math 3.00: Upgrade of computational skills required in the landscape industry. Range of topics include business, construction, materials, measurement, water hydraulics, chemicals and fertilizers. Recommended: MTH 60. Prerequisite: MTH 20.

LAT 240 Tree Care-Spring 3.00: Principles and practices of modern arboriculture (tree care). Plant growth regulators, fertilization, tree appraisals, construction protection, hazard tree management and pruning.

LAT 241 Turfgrass Cultural Practices 3.00: Planting and maintenance techniques for specific types of turf, soil preparation, selection and application of fertilizers, equipment use for mowing, thatching, aeration and edging, pest control, and budgeting for costs.

LAT 243 Landscape Business Operations 3.00: Requirements for beginning and operating a landscape/horticultural business. Licensing requirements, basic bookkeeping systems, insurance, liability and legal requirements, state regulations, marketing, and promotional ideas.

LAT 250 Plant Disease, Insect, Weed ID 3.00: Specific identification and controls for diseases, insects, affecting the normal development of horticultural plants. Class accepted for 15 hours of recertification for State of Oregon Pesticide Certification.

LAT 262 Native Plants of Oregon 3.00: Identification of common Native plants of Oregon. Plant communities and their environmental requirements. Adaptation and use of native plants in landscapes. Requirements include Saturday field trips around state for hands-on field identification. Check schedule for dates.

LAT 264 Landscape Estimating & Bidding 3.00: Methods and mechanics of estimation. Interpretation of specifications and drawings, material take-offs, labor, equipment, contingency, and overhead calculations, pricing strategies, production rates, bid procedures, recordkeeping, and computer use. Prerequisites: LAT 236,LAT 108,110,111; or department permission.

LAT 268 Wetlands 3.00: Types of Wetlands and wetland habitats including environment and types of plants. Wetland development, restoration, and enhancement. Federal and State regulations applying to wetland use.

LAT 271 Computer Aided Landscape Design 3.00: Site designer software and its use in landscape design. Computer aided design (CAD) techniques needed to produce finished landscape designs, plant lists, and reports. Prerequisite: LAT 217. LAT 272 Sustainable Landscaping Sustainable Landscaping Discusses methods used to protect and conserve natural systems and resources within the landscape. Deals with the health of people, plants and the environment and looks a new approaches to landscaping. Recommended: WR 115.

LAT 275 Introduction to Landscape Night Lighting 3.00: An introduction to landscape low voltage night lighting. Topics covered include electricity fundamentals, layout, bulbs and fixtures, transformers, wire sizing and connections, and lighting design. Students will install a night lighting system.

LAT 280A CE / Landscape 1.00–10.00: Actual work experience at approved job sites or on Rock Creek grounds. Department permission required.

LAT 280B Cooperative Work Experience-Landscape Seminar 1.00: This online seminar compliments a Cooperative Education work experience. Students must have a designated worksite and be concurrently enrolled in LAT 280A. Department permission required.

LAT 280C Cooperative Work Experience- Landscape Design 3.00: Actual landscape design work experience for approved clients utilizing a required set of learning outcomes. Department permission required.

Medical Assisting

MA 110 Medical Assistant Pre-credentialing Seminar 1.00

MA 111 Medical Terminology 3.00: Covers prefixes, suffixes, root words, abbreviations, conditions, symptoms and procedure terms. Course taught by body systems. English communication skills necessary.

MA 112 Medical Office Assistant Seminar I 1.00: The study of the health care delivery systems, medical office management, interpersonal communications; and coordination of directed practice which includes a review for the national credential examination.

MA 117 Medical Office Administrative Procedures 4.00: Covers medical reception room techniques, including appointment scheduling, telephone techniques, mail handling, financial records, accounting, accounts receivable and payable, insurance, office care and management, and medical records management.

MA 118 Medical Office Administrative Procedures (Lab) 2.00: Practice and demonstrate proficiency in the procedures listed under MA 117.

MA 121 Medical Legal Aspects 2.00: Introduces the legal system, emphasizing the doctrine of confidential communication, the relationship to the medical record and the disclosure of information. Includes the concepts of professional credentialing and responsibility, liability, and consents and moral issues.

MA 122 Medical Office Assistant Seminar II 1.00: The study of the health care delivery systems, medical office management, interpersonal communications; and coordination of directed practice which includes a review for the national credential examination.

MA 123 Medical Office Clinical Procedures 3.00: Examination room techniques, assisting the physician with examinations, treatment and minor surgery. Covers methods of asepsis and sterilization and the proper care of equipment and supplies. Concurrent enrollment MA 124. Prerequisite: MA 111; BI 55 or 122 or 233; MTH 22A and placement into RD 115 and WR 115.

MA 124 Medical Office Clinical Procedures (Lab) 2.00: Practice and demonstrate proficiency in the procedures in MA 123. Concurrent enrollment in MA 123. MA 125 Administrative Directed Prac Administrative Directed Practice Develop proficiency in administrative duties and other office management tasks in a medical clinic/physician office setting. Department permission required.

MA 131 Introduction to Medical Science 5.00: Concepts of disease processes as they relate to the normal physiology of the major body systems. Course specifically designed for students currently enrolled in the Medical Assisting program.

MA 132 Medical Office Assistant Seminar III 1.00: The study of the health care delivery systems, medical office management, interpersonal communications, and coordination of directed practice which includes a review for the national credential examination.

MA 133 Clinical Directed Practice 2.00: Develop proficiency in identification and care of equipment, sterile technique and asepsis, diagnostic and examination procedures, therapy, surgery, medication (pharmacology and administration) and handling of medical emergencies in a medical clinic/physician office setting. Concurrent enrollment in MP 131 and MP 136. Department permission required. Prerequisite: MA 123, 124; MLT 100; MP 104; HE 112.

MA 134 Health Record Transcript (Lab) 1.00: Transcribe medical reports. A proficiency certificate is awarded to students who demonstrate satisfactory transcription speed, accuracy and quality of work. To successfully complete this course students must be able to keyboard 45 words per minute by touch. Prerequisites: MP 111; (BI 55 or 122 or 233).

MA 136 Medications 2.00: Covers appropriate drug uses, effects, dangers, and precautions; routes of administration, dilutions and calculations, management and control. Review common prescription abbreviations, forms of medications and basic drug categories.

MA 147 Specialty Directed Practice 2.00: Practice administrative skills, clinical skills or a combination of both in a medical clinic/physician office setting. Work two four-day, eight hour rotations and attend one six hour seminar at Portland Community College. Prerequisite: MA 125, 133, 134.

MA 180 Coding and Reimbursement 1.00: Introduces coding and reimbursement systems for physician offices and medical clinics.

Machine Manufacturing Technology

MCH 100 Machine Tool Basics 1.00: Covers using the Machinery's Handbook and Machine Tool Safety. An overview in utilizing the Machinery's Handbook, safe work practices, safe clothing for personal safety, fire prevention in the shop, and hand tool safety.

MCH 101 Occupational Health & Safety 3.00: A technical elective course in the Associate of Applied Science Degree in the Machine Manufacturing Technology program. Introduces the concepts of industrial health and safety regulations, compensation laws, and profitability of safety management.

MCH 102 Introduction to Manufacturing 3.00: Technical elective course in the Associate of Applied Science Degree in the Machine Manufacturing Technology program. Covers an introduction to the manufacturing technology discipline. Prerequisite: MCH 100.

MCH 105 Blueprint Reading I 1.5: Covers blueprints using multi-view projection, sectional & auxiliary views and title blocks & drawing format which are the basis for all graphical communication in industry today. Knowledge of the techniques used on blueprints is necessary in industry whenever descriptions of size, shape, and arrangement are used to produce, service, or sell a product. Introduces blueprints and drawing techniques which will be built upon with further modules in the program.

MCH 110 Blueprint Reading II 1.5: Covers dimensions, notes, gears, threads & fasteners which provide the technician with a complete description of size, shape, feature location special tolerances, finish treatments, and assembly instructions are included so that the product can be manufactured, inspected, assembled and tested to exact design specifications, and finishes on part drawings. Introduces the various types of dimensions, tolerances, notes, thread forms, representation, and specifications, finish specifications used in industry today to carry out these functions. Prerequisite: MCH 105.

MCH 115 Geometric Dimensioning and Tolerancing 3.5: Covers the use of geometric dimensioning and tolerancing as specified by the American National Standards Institute's 1982 publication. Introduces the symbols, concepts and basic use of these new techniques for dimensioning and tolerancing used in industry today. Prerequisites: MCH 105,110.

MCH 120 Machine Shop Math 2.00: Covers instruction and practice in working with whole numbers, fractions, decimals, formulas, inch and metric systems, formulas, calculating simple and direct indexing. Introduces how to apply the use of the inch/metric systems, dividing/index head and formulas as they pertain to

thread calculations, gear calculations, speed and feed calculations, and taper calculations. Prerequisite: MCH 100.

MCH 121 Manufacturing Processes I 4.00: A technical elective course in the Associate of Applied Science Degree in the Machine Manufacturing Technology program. An introductory course in material removal operations emphasizing drilling, milling and lathe processes with emphasis on production speeds and feeds. Prerequisite: MCH 102.

MCH 123 Sheet Metal Fabrication 4.00: A technical elective course in the Associate of Applied Science Degree in the Machine Manufacturing Technology program. An introductory course in the setup and operation of manual sheet metal machinery. Prerequisite: MCH 100.

MCH 125 Speeds and Feeds 1.00: Covers how to calculate proper cutting speeds, revolutions per minute (RPM) and feeds for various machine tools and cutting conditions. Introduces how accurately calculating speeds and feeds prior to cutting on the work piece will save time, money, and avoid the waste of materials and tools. Prerequisite: MCH 100.

MCH 130 Machine Shop Trigonometry 2.5: Introduces the rules, methods and procedures for using trigonometry formulas that deal with both the sides and the angles of the right triangle and oblique triangle to solve for the unknown parts. Prerequisite: MCH 100.

MCH 135 Basic Measuring Tools 1.5: Covers use and applications associated with basic measuring tools including: the machinist's scale, dividers, telescoping gage, combination square, hermaphrodite caliper, surface gage, surface finish gage. Introduces the proper techniques and applications of the basic transfer measurement and comparison tools in measuring holes accurately, scribing parallel lines, finding the center of round stock, determining the factors which contribute to the quality of surface finish, and practice in identifying surface finishes. Prerequisite: MCH 100.

MCH 145 Layout Tools 1.5: Covers instruction and practice in cutting, filing, layout, scribing, use of gage blocks, and utilizing the height gage to accurately layout lines, angles and the location of part features. Introduces the proper use and applications of the hacksaw, scribe, dividers, prick punch, ballpeen hammer, combination square set, and height gage to produce the accurate layout of part features. Prerequisite: MCH 100.

MCH 150 Precision Measuring Tools 1.5: Covers instruction and practice of precision measurement with tools commonly used by the machinist to produce and measure part features. This course introduces the proper use, applications and parts of the outside, inside, and depth micrometers; the vernier caliper; dial indicators; and the dial bore gage commonly used by the machinist to verify and manufacture part features to print specifications. Prerequisite: MCH 100.

MCH 151 Metrology 2.00: Technical elective course in the Associate of Applied Science Degree in the Machine Manufacturing Technology program. Provides an introduction to measurement by mechanical, electronic, and optical methods related to industrial dimensional conformance requirements. Drawing and part compliance methods, including geometric dimensioning verification techniques. Prerequisite: MCH 150.

MCH 157 Project Machine Technology I 1.5: Designed to allow students the opportunity to customize or select various individual modules from within the Machine Manufacturing Technology program offerings.

MCH 158 Project Machine Technology II 3.00: Designed to allow students the opportunity to customize or select various individual modules from within the Machine Manufacturing Technology program offerings.

MCH 159 Project Machine Technology III 4.5: Designed to allow students the opportunity to customize or select various individual modules from within the Machine Manufacturing Technology program offerings.

MCH 160 Drilling Machines & Operations 2.00: Covers setup, applications, parts and operation of the sensitive, upright and radial arm drill presses. This course introduces the commonly performed operations of drilling, reaming, counterboring, countersinking, spotfacing and tapping on the various types of drilling machines used to produce part features to print specifications. Prerequisites: MCH 100, 125, 135.

MCH 175 Band Saws 1.00: Covers setup, applications, parts and operation of the vertical, and horizontal band saws and the selection/preparation of band saw blades. Introduces the skill of welding band saw blades and the common cutting operations performed on the vertical/horizontal to manufacture parts to print specifications. Prerequisite: MCH 100.

MCH 180 Turning Machines & Operations 4.00: Covers setup, applications, parts and operation of the various types of lathes. Introduces the commonly performed operations of drilling, reaming, counterboring, countersinking, spotfacing, tapping, maintaining/aligning, parallel turning, facing, filing, knurling, grooving, cutting radii, cutting tapers, and parting on the various types of turning machines used to produce part features to print specifications. Prerequisites: MCH 100, 125.

MCH 190 Boring on the Lathe 1.00: Covers setup, applications and operation of boring on the lathe. Introduces the commonly performed operation of boring on the various types of turning machines used to produce part features to print specifications. Prerequisites: MCH 100, 125, 180.

MCH 195 Threading on the Lathe 3.00: Covers setup, applications and operation of single point threading and geometric forming heads for the production of single and multiple lead threads. Introduces cutting, chasing, rolling and forming production of single and multiple lead threads. Also covers cutting, chasing, rolling and forming of internal/external threads on the lathe and drill press by using a single point cutting tool, tap or geometric thread cutting/rolling head on nuts, bolts, fasteners, castings and machined parts to print specifications. Prerequisites: MCH 100, 180, 190.

MCH 205 Vertical Milling Machines and Operations 3.5: Covers setup, applications and operation of the vertical milling machine. Introduces the commonly performed operations and uses of a variety of cutters, accessories, indicators, center/edge finder, clamping methods, squaring a block of material on all 6 sides, find the edge of a workpiece, drilling/threading a hole, performing circular cutting operations, using the boring head to bore holes on manufactured parts to print specifications. Prerequisites: MCH 100, 125.

MCH 210 Project Machine Technology IV 6.00: Designed to allow students the opportunity to customize or select various individual modules from within the Machine Manufacturing Technology program offerings.

MCH 211 Project Machine Tech V 7.5: Designed to allow students the opportunity to customize or select various individual modules from within the Machine Manufacturing Technology program offerings.

MCH 212 Project Machine Tech VI 9.00: Designed to allow students the opportunity to customize or select various individual modules from within the Machine Manufacturing Technology program offerings.

MCH 213 Project Machine Tech VII 10.5: Designed to allow students the opportunity to customize or select various individual modules from within the Machine Manufacturing Technology program offerings.

MCH 214 Project Machine Tech VIII 12.00: Designed to allow students the opportunity to customize or select various individual modules from within the Machine Manufacturing Technology program offerings.

MCH 215 Horizontal Milling Machines 2.5: Covers setup, applications and operation of the horizontal milling machine. Introduces how to set-up horizontal milling machine and saw a slot in a piece of steel, use the indexing head to cut keyways and keyseats, use the Dividing Head to cut a gear, the basic function and uses of a jig or fixture to produce machined parts to print specifications. Prerequisites: MCH 100, 125, 205.

MCH 216 Mechanical Inspector 4.00: Introduces measurement by mechanical, electronic, and optical methods related to industrial dimensional conformance requirements. Drawing and part compliance methods, including geometric dimensioning verification techniques.

MCH 217 Quality Technician 4.00: Introduces quality management philosophies, strategies for continuous improvement, graphical and numerical methods for data analysis and methods of manufacturing process control. Prerequisite: MCH 216.

MCH 220 Manufacturing Processes II 4.00: A technical elective course in the Associate of Applied Science Degree in the Machine Manufacturing Technology program. Covers the interaction of design with industrial materials and processes in connection with technical and economic feasibility, trade-offs and automation. Prerequisite: MCH 121.

MCH 221 Gears 2.00: A technical elective course in the Associate of Applied Science Degree in the Machine Manufacturing Technology program. Covers part drawings with gears which provide the technician with a complete description of size, shape, feature location, special tolerances, finish treatments, and assembly instructions so that the product can be manufactured,

inspected, assembled and tested to exact design specifications. Prerequisite: MCH 215.

MCH 222 Coordinate Measuring Machine Operation 2.00: A technical elective course in the Associate of Applied Science Degree in the Machine Manufacturing Technology program. Covers the roles and types of CMMs; modes of operation; types of probes; CMM software; measuring features; alignments and reverse engineering (digitizing). Prerequisite: MCH 115.

MCH 225 Surface Grinding Machines and Operations 2.00: Covers the setup, applications and operation of the horizontal spindle/reciprocating table surface grinder to produce parts to extremely close tolerances with improved surface finishes and accuracy. Introduces automatic grinder operation by grinding a block square/parallel and perpendicular by applying the required setups and operational sequencing, and grinding of angular surfaces on a workpiece to print specifications. Also introduces grinding wheels and abrasives, selecting, balancing and mounting the grinding wheel and the methods/machines of surface grinding. Prerequisite: MCH 100.

MCH 227 CNC Grinder Operation 2.5: A technical elective course in the Associate of Applied Science Degree in the Machine Manufacturing Technology program. A preparatory course designed to introduce the operation of the Computer Numerical Controlled Surface Grinder including proper setups, uses and operations associated with the CNC surface grinding machine and its accessory devices. Prerequisite: MCH 226.

MCH 228 Abrasives 1.5: A technical elective course in the Associate of Applied Science Degree in the Machine Manufacturing Technology program. Covers the different types of abrasives available, selection and their applications. Prerequisite: MCH 215.

MCH 229 Rapid Prototyping 5.00: Preparatory course designed to introduce the student to the proper setups, uses and operations associated with additive and rapid manufacturing processes including but not limited to the Dimension BST Rapid Prototyping machine and its accessory devices. Prerequisites: MCH 276 or instructor approval.

MCH 235 Tool Sharpening 2.00: Covers setup, applications and specifications of tool sharpening/reconditioning utilizing the universal tool and cutter grinder, the drill pointer and bench grinder. Introduces the sharpening of drill bits, lathe tools, end mill sides/ends, milling cutters, and various formed relieved cutters, reamers and taps to manufacturers specifications. Prerequisite: MCH 100.

MCH 240 Cutting Tool Technology 2.00: Covers types, setup, applications and specifications of cutting fluids and cutting tools. Introduces why the selection of the appropriate cutting tools and cutting fluids are essential in metal cutting operations to reduce the heat and friction produced during material removal operations and how the selection, setup and applications effect the quality, accuracy, efficiency and productivity of the workpiece produced. Prerequisite: MCH 100.

MCH 245 Metallurgy 2.5: Covers the manufacture, types, heat treatment, testing, machinability, properties and the physics of materials and material removal of ferrous and non-ferrous materials. Introduces the processing of materials to obtain the desired changes in its physical properties, the non-destructive and destructive testing of materials, the machinability of materials and the efficiently/required knowledge of the metal to be cut, but also how the cutting tool material and its shape will perform under various machining conditions. Prerequisite: MCH 100.

MCH 246 Metallurgy II 4.00: A technical elective course in the Associate of Applied Science Degree in the Machine Manufacturing Technology program. Covers selection of materials for modern engineering and technology applications; structure and properties of materials starting with fundamental atomic arrangements; microstructural control through thermal and mechanical processing and effects of service environment. Prerequisite: MCH 245.

MCH 247 Manufacturing Processes III 3.00: A technical elective course in the Associate of Applied Science Degree in the Machine Manufacturing Technology program. Introduces less conventional and non-traditional manufacturing processes and materials. Prerequisite: MCH 220.

MCH 248 Metallurgy III 4.00: A technical elective course in the Associate of Applied Science Degree in the Machine Manufacturing Technology program. Covers the selection of materials for modern engineering and technology applications; structure and properties of ceramics, polymers, composites; the materials properties of electrical, thermal, magnetic; and the economic, environmental and societal issues in materials science and engineering. Prerequisite: MCH 246.

MCH 259 CNC Programming-Lathe 5.00: Introduces the basic programming skills used with Fanuc (G&M compatible) controlled CNC turning centers. Prerequisites: MCH 100, 110, 125, 130, 160, 205.

MCH 262 CNC Conversational Controls 2.00: Covers basics of CNC Conversational Controls. Introduces the student to CNC conversational controls and the flow of CNC conversational programming. Prerequisite: MCH 260, 261.

MCH 263 CNC Cycle Time Reduction 1.5: Covers concepts associated with CNC cycle time reduction. Covers proven methods for CNC setup time reduction, and CNC cycle time reduction Prerequisite: MCH 260, 261.

MCH 266 Advanced CNC Programming 3.5: Presented by means of audio visual presentations, demonstrations, lab experiences, and research activities. Emphasizes the development of skills and knowledge competencies prescribed by business and industry performance standards. Prerequisite: MCH 260, 261.

MCH 268 CNC Programming-Mill 5.00: Introduces basic programming skills used with Fanuc (G&M compatible) controlled CNC machining centers. Prerequisites: MCH 100, 110, 125, 130, 160, 205.

MCH 272 Mastercam Level I 5.00: Introduces personal computing and Mastercam operational basics. Includes terminology relevant to PC-based CAD/CAM work. Covers hardware familiarity, system operation, folders, file types and structure, Mastercam menu structure and system management, and 2 1/2 axis toolpaths for milling. Emphasis on proper geometry creation, manipulation and management, relevant utilities and C-hooks, terminology, toolbar and menu functions.

MCH 273 Mastercam Level II 5.00: Construct advanced geometric models using geometric, free form, and derived surface types. Emphasis on surface creation and mathematical category, applicability, association, Open-GL, shading and curves, C-hooks, terminology and analyzing. All aspects of roughing and finishing are covered with focus on correct application and use of parameters. Includes mill/turn machining conventions, C-axis programming, tool libraries and solid toolpath verification.

MCH 276 Mastercam Solids 3.00: A continuation of the CAD/CAM curriculum and explores the solids application of Mastercam as it pertains to model design and toolpath generation.

MCH 277 Mastercam CNC/CAM Project 3.00: A continuation of the CAD/CAM curriculum. Purpose of course is to solidify the connection between Mastercam and the CNC Machine through the physical manufacturing of projects.

MCH 278 CNC Operation - Mill 4.00: Introduces basic operation and setup skill used with Fanuc (G&M compatible) controlled CNC machining centers. Prerequisite: MCH 268.

MCH 279 CNC Operation - Lathe 4.00: Introduces basic operation and setup skill used with Fanuc (G&M compatible) controlled CNC turning centers. Prerequisite: MCH 259.

MCH 280 CE / Machine Technology 1.00–8.00: This work occurs outside the classroom at a work site performing machine tool setup and operation under the supervision of a professional machinist technician or supervisor. Department permission is required. Offered for one to eight credits based upon the number of clock hours completed at the work site.

MCH 282 CNC Router Operation 3.00: A technical elective course in the Associate of Applied Science Degree in the Machine Manufacturing Technology program. Introduces the basic operation and setup skill used with Techno (G & M compatible) controlled CNC Routers. Prerequisite: MCH 281.

MCH 283 CNC Router Mastercam Program 3.00: A technical elective course in the Associate of Applied Science Degree in the Machine Manufacturing Technology program. This is a preparatory course in CAD/CAM designed to introduce personal computing and the operational basics of Mastercam Router required to produce a CNC manufactured part. Prerequisite: MCH 282.

MCH 284 Computer Aided Manufacturing 3.00: A technical elective course in the Associate of Applied Science Degree in the Machine Manufacturing Technology program. Provides an introduction to the development of NC machine tool manufacturing processes using computer aided process planning and advanced

CAD/CAM software. Emphasizes analysis and planning required for successful NC production, development of CAD drawings and solid models for CAM program development, toolpath simulation software, and manufacturing engineering issues associated with NC based production. Prerequisite: MCH 273.

MCH 285 Integrated Manufacturing 3.00: A technical elective course in the Associate of Applied Science Degree in the Machine Manufacturing Technology program. Provides an introduction to the concepts and technologies of Computer Integrated Manufacturing. Prerequisite: MCH 284.

MCH 288 Certified Manufacturing Technologist Review 4.00: Technical elective course in the Associate of Applied Science Degree in the Machine Manufacturing Technology program. Provides a review of the material to prepare for the Society of Manufacturing Engineers (SME) Certification Test for the Manufacturing Technologist (CMfgT). Prerequisite: Industrial experience and/or manufacturing enterprises/ engineering technology coursework required.

MCH 289 Certified Manufacturing Engineer Review 4.00: Technical elective course in the Associate of Applied Science Degree in the Machine Manufacturing Technology program. Provides a review of the material to prepare for the Society of Manufacturing Engineers (SME) Certification Test for the Manufacturing Engineer (CMfgE) with emphasis in Processes.

Medical Laboratory Technology

MLT 100 Medical Office Lab Orientation 3.00: Introduces clinical laboratory principles and procedures commonly performed in the small office setting, including specimen collection and handling, urinalysis, basic hematology, serology, microbiology and quality control. Prerequisites: MP 111, BI 55 or BI 122 or BI 233.

MLT 111 Medical Technology I 4.00: Introduces the field of clinical laboratory science, including an introduction to the use and care of the microscope and other laboratory supplies and equipment, basic blood cell morphology, basic urinalysis, bloodborne pathogens, and ABO/Rh blood grouping. Prerequisite: Acceptance into first year of Medical Laboratory Technology Program.

MLT 112 Medical Technology II 4.00: This is the second course in a sequence introducing the field of clinical laboratory science. Includes an introduction to clinical chemistry, quality control and laboratory statistics. The study of hematology, blood collection and coagulation are also included. Prerequisite: MLT 111.

MLT 150 Lab Assistant - Phlebotomy Practicum 7.00: Receive training in a clinical laboratory to learn basic laboratory assisting skills. Introduces specimen processing, phlebotomy and information systems. Stresses professionalism, interpersonal skills and safety. Department permission required. Keyboarding skills recommended.

MLT 170 Phlebotomy Practicum 4.00: Student assigned to a clinical laboratory to become proficient in basic phlebotomy procedures. Some basic specimen processing and information system concepts may be covered. Stresses professionalism, safety and interpersonal skills in the health care setting. Prerequisite: Department permission required.

MLT 201 Introduction to Histologic Techniques I 4.00: First course of a two-course sequence. Introduces histologic knowledge and skills including instrumentation, tissue fixation, embedding, sectioning, staining and troubleshooting. Stresses professionalism and safety in the medical setting. Department permission required.

MLT 202 Introduction to Histologic Techniques II 4.00: Second course of two-term sequence. Introduces histologic knowledge and skills including instrumentation, staining techniques, frozen sections and immunohistochemical techniques. Stresses professionalism and safety in medical settings. Prerequisite: MLT 201.

MLT 213 Introduction to Medical Microbiology 4.00: Introduces clinical microbiology, including an overview of the organization and function of the clinical microbiology laboratory. Processing, handling, and work-up of clinical specimens for microbiological study are thoroughly addressed. Stresses a "systems" approach to the identification and control of the etiological agents of disease. Prerequisite: MLT 112.

MLT 221 Clinical Chemistry I 3.00: Review and expansion of introductory clinical chemistry topics including: quality control, laboratory mathematics, spectrophotometry, and carbohydrates. This course also presents the normal and abnormal composition of urine, testing procedures, sources of error and clinical correlation. Prerequisite: Acceptance into the second year of the MLT Program.

MLT 222 Clinical Chemistry II 4.00: Focuses on: Physiology, Pathophysiology and analysis of uric acid, cholesterol and triglycerides, acid-base balance, blood gas analysis and interpretation, proteins, and enzymology. The course also introduces organ system assessment using various chemistry panels. Prerequisite: Acceptance into the second year of the MLT Program.

MLT 223 Clinical Chemistry III 3.00: Presents coagulation theory, tests and disease correlation; protein electrophoresis testing principles and correlation of abnormal results with various disease states; the principles and applications of toxicology and EIA testing; thyroid function and assessment, electrolytes; blood urea nitrogen and creatinine; and fecal fat. Prerequisite: Acceptance into the second year of the MLT Program.

MLT 230 Body Fluids 3.00: The course will present special urine testing protocol surrounding the aminoacidurais and porphyrinurias. Students develop knowledge of the composition and testing of cerebrospinal, synovial, seminal, pleural, pericardial, peritoneal, and amniotic fluids. Prerequisite: Acceptance into the second year of the MLT Program.

MLT 241 Immunohematology I 3.00: Presents a general understanding of basic immunology and the various immunoglobulins. Develops knowledge of the complement system and the principals involved in various antigen-antibody reactions with emphasis on aggultination reactions. Reviews the ABO and Rh blood group systems. Prerequisite: Acceptance into the second year of the MLT Program.

MLT 242 Immunohematology II 4.00: Presents blood group systems other than ABO and Rh, testing methods, Hemolytic Disease of the Newborn, donor selection, blood components, anticoagulants, and transfusion reactions. The principles involved in various serologic tests will also be discussed. Prerequisites: Acceptance into second year of MLT Program.

MLT 250 Hematology 4.00: This course reviews and further develops knowledge and skills in the areas of hemoglobin, hematocrit, blood cell counts and blood cell morphology. Presents abnormalities, anomalies and conditions affecting red blood cells and white blood cells. Prerequisite: Acceptance into the second year of the MLT Program.

MLT 261 Bacteriology I 4.00: Incorporates basic principles and practices of clinical bacteriology focusing on the following families: Micrococcaceae, Streptococcaceae and Neisseriaceae. The principles of molecular diagnostic testing will also be introduced. Prerequisite: Acceptance into the second year of the MLT Program.

MLT 262 Bacteriology II 3.00: Incorporates basic practices and principles of general bacteriology with clinical bacteriological practices focusing on the Enterobacteriaceae, non-fermentative gram negative rods, Bacteroidaceae, coccobacilli, aerobic and anaerobic spore-formers, and Mycobacteria. Prerequisite: Acceptance into second year of MLT Program required.

MLT 263 Medical Parasitology 3.00: The course provides an introduction to the field of medical parasitology. Identifying characteristics, life cycles, pathogenicity and testing methods for various relevant organisms are covered. Prerequisites: Acceptance into second year of MLT Program required.

MLT 264 Medical Mycology 3.00: Studies medically important fungi and procedures for the collection, handling, preparation and use of media. Includes methods introduction to diagnostic procedures for the cultivation and identification of pathogenic fungi. Prerequisite: Acceptance into the second year of the MLT Program.

MLT 271 Clinical Laboratory Practice I 3.00: Students are assigned to various clinical laboratories to become familiar with their organization and and operation. Students also gain insight into how the clinical laboratory practitioner relates to the entire medical team and to the community. Students gain experience in dealing with patients and in performing procedures required of a laboratory technician. Prerequisite: Acceptance into the second year of the MLT Program.

MLT 272 Clinical Laboratory Practice II 3.00: Students are assigned to various clinical laboratories to become familiar with their organization and operation. Students also gain insight into how the clinical laboratory practitioner relates to the entire medical team and to the community. Students gain experience in dealing with patients and in performing procedures required of a laboratory technician. Prerequisite: Acceptance into the second year of the MLT Program.

MLT 273 Clinical Laboratory Practice III 3.00:

Students are assigned to various clinical laboratories to become familiar with their organization and operation. Students also gain insight into how the clinical laboratory practitioner relates to the entire medical team and to the community. Students gain experience in dealing with patients and in performing procedures required of a laboratory technician. Prerequisite: Acceptance into the second year of the MLT Program.

MLT 274 Clinical Laboratory Practice IV 8.00: Students are assigned to various clinical laboratories to become familiar with organization and operation. Students also gain insight into how the clinical laboratory practitioners relates to the entire medical team and to the community. Students gain experience with patients and in performing procedures required of a laboratory technician. Prerequisite: Acceptance into the second year of the MLT Program.

MLT 281 Clinical Seminar 4.00: This course introduces new concepts in the clinical laboratory including laboratory management; state and federal regulations such as HIPPA, CLIA, and Medicare; point of care testing, and the prevention of laboratory errors. Other topics include clinical virology, tumor markers, and heavy metals. Students are also prepared for certification examinations. Prerequisite: Acceptance into the second year of the MLT Program.

Multimedia

MM 110 Introduction to Multimedia 1.00: Explores the different job areas within multimedia field. Roles of the multimedia team are examined and explained. Create a basic multimedia project using entry level multimedia industry standard authoring software; and the first portion of a multimedia portfolio targeted to job acquisition. Completion of CAS 111D highly recommended.

MM 120 Multimedia Design 2.00: Introduces multimedia development and design process. Includes developing multimedia team and identifying the job titles, functions and skills; designing a multimedia project, identifying target audience, project budget and development time lines; applying instructional design guidelines to a multimedia project, developing multimedia portfolios. Prerequisites: Previous or concurrent: MM 110, or instructor permission.

MM 130 Multimedia Graphic Video and Audio Production 3.00: Introduces graphics, text, audio, and video development for multimedia. Students produce multimedia elements using a variety of tools, such as digital still and video cameras, analog video cameras, scanners, and the internet. Graphic, video and audio editing software, such as Adobe Photoshop(TM) and Apple Final Cut Pro(TM) are introduced. Prerequisites: Previous or concurrent: MM 120, or instructor permission.

MM 140 Multimedia Authoring I 3.00: Introduction to producing a usable multimedia project that incorporates the principles and practices from MM 110, MM 120 and MM 130. Students develop an interactive multimedia project incorporating graphics, text, video, and audio, using multimedia industry standard authoring software (Macromedia Director[TM]). The cross platform project may be used on PCs (Windows) and Macintosh computers and the World Wide Web. Additional lab time required. Prerequisites: MM 130 (previous or concurrent) or instructor permission.

MM 141 Incorporating Multimedia Elements in Presentation Software 2.00: Plan and produce a multimedia presentation using industry level presentation software (Microsoft PowerPoint[TM]). Incorporate design theory, clip-art, video clips and sound into a Microsoft PowerPoint(TM) presentation. Emphasis on quality, presentation flow and program design.

MM 150 Multimedia Project Review, Testing and Delivery 1.00: Introduction to finalizing the multimedia project through quality assurance, beta testing and group evaluation. Technical support, product documentation, final production and packaging will be addressed. The strengths and weaknesses of various delivery options will be reviewed. The authoring project developed in Multimedia 140 will be the project used for this class. Prerequisite: Previous or concurrent: MM 140, or instructor permission.

MM 160 Marketing Yourself as a Multimedia Professional 2.00: Develop a marketing plan that will lead to employment in the multimedia field. Describe the primary features of guerrilla marketing. Create professional quality promotional materials. Managing the production of a multimedia project including project planning, production scheduling and management, cost estimating, resource management, proposing, marketing/advertising, copyright issues and contract development strategies. Prerequisites: Previous or concurrent: MM 130 and MM 140 or instructor permission.

MM 220 Multimedia Design II 3.00: Emphasizes design concepts including layout, typography, color theory, and information architecture with the goal of creating interactive designs that balance aesthetics and function. Develops a working knowledge of interface design using standard drawing programs such as Macromedia Freehand, which translate created designs seamlessly into other software tools such as Adobe Photoshop, Macromedia Flash and Dreamweaver. Students participate in "real-world", client focused, collaborative team design projects, which include assigned positions, such as project manager, account manager, creative director, art director, copywriter, and programmer. Students will critique work and post projects to the department web site as directed. Prerequisites: MM 120, 130; CAS 111D, 175; or instructor permission.

MM 230 Graphics for Multimedia 4.00: Using multimedia industry standard graphic software such as Adobe Photoshop(TM), Macromedia Flash (TM) and Adobe Illustrator(TM) to create and adapt graphic images for use in multimedia and interactive computer applications. Create customized color palettes for improved display. Color correct, select appropriate file formats (JPEG, GIF, TIFF, PICT & EPS), resize and combine multiple graphics for use in multimedia presentations and multimedia web page graphics. Prerequisite: MM 130 or instructor permission.

MM 231 Vector Graphics & Animation for the World Wide Web 3.00: Create navigation controls, animated logos, long-form animations with synchronized sounds using multimedia industry standard vector graphics and animations software (Macromedia Flash[TM]). Create translucent and transparent vecotr objects for use with multimedia applications. Optimize Flash(TM) movies for various playback bandwidths. Prerequisites: MM 130, 140; CAS 111D, 175; or instructor permission.

MM 232 Multimedia 3D Modeling and Animation 3.00: Create, edit, and take apart 3D models and animations using 3D modeling and animation software, such as Alias/Wavefront Maya. Basic features of the 3D modeling environment will be highlighted. Prerequisites: MM 130, 140; CAS 111D; or instructor permission.

MM 233 3D Character Modeling and Animation 3.00: Continues the study of 3D emphasizing the creation of animated characters. Involves sophisticated techniques for creating organic shapes and natural motion. Facial expressions and lip movement will be matched to dialog. Characters will move using internal structures and kinematics. Student produces a complete short animated video with a moving, speaking character. Course provides the opportunity to individually experience all aspects of production. Also includes group production projects in which the student will concentrate on a particular production aspect. A professional 3D software, such as Alias/Wavefront Maya(tm) will be used. Prerequisite: MM 232

MM 234 3D for the World Wide Web 3.00: Design, create, and display high-quality, interactive 3D graphics and animations delivered via the World Wide Web. Focuses on current interactive 3D delivery products and creating 3D models with low polygon count, thus addressing low-bandwidth limitations. Projects created using standard 3D modeling tools, with interactivity added. Prerequisite: MM 232; or instructor permission.

MM 235 Digital Video Editing and Production 3.00: A project based course that addresses various issues encountered in the post-production design and delivery of digital video and audio for multimedia projects and television. using non-linear editors, such as Apple Final Cut Pro and image editors such as Adobe Photoshop, students will learn the basic techniques of project planning, media capture, device control, non-linear editing, compositing and object animation. Students will also learn various device specific delivery methodologies for TV and multimedia applications such as tape formatting and media compression formats and codecs. Prerequisite: MM 130 or instructor permission.

MM 236 Internet Delivery of Digital Video and Audio Files 3.00: Introduces preparing video and audio for playback on the World Wide Web incorporating the principles of quality video and audio capture and editing techniques. Develop video and audio segments using industry standard digital editing software such as Adobe Premiere(TM) and Apple Final Cut Pro(TM). The cross platform projects will be used on PCs (Windows) and Macintosh computers and the World Wide Web. Prerequisite: MM 235; CAS 111D; or instructor permission.

MM 237 Video Compositing and Effects 4.00: Introduction to the creation of motion graphics using industry standard software tools such as Adobe After Effects a standard for creating motion graphics for video, TV, film, multimedia, and the WWW. Illustrates the basic concepts of motion graphics, as well as the functions, and capabilities of the software tools includ-

ing their extensive compositing, keying, animation, and special effects capabilities. Projects will be created, optimized, and published to the departmental website. Prerequisites: MM 230, MM 235

MM 238 Creating Professional DVD-Video4.00: Introduction to the creation of custom DVD-Video using professional level authoring software, such as Apple DVD Studio Pro. Digital video created in MM 235, and/or from other sources will be integrated with audio, graphics, and other assets. Custom navigation, menus, chapters, and interactivity will be developed. Encode uncompressed audio into highly compressed Dolby digital AC-3 streams, and incorporate into the DVD authoring software for full 5.1- channel surround sound. Final DVD projects are intended for use in standard home entertainment DVD players. Prerequisite: MM 140 and MM 235, or instructor permission.

MM 240 Multimedia Authoring II-Scripting 4.00: Using multimedia industry standard authoring programs (such as Macromedia Director and Flash) to develop interactive projects. Focuses on interactive design of the project and the applications' underlying scripting languages (e.g., Lingo and ActionScript). Previously developed multimedia elements will be assembled, made interactive through the use of scripting techniques, and then tested for function, design, usability, and distribution. Final cross-platform projects may be delivered via the WWW, CD, or DVD. Essential scripting concepts and practices will be covered. No prior programming skills are required. Prerequisites: MM 140, 231; or instructor permission.

MM 241 Multimedia Authoring III - Scripting 4.00: Extends scripting skills acquired in MM 240, enabling student to build more sophisticated interactive projects that may include: synchronized audio, complex data structures (arrays), and user tracking (such as score keeping). Focuses on how scripting enhances usable interfaces to provide the best user experience. Identifies solutions to production obstacles, and negotiate solutions to design problems to meet project goals. Concentrates on applying gained knowledge and skills to larger projects. Students may use multimedia-authoring applications such as Macromedia Director or Flash and their corresponding scripting languages (e.g., Lingo and ActionScript) for their projects, but the scripting skills acquired may be applicable to other application environments as well. Prerequisite: MM 240; or instructor permission.

MM 244 Creating Interactive Web Pages 3.00: Develop web pages using multimedia industry standard web page development software, such as Macromedia Dreamweaver (TM) and web animation tools, such as Macromedia Flash (TM). Incorporate multimedia elements for optimal internet delivery. Commercially available multimedia elements (clip media) will be used for constructing the web page. Prerequisites: CAS 111D and MM 231 or instructor permission.

MM 245 Internet Delivery Methods 3.00: Focuses on methods used to optimize and deliver still graphics, animations, audio, and video streaming and website design. Students will use still image optimization programs such as Adobe Image Ready and streaming media compression tools such as Apple QuickTime and QuickTime Streaming Server Using HTML editors such as Macromedia Dreamweaver, students will address special user interface design challenges encountered in bandwidth intensive web sites using Cascading Style Sheets, Javascript, and XHTML. Streaming media will be delivered via the World Wide Web and APple Quicktime Streaming Server. Students will also evaluate media stream- ing performance, codec efficiency, image quality and cross platform functionality, interactivity, accessibility, and web design standards. Recommended: CAS 112D, 113, & 206. Prerequisites: MM 230 & CAS 11D or Instructor Permission.

MM 250 Advanced Multimedia Project Development I 3.00: Designed to allow the student to combine their creative and technical skills developed in the preceding 100 and 200 level Multimedia classes through the production of a consummate project. Prepare an interactive multimedia project using industry standard software tools. Project development will include planning, production, project review and, implementing the evaluation suggestions. Final projects will be submitted for faculty and peer critiques and then placed on the World Wide Web. Prerequisites: MM 230, 231, 235, 236, 240, 241, 245; or instructor permission.

MM 251 Advanced Multimedia Project Development II 3.00: Further develop the project created in MM 250. Prepare an interactive multimedia project using industry standard software tools. Project development will include planning, production, project review and, implementing the evaluation suggestions. Final projects will be submitted for faculty and peer critiques and then placed on the World Wide Web. Prerequisite: MM 250 or instructor permission.

MM 252 Advanced Multimedia Project Development III 3.00: Further develop the project created in MM 251. Prepare an interactive multimedia project using industry standard software tools. Project development will include planning, production, project review and, implementing the evaluation suggestions. Final projects will be submitted for faculty and peer critiques and then placed on the World Wide Web. Prerequisite: MM 251 or instructor permission.

MM 260 Video Production I 4.00: Introduction to digital video production, with a focus on the fundamentals of project planning, basic camera functions, shooting techniques, lighting principles, and audio recording fundamentals. Pre-production issues, production terminology, and industry etiquette are also discussed, studied, and evaluated. Prerequisite: MM 130.

MM 261 Video Production II 4.00: Intermediate level of digital video production, continues with digital video production and nonlinear editing and incorporates field audio recording, audio editing, and shooting and preparing video for multiple distribution methods. Prerequisite: MM 260.

MM 262 Video Production III 4.00: Explores documentary video making through hands-on exercises and assignments. Covers relevant preproduction methods and materials, the small-crew field production model and editing concepts and strategies. Prerequisites: MM 235, MM 260, or instructor's permission.

MM 270 Writing for Multimedia 3.00: Introduces creating and adapting technical information and linear narratives for non-linear, interactive multimedia applications. Includes developing ideas into multimedia scripts, incorporating text with other media, writing narration, and writing for voice-over, writing for interactivity, presenting text on-screen, and writing concisely. Prerequisites: MM 120; WR 121, 122, 123 or WR 214; or instructor permission.

MM 280 Cooperative Work Experience in Multimedia 1.00–3.00: Practice and enhance skills gained in the Multimedia 100 and 200 level classes. Spend 4 to 12 hours per week working in the multimedia industry (public/private sector organizations) working at an approved multimedia development company doing cooperative work. Develop career objectives by linking course work with out-of-classroom experiences by becoming part of the "multimedia team" learning cooperation, team building, communication skills and project development. Prerequisites: MM 230, 231, 235, 236, 240, 241, 245 or instructor permission.

Medical Professionals

MP 109 Basic Medical Terminology 2.00: Analyze the structure of medical words and apply this to basic anatomy, physiology and disease processes of the human body. Covers prefixes, suffixes, root words, abbreviations, conditions, symptoms and procedure terms for the basic body systems. Recommend: RD 90 and WR 90.

MP 110 Basic Medical Terminology 2 – 2.00: Reviews in depth the basic body systems and medical terminology taught in MP 109. Expands knowledge to include prefixes, suffixes, root words, abbreviations, conditions, symptoms and procedure terms used in oncology, psychiatry, radiology and nuclear medicine. Recommend: RD 90 and WR 90.

MP 111 Medical Terminology 4.00: Covers prefixes, suffixes, root words, abbreviations, conditions, symptoms and procedure terms. Course taught by body systems. English communication skills necessary. MP 199 Basic Medical Terminology Basic Medical Terminology Builds a basic medical vocabulary using medical word elements for the major body systems. Common diseases and diagnostic testing and procedures are also covered.

Magnetic Resonance Imaging

MRI 101 MR Physics I - Principles, Equipment & Safety 2.00: Introduces Magnetic Resonance Imaging theory and application, patient care, MR safety, Imaging procedures, data acquisition and processing and the physical principles of image formation. Department permission is required.

MRI 102 MR Physics II - Advanced Principles 2.00: Continues Magnetic Resonance Imaging theory and application, patient care, MR safety, imaging procedures, data acquisition and processing and the physical principles of image formation. Department permission required. Prerequisite: MRI 101.

MRI 111 MR Cross-Sectional Anatomy I 2.00: Introduces the normal appearance of anatomical structures of the head, soft tissue neck, spine and

lower extremity in normal planes. Enables students to differentiate between normal and abnormal anatomical structures. Primary focus is MR appearance of anatomy but includes correlation with anatomical drawings and CT anatomy. Department permission is required.

MRI 112 MRI Cross-Sectional Anatomy II 1.00: Introduces the normal appearance of anatomical structures of the upper extremity, chest, abdomen and pelvis in normal planes. Enables students to differentiate between normal and abnormal anatomical structures. Primary focus is MR appearance of anatomy but includes correlation with anatomical drawings and CT anatomy. Department permission required. Prerequisite: MRI 111.

MRI 121 MRI Clinical Education I 6.00: Provides clinical education experience in an affiliated hospital Magnetic Resonance Imaging Department under the supervision of a Registered MR Technologist and Radiologist. Includes application of equipment manipulation and operation, MR imaging procedures, MR safety, medicolegal and ethical protocol, record keeping and patient care. Requires clinical competencies, objectives, performance assessment and attendance. The student will learn the necessary skills that are required to function in the clinical area as a MR Technologist and will develop and exhibit proper professional work ethic. Department permission required.

MRI 122 MRI Clinical Education II 8.00: Provides intermediate clinical education experience in an affiliated hospital Magnetic Resonance Imaging Department under the supervision of a Registered MR Technologist and Radiologist. Includes application of equipment manipulation and operation, MR imaging procedures, MR safety, medicolegal and ethical protocol, record keeping and patient care. Requires clinical competencies, objectives, performance assessments and attendance. The student will learn the necessary skills that are required to function in the clinical area as a MR Technologist, and will develop and exhibit proper professional work ethic. Department permission required. Prerequisite: MRI 121.

MRI 123 MRI Clinical Education III 8.00: Provides advanced clinical education experience in an affiliated hospital Magnetic Resonance Imaging Department under the supervision of a Registereed MR Technologist and Radiologist. Includes application of equipment manipulation and operation, understanding and application of imaging parameters, MR safety, mediolegal and ethical protocols, record keeping and patient care. Requires clinical competencies, objectives, performance assessments and attendance. The student will learn the necessary skills that required to function independently in the clinical area as a MR Technologist, and will develop and exhibit proper professional work ethic. Department permission is required. Prerequisite: MRI 122.

MRI 130 MR Imaging Procedures and Diagnosis 2.00: Correlates and compares the normal appearance of anatomy in all body sections with pathologic findings. Discussion to include comparision of T1 vs. T2 imaging techniques as they correlate to imaging protocols and diagnosis. The pathology section of the course is designed to give the student an in depth consideration of disease processes. Special equipment, fat suppression and coil considerations will be discussed in all sections. The role of contrast agents in diagnosis will be discussed in all sections. Department permission required. Prerequisites: MRI 102, 112, and 122.

MRI 140 MR Registry Review 1.00: Provides a comprehensive review of patient care, imaging procedures, data aquisition and processing and physical principles of image formation for magnetic resonance imaging. Department permission required. Prerequisite: MRI 102, MRI 112, and MRI 122. MRT 111 Health Information Seminar 2 Health Information Seminar 2 In seminar students accomplish a major group project that begins fall term and lasts through spring term. The students will select the project given criteria that meets the goals of the course.

Management and Supervisory Development

MSD 101 Principles of Management and Supervision 3.00: Discusses concepts and practices of fundamental supervisory skills such as planning, staffing, communication, ethics, leadership, impact of technology, training, conflict management, problem solving, quality improvement, safety management and performance reviews.

MSD 105 Interpersonal Communication 3.00: Discusses how principles of interpersonal communication operate in everyday life such as: communication processes, barriers and misconceptions; impact of cultural values and norms; influences of perception and judgment; communication and self talk; creating and responding to messages; characteristics of nonverbal communication and their impact; listening effectively; identifying and controlling emotions; developing an effective communications climate; and effectively managing conflict.

MSD 107 Organizations & People 3.00: This course is about how individual, group, and organizational characteristics influence each other. Included are personality development as it affects group and organizational interactions; interpersonal and work group processes; job design, organizational structure and culture.

MSD 110 Gender Conflict Resolution 1.00: This 10-hour workshop examines gender and multi-cultural communication. The material includes identifying and evaluating sources of conflict and developing strategies and skills to positively manage and resolve conflicts.

MSD 111 Corresponding Effect at Work 3.00: Discusses the necessary communication tools and how to use them in a variety of ways such as: writing letters, memos, performance reviews, reports and brochures relating to job situations.

MSD 113 Influence Without Authority1.00: Participants will learn to clearly distinguish between the terms power, influence and authority. Topics include: effective listening, lateral relationships in the workplace, influencing peers, influencing one's supervisor, mutual exchange, rules of reciprocation, knowing yourself and your allies, and building relationships.

MSD 115 Improving Work Relations 3.00: Discusses management techniques, methods and strategies for helping managers, aspiring managers and staff professionals step out from the "crowd of look-a-likes." Topics include improving individual effectiveness, developing interpersonal relationships, functions of work groups, multi-cultural relations, productivity and quality at the organizational level.

MSD 116 Creative Thinking for Innovative Change 1.00: In today's-and tomorrow's- unpredictable and increasingly challenging world, we must make a fundamental choice: to be changed, inevitably, by the forces churning around us, or to be the change-leader through innovative actions. Learn how to jump-start your own creative, innovative thinking.

MSD 117 Customer Relations 3.00: Discusses the importance of customer relations. Emphasis on techniques for effective customer service. Explores setting the stage, analyzing and developing customer service policies, listening, handling problems and concerns, building a team and growing a business.

MSD 119A Intercultural Communication 1.00: Identifies sources of common cultural misunderstandings. Helps solve basic interpersonal challenges through discussion, video, and practice. Gives resources to improve relationships.

MSD 121 Leadership Skill Development 3.00: Discusses new leadership theories and paradigm shifts and strategies for leading others and managing yourself. Topics include strategies for developing organizational visions, communication with clear meaning, developing trust through positioning, creating the learning organization, and sharing leadership through empowerment.

MSD 122 Motivation Without Manipulation 1.00: This 10-hour workshop will focus on setting a climate for intrinsic motivation. Topics include organizational theories and their impact, ranking needs in the workplace, delegation obstacles to motivation, recognition systems and emotional intelligence.

MSD 123 Job Search Strategies 1.00: This 10-hour workshop explores strategies for finding the "right" job. Includes self-discovery, goal-setting, prospecting, networking, resume-writing, interviewing, career-planning, and self-marketing skills.

MSD 125 Unions in Today's Business Environment 1.00: This workshop discusses the role of unions from their inception to present day. Topics include the health and safety issues which spurred the formation of unions in the late 1800's; impact of work hours, wages and safety; the enactment of the National Labor Relations Act (Wagner Act), and the challenges supervisors and managers face as labor relations issues are addressed.

MSD 128 Crisis Intervention / Handling the Difficult Person 1.00: This workshop will discuss the phases of situation crisis intervention. Topics include techniques for approaching and handling the difficult person, the potentially dangerous person, and the potentially volatile situation.

MSD 129 Exploring Myers-Briggs Type Indicator (MBTI) 1.00: Explores how the MBTI can be applied as a tool for understanding personality preferences and

their effects in work settings. Through discussion and comparison, discover ways to enhance communication, resolve conflict, and adapt to differences in leadership styles. Discover ways to develop the neglected sides of yourself, and recognize the potentially rich contributions of your own type.

MSD 130 Creative Problem Solving 3.00: Covers creative problem solving and thinking, steps in the creative problem-solving process, right and left brain thinking, ambiguity and imagination, overcoming barriers to creative thinking, synthesis, and applying creative problem-solving to the organization.

MSD 131 Preparing for Supervision 1.00: Designed for those new to supervision or considering taking supervisory responsibilities. Skills and responsibilities for successful supervision examined. Ideas shared on how to deal with common problems and challenges facing new supervisors.

MSD 133 Brave New Workplace / Strategies to Excel in World of Change 1.00: Discover tools and strategies to cultivate creative thinking your competitive edge in these turbulent, exciting times. We are surrounded by simple, obvious solutions that can dramatically increase our income, power influence and ultimately, long-term success. Our challenge is to see them!

MSD 134 Who Moved My Cheese 1.00: Change is constant, it's all around us and it's inevitable. This class on transition and change is based on the #1 best seller business book by Spencer Johnson, M.D. called Who Moved My Cheese. This course is fun learning and it positively equips people to better understand and grow from change.

MSD 139 Facilitating Skills That Work 1.00: Learn skills to facilitate meetings that produce results. Participants will learn to pre-plan a meeting, gain desired outcomes, plan the agenda, and evaluation techniques.

MSD 140 Management Workshops 1.00: This workshop focuses on a wide range of management issues: maintaining quality, building teams, setting ethical standards, managing diversity, implementing technology, maintaining an effect organization, balancing authority and leadership, problem solving and decision making.

MSD 141A The Time-Stress-Communication Triangle 1.00: This 10-hour workshop focuses on the stress control, time management, and interpersonal communication triangle. While learning to function effectively under pressure, participants will learn how to maintain good relationships, conquer interruptions, manage meetings, and build self-esteem.

MSD 142A Personnel and the Law 1.00: Historical and governmental perspective of employment law, the Civil Rights Act and other equal employment opportunity laws. Includes comparing EEO laws with regulations of the Federal Contract Compliance Program, identifying and complying with legal issues of employment, and discussion of other laws affecting personnel.

MSD 142B Thriving in Transition 1.00: This 10-hour workshop discusses how to thrive in the midst of the constant change. Topics include understanding the sources of change, proposing change, addressing resistance to change, and successfully implementing change.

MSD 143 Working Smarter, Not Harder 1.00: Explores techniques for turning inefficient time into productive time. Emphasizes analyzing your working style to: eliminate any self-defeating work behaviors, enhance productive behaviors, learn methods for conserving and maintaining energy to keep performance at the "peak" level.

MSD 143A Managing Cultural Diversity 1.00: This 10-hour workshop discusses how work-styles differ among the diverse cultural groups, employed in companies within this country. Topics include understanding how misunderstandings and conflicts may be the result of cross-cultural differences, identifying how cultural values influence behavior, learning how to avoid offending and alienating others while encouraging positive behavior.

MSD 148 Asserting Yourself in the Workplace 1.00: This workshop looks at three typical types of human behavior and focus on assertiveness. Particular attention given to creating appropriate situations for assertive behavior to occur and opportunities for skill practice also provided.

MSD 150 Listening Skills 1.00: Acquire an understanding of the techniques of active listening and communication skills. Communication techniques such as the perception check, interpretive listening, paraphrasing and questioning will be presented, and opportunity to practice these skills included.

MSD 151 Dealing with Difficult People 1.00: This 10-hour workshop explores ideas for coping successfully with difficult people and situations. The basic psychology and personal styles of difficult interactions is examined. Specific techniques for dealing with difficult encounters and enhancing relationships are discussed along with hands-on application.

MSD 151A Strategic Planning 1.00: This 10-hour workshop consists of three parts: how to analyze the current condition of the organization; how to develop a strategic plan for the organization; and how to develop the strategies to achieve the strategic plan.

MSD 156A Sexual Harassment and Other Problems in the Workplace 1.00: This 10-hour workshop focuses on current legal and personnel problems in the workplace. Topics include sexual harassment, worker's compensation, discrimination, disability laws, and other federal regulations. MSD 157 Conflict Management Conflict Management This 10-hour workshop examines common causes of conflict and developing approaches for managing conflict for positive results. Content includes learning practical on-the-job techniques for working through conflict such as "cooperative conflict," dealing with anger, and prevention ideas.

MSD 159 Stress Control 1.00: This 10-hour workshop focuses on understanding your own signs of stress. Includes techniques for preventing stress, identifications of personality factors and interpersonal factors related to stress, and job burnout.

MSD 160A Communication Styles 1.00: Concentrates on understanding various communication styles including differences in perspectives, styles, beliefs and feelings. Discussion includes building relationships at home, work and in communities with a wide range of people.

MSD 161 Customer Relations 1.00: This 10-hour workshop discusses the principles of effective customer relations. Topics include identifying and responding to customer needs, dealing with difficult customers, developing a positive customer climate, building effective verbal and nonverbal communication skills.

MSD 162 Coping with Angry Feelings and Angry People 1.00: This 10-hour workshop focuses on how to cope more effectively and constructively with angry feelings. Also includes understanding the impact anger has on ourselves and others; learning how to gain control over our reaction to anger-provoking situations; and converting angry feelings into positive action.

MSD 162B Professional Image 1.00: Focuses on being taken seriously in the workplace. Develop a first impression that people remember. A practical approach to building professionalism through behavior and appearance, and handling office politics, personalities, and criticism more effectively.

MSD 164 Better Memos and Letters 1.00: This 10-hour workshop teaches effective writing skills for the work place. Topics include learning how to begin writing and when to stop, becoming more efficient and confident, learning what to include and what to avoid in memos and letters.

MSD 165B Lessons in Leadership 1.00: Topics covered include: workplace teams, getting things done, managing people, change and diversity. This workshop is for all levels of the organization including executives, managers, supervisors and team members.

MSD 170 The Challenge of Ethics & Values in the Workplace 1.00: This 10-hour workshop explores ethical problems and challenges employees face in the workplace. Topics include understanding the meaning of business ethics, the need for maintaining high ethical standards, the concept of social responsibility, and strategies for promoting ethics in the organization.

MSD 173B Performance Appraisal 1.00: This 10-hour workshop focuses on skills for evaluating performance. Topics include defining performance appraisals, evaluating various appraisal methods, using flowcharts for assessing performance, and incorporating feedback.

MSD 174 Time Management 1.00: This 10-hour workshop focuses on learning how to evaluate time usage to make it more efficient and more effective. Topics include developing awareness of how we use our time, understanding productivity, developing a time management system, protecting our time, and additional time management tips.

MSD 174B Leadership & Effective Decision Making 1.00: Covers historic examples, characteristics and styles of leadership. Participants will explore leadership activities in public and private organizations;

investigate opportunities to exercise personal leadership skills, contribute to group leadership situations and discuss the impact of moral and ethical factors in decision making.

MSD 175A How to Implement TQM At Your Organization 1.00: This 10-hour workshop focuses TQM practices and philosophies employed by successful business of all types, large and small, throughout the world. Topics include direct links between management's leadership, employee activities and customer satisfaction, while understanding what it takes to eliminate impediments to service quality through continuous improvement.

MSD 175B Direct Communication in the Workplace 1.00: This 10-hour workshop focuses on various communication situations (both verbal and written) in the workplace. Topics include putting oneself in the receiver's shoes, understanding what the listener's hear, adapting messages to enhance the receiver's understanding, and focusing on the results the sender wants to achieve.

MSD 176 Nonverbal Communication 1.00: This 10-hour workshop discusses the impact non-verbal communication has on understanding the message. Topics include body language, eye contact, attire, and manner of presentation and cultural differences.

MSD 176A Interpersonal Communication 1.00: This 10-hour workshop explores a practical approach to understanding interpersonal communication. Topics include techniques for active listening, methods for conflict resolution, and learning techniques for becoming "other person" focused.

MSD 177 Team Building 1.00: Discusses what team building is, why it is important, how to start it, how to manage the team building process, 12 components of generating team building development, and some selected tools for team building.

MSD 177B Coaching Great Performance 1.00: Centers on how to effectively work with people in a helping relationship. Introduction to coaching and gaining hands-on experience being and working with a client. Coaching helps clients examine the way they do things as well as what they do. Build your coaching skills by focusing on five key principles of coaching: coaching listening, powerful inquiry, creating choice, balance and fulfillment.

MSD 179B Avoid Burnout / Build Resilience 1.00: Explores symptoms of the five distinct and sequential stages of burnout; the three major areas of negative stress; the relationship between stress and burnout; the five distinct and interrelated characteristics of personal resilience; and the application of coping skills, antidotes and resilience to avoid burnout.

MSD 180A Goal Setting and Productivity 1.00: This 10-hour workshop focuses on steps for setting goals and successfully completing them. Includes the SMART goal approach, the benefits of setting goals, identifying and overcoming obstacles, and creating achievable, small steps.

MSD 187 Humor in the Workplace 1.00: Concentrates on the rediscovery of laughter and humor through situational humor to re-build human connection, improve individual health, kindle creativity, and establish perspective in a work world confused by strategies such as downsizing, reengineering, outsourcing, etc. Participants should be forewarned that sporadic laughter is entirely possible.

MSD 188B Self Management for Success 1.00: We can't manage others effectively until we learn to manage ourselves. This course helps you identify your roadblocks to success--including the "too much to do, too little time" syndrome, excessive stress, unclear goals, and unproductive work patterns--and provides strategies to change these habits. You will gain a new sense of enthusiasm as you redirect your energy and take a new approach to your work.

MSD 192A Project Management 1.00: Provides both the tools and behavioral skills necessary to manage any project successfully. All steps of the project cycle are modeled with opportunities for participants to practice each step. Participants will learn to increase productivity, present a project activity plan using professional tools and develop project team building skills.

MSD 193 Self Esteem the Key to Success 1.00: This 10-hour workshop focuses on the cornerstone of behavior: self-esteem. Topics include learning how self-esteem affects our relationships, our ability to solve problems and set goals, our work performance, and our health. Emphasizes understanding the importance of maintaining a healthy self-esteem when handling conflict and many major dilemmas common to modern life. MSD 193A Leadership Skill Development Leadership Skill Development Leadership is an essential part of running a quality organization. Learn about the various facets that define leadership today.

MSD 194 Effective Presentation Skills 1.00: This 10-hour workshop focuses on preparing participants for giving an effective presentation. Topics include selecting topics, analyzing the audience, developing ideas, selecting and using visual aids, handling questions and overcoming objections. Each participant will give a presentation during the session.

MSD 198A Male/Female Communication Style Differences 1.00: Understanding the other's ways of talking is a giant leap across the communication gap between women and men and a giant step toward opening lines of communication.

MSD 198B Exploring 7 Habits of Highly Effective People 1.00: Each of Dr. Covey's 7 Habits is rich in life-helpful ideas. This class explains how to apply them to your day. Practical tips on stress control, conflict resolution, time management and communication are discussed.

MSD 200 Organizations and Social Responsibility 3.00: Clarifies managerial/supervisory attitudes about the relationships between business and government, the anti-discriminatory and open work environment, current environmental issues such as pollution and energy, the consumer movement, and workplace ethics.

MSD 201 Productivity Management 3.00: This three credit course discusses techniques for managing productivity. Topics include basic productivity definitions, control measures and productivity, impact of the internet on productivity, impact of change on productivity and tools for measuring productivity.

MSD 202 Training the Employee 3.00: Develops practical perspective of training as an organizational resource. Includes ways people learn, identifying employee training development requirements, developing objectives, designing lesson plans, evaluation criteria, developing strategy, alternatives to training, and practicum.

MSD 204 Labor - Management Relations 3.00: Provides a perspective on labor management interactions and insight into current labor relations events. Includes the history and development of the labor movement, management/supervisory responsibilities for labor relations, labor unions' current status and organizational make-up, labor legislation, grievance and disciplinary action, arbitration, mediation, and contracts.

MSD 206 The Troubled Employee 3.00: Reviews the factors contributing to the development of the troubled employee. Includes identifying potential troubled employee work habits and attitudes (e.g. absenteeism, tardiness, sudden personality change), Employee Assistance Programs and possible community assistance agencies.

MSD 210 Public Relations 3.00: Discusses the importance of public relations in the business world. Emphasizes understanding key concepts, how to effectively use public relations in a business, techniques for promoting image, and working with the media in any public relations campaign.

MSD 212 Work Analysis and Improvement 3.00: This three credit course discusses steps for analyzing work and improving its impact. Topics include objectives of work analysis, using charts and graphs, developing an environment that encourages questions and discussion of differences, principles of motion economy, time management, procedure writing and employee training.

MSD 214 Safety and Security Management 3.00: Covers safety and security management, roles of OSHA/NIOSH, supervisor's role in safety and security management, compensation laws and practices, and profitability of quality safety and security management.

MSD 216 Budgeting for Managers 3.00: Covers budgeting vocabulary, finance principles, record keeping techniques, cash management, cash budgeting and capital budgeting. Recommended: Work-related budgeting experience.

MSD 222 Human Resource Management / Personnel 3.00: Covers personnel operations, human resource planning, job design and job analysis, recruitment and equal employment opportunity, and job selection and placement.

MSD 223 Human Resource Management /Performance and Compensation 3.00: Covers performance appraisal, indirect compensation programs, improving productivity and quality of work life,

employee rights and collective bargaining.

MSD 240 Strategic Planning 3.00: Covers determining company strategy, defining major policy, tactical planning and action, policy implementation and follow-up procedures.

MSD 265 Fundamentals of Production and Inventory Management 4.00: Introduces the multiple facets of production and inventory management. Provides a general foundation for future American Production and Inventory Control Society (APICS) courses and national examinations. Includes planning, forecasting, master production scheduling, materials planning, inventory management, production activity control, purchasing, production and inventory management, project management, mathematical programming and stochastic simulation.

MSD 279 Project Management 3.00: Designed so participants can learn the essential strategy and methods for project management. Each student will develop a "model" project using a step-by-step methodology.

MSD 280A Coop.Ed. / Management and Supervisory Development 3.00: Designed to permit a student in concert with an organization to combine new on-the-job supervisory work experience with concepts and skills learned in supervisory classes and in the process become a greater asset to the organization. Department permission required.

MSD 280B Coop. Ed. / Management and Supervisory Development- Seminar 1.00: Designed as a one credit hour seminar in which the student will learn how to prepare and deliver a work-related plan. Skills learned will be directly related to these activities. Includes a visit by the instructor to the work site and a discussion of the project with the student's supervisor as well as the student.

MSD 285A Fund Total Quality Management 3.00: Designed so participants can learn the basic methods, procedures and practices of Total Quality Management. Emphasis is on fundamentals of understanding and using quality-based management in organizations.

MSD 287 Data Analysis for Quality Improvement 3.00: Introduces the basics of quality control and problem solving. Exposes key concepts via a job-related approach. Topics include how to collect data, sampling methods, check sheets, run charts, histograms, cause and effect diagrams, scatter diagrams and control charts.

MSD 295A Management Effectiveness 3.00: Focuses on providing students with a more in-depth understanding of various management concepts. Topics include the changing role of managers today, organizational techniques for production management situation, methods for assessing various organizational problems and motivational climates. A maximum of six credit hours may be applied toward the degree requirements.

MSD 295B Management Effectiveness 2.00: Focuses on providing students with a more in-depth understanding of various management concepts. Topics include identifying the role the manager plays in identifying priorities, methods for improving creative approaches to problem solving, handling a crisis, and increasing productivity. A maximum of four credit hours may be applied toward the degree requirements.

MSD 298 Trends in Management and Supervision 1.00–6.00: Examines specific topics of current interest not necessarily covered in other Management/Supervisory Development classes but related to the changing management field. Investigate different topics earning from 1 to 6 credits depending on the length of the class. Other workshop descriptions are available by calling the Management and Supervisory Development Department.

Microelectronic Technology

MT 70 Vacuum Technology Practice 0.5: Customizable survey course in the theory and practice of vacuum as used in semiconductor manufacturing. Includes vacuum principles, vacuum pumps, guages and components, and leak detection.

MT 80 Safety and Cleanroom Protocol 2.00: Covers safety consideration for working in a semiconductor industry cleanroom. Introduces safety programs in the industry. Overviews available hazard information and how to obtain it. Covers personal safety and related equipment.

MT 90 Basic Electronics 3.00: Includes Ohm's Law, Kirchhoff's Voltage and Current Law in series and parallel circuits, and troubleshooting problems of basic electric circuits. Labs include basic measurement and troubleshooting techniques, use of electronic test equipment and proper documentation procedures. Prerequisite/Concurrent registration: MTH 60; WR 115.

MT 100 Introduction to Micro and Nano Tech 3.00: Introduces the methods used to manufacture Micro and Nano technologies. Traces semiconductor processing from raw material to a finished integrated circuit using planar technology. Introduces the processes and equipment used to create devices on the micro and nano scale. Emerging applications of MEMS and Nanotechnology are discussed. Prerequisite: MTH 65.

MT 111 Electronic Circuits & Devices I 4.00: Includes Ohm's Law, Kirchhoff's Voltage and Current Law, Superposition, Thevenin's Theorem, and R-C circuits. Labs include basic measurement techniques, use of electronic test equipment and proper documentation procedures. Prerequisites: WR 115 and placement into or completion of MTH 95.

MT 112 Electronic Circuits & Devices II 4.00: Covers AC circuits. Includes both single frequency and frequency response analysis of circuits containing resistance, capacitance, and inductance. Both trigonometry and phasors will be covered. Labs include circuit construction, computer simulation and testing. Prerequisites: MT 111; MTH 95.

MT 113 Electronic Circuits & Devices III 4.00: Overviews discrete semiconductor devices - diodes, BJTs, and FETs - and operational amplifiers. DC models as well as frequency response, bandwidth/rise time relationships, and performance criteria are emphasized. Labs emphasize circuit construction and include simulation of amplifier circuits. Prerequisite: MT 112.

MT 121 Digital Systems I 3.00: Covers combinational logic devices and circuits. Includes basic operation of logic gates, Boolean algebra, and MSI logic devices. Labs emphasize prototyping and testing of combinational logic circuits. Prerequisites: WR 115; MTH 65.

MT 122 Digital Systems II 3.00: Covers sequential logic devices and circuits. Includes the operation of latches and flip-flops, ripple and synchronous counters, shift registers, memories, and a simple microprocessor system. Labs emphasize prototyping and testing of sequential logic circuits. Prerequisite: MT 121.

MT 200 Semiconductor Processing 3.00: This course explores aspects of semiconductor processing. Covers semiconductor device (CMOS) design and the following manufacturing processes: oxidation, photolithography, etch, doping, chemical vapor deposition, metalization and test/sort. Prerequisites: MT 223, MT 240, SP 130 and CH 222.

MT 222 Quality Control Methods in Manufacturing 3.00: Explores quality control methods used in semiconductor manufacturing, including statistical process control (SPC), control charts, performance representation and capability measurements. Emphasizes computer manipulation of actual data for analysis and design of quality. Prerequisites: MTH 243 and WR 227

MT 223 Vacuum Technology 3.00: Covers theory and practice of vacuum technology as used in semiconductor manufacturing. Includes vacuum principles, gas loads, pumping techniques, pressure measurement, RGAs, and leak detection. Prerequisites: MT 100, MT 113, CH 222 and WR 227.

MT 224 Process Equipment I 3.00: First course in a two-course sequence in semiconductor process equipment. Covers microcontrollers, DC and stepper motors, pneumatics, and mechanical linkages. Prerequisites: MT 100, 113, 122.

MT 227 Process Equipment II 3.00: Covers subsystems of a semiconductor processing system. Includes pneumatics and robotic systems. Focuses on analysis, maintenance and troubleshooting. Prerequisite: MT 223 and MT 224.

MT 228 Process Equipment III 4.00: Covers a semiconductor processing system. Includes power, vacuum, gas, delivery, robotic and control systems. Focuses on maintenance and troubleshooting. Prerequisites: MT 227, 223, 240.

MT 240 RF Plasma Systems 3.00: Covers the theory and practice of RF plasma systems used in semiconductor manufacturing. Includes plasma physics, RF power subsystems, gas delivery, subsystems, and plasma-aided manufacturing. Prerequisites: MT 223, MT 224, CH 222 and WR 227.

Mathematics

MTH 10B Fundamentals of Arithmetic I 2.00: Use of whole numbers to write, manipulate, interpret, and solve application and formula problems. Concepts will

be introduced numerically, graphically, symbolically, and in oral and written form. Prerequisite: Pre-Algebra COMPASS 1-20.

MTH 10C Fundamentals of Arithmetic I 2.00: Use of whole numbers to write, manipulate, interpret and solve application and formula problems. Concepts will be introduced numerically, graphically, symbolically, and in oral and written form. Prerequisites: Pre-Algebra COMPASS score 1-20.

MTH 11B Fundamentals of Arithmetic II 2.00: Use of fractions and decimals to write, manipulate, interpret and solve applications and formulas. Concepts will be introduced numerically, graphically, symbolically and in oral and written form. Prerequisites: Pre-Algebra COMPASS score 1-20 or successful completion of MTH 10.

MTH 11C Fundamentals of Arithmetic II 2.00: Use fractions and decimals to write, manipulate, interpret and solve application and formula problems. Concepts will be introduced numerically, graphically, symbolically, and in oral and written form. Prerequisite: Pre-Algebra COMPASS score 1-20 or successful completion of MTH 10 with a "C" or better.

MTH 15 Conquering Math Anxiety 1.00: How to manage anxiety and stress about mathematics. Personal development gives instruction in methods for dealing with excessive math anxiety. Relaxation techniques are demonstrated. Includes study skills information concerning the best ways to study and to change the perception of math anxiety.

MTH 20 Basic Math 4.00: Use fractions, decimals, percents, integer arithmetic, measurements, and geometric properties to write, manipulate, interpret and solve application and formula problems. Introduce concepts of basic statistics, charts and graphs. Concepts will be introduced numerically, graphically, and symbolically, and in oral and written form. Scientific calculator with fraction capabilities required. Prerequisite: Pre-Algebra COMPASS score 21-48 or successful completion of MTH 10 or MTH 11 with a "C" or better and Reading COMPASS score 44-65 or successful completion of RD 80 or ESOL 250 with a "C" or better.

MTH 20B Basic Math 4.00: Use fractions, decimals, percents, integer arithmetic, measurements, and geometric properties to write, manipulate, interpret and solve application and formula problems. Introduces concepts of basic statistics, charts and graphs. Concepts will be introduced numerically, graphically, symbolically, and in oral and written form. Scientific calculator with fraction capabilities required. Prerequisites: Pre-Algebra COMPASS score 21-48 or successful completion of MTH 10 or MTH 11 with a "C" or better and Reading COMPASS score 44-65 or successful completion of RD 80 or ESOL 250 with a "C" or better.

MTH 21C Percentage and Statistics 1.00: Use fractions, decimals, and percents to write, manipulate, interpret and solve applications and formulas. Introduce concepts of basic statistics, charts and graphs. Concepts will be introduced numerically, graphically, symbolically, and in oral and written form. Scientific calculator with fraction capabilities required. Prerequisites: Pre-Algebra COMPASS score 21-48 or successful completion of MTH 11 with a "C" or better and Reading COMPASS score 44-65 or successful completion of RD 80 or ESOL 250 with a "C" or better.

MTH 22 Measurements 1.00: Use both English and Metric measurements, conversions, temperature, and to write, manipulate, interpret, and solve applications and formula problems . Concepts will be introduced numerically, graphically, symbolically, and in oral and written form. Scientific calculator with fraction capabilities required. Prerequisite: Pre-Algebra COMPASS score 21-48 or successful completion of MTH 11 with a "C" or better and Reading COMPASS score 44-65 or successful completion of RD 80 or ESOL 250 with a "C" or better.

MTH 22C Measurements 1.00: Use both English and Metric measurements, conversions, temperature, and to write, manipulate, interpret and solve application and formula problems. Concepts will be introduced numerically, graphically, symbolically, and in oral and written form. Scientific calculator with fraction capabilities required. Prerequisite: Pre-Algebra COMPASS score 21-48 or successful completion of MTH 11 with a "C" or better and Reading COMPASS score 44-65 or successful completion of RD 80 or ESOL 250 with a "C" or better.

MTH 23C Introduction to Geometry 1.00: Use geometric properties to write, manipulate, interpret and solve application and formula problems. Concepts will be introduced numerically, graphically, symbolically, and in oral and written form. Scientific calculator with fraction capabilities required. Prerequisites: Pre-Algebra COMPASS score 21-48 or successful completion of MTH 11 with a "C" or better and Reading COMPASS score 44-65 or successful completion of RD 80 or ESOL 250 with a "C" or better.

MTH 24C Pre-Algebra 1.00: Use integer arithmetic to write, manipulate, interpret and solve application and formula problems. Concepts will be introduced numerically, graphically, symbolically, and in oral and written form. Scientific calculator with fraction capabilities required. Prerequisites: Pre-Algebra COMPASS score 21-48 or successful completion of MTH 11 with a "C" or better and Reading COMPASS score 44-65 or successful completion of RD 80 or ESOL 250 with a "C" or better.

MTH 25C Fractions 1.00: Use fractions to write, manipulate, interpret and solve application and formula problems. Concepts will be introduced numerically, graphically, symbolically, and in oral and written form. Scientific calculator with fraction capabilities required. Prerequisites: Pre-Algebra COMPASS score 21-48 or successful completion of MTH 10 with a "C" or better and Reading COMPASS score 44-65 or successful completion of RD 80 or ESOL 250 with a "C" or better.

MTH 26C Decimals 1.00: Use decimals, to write, manipulate, interpret and solve application and formula problems. Concepts will be introduced numerically, graphically, symbolically, and in oral and written form. Scientific calculator with fraction capabilities required. Prerequisites: Pre-Algebra COMPASS score 21-48 or successful completion of MTH 10 with a "C" or better and Reading COMPASS score 44-65 or successful completion of RD 80 or ESOL 250 with a "C" or better.

MTH 27C Applications in Mathematics 1.00: Use fractions, decimals, percents, integer arithmetic, and measurements to write, manipulate, interpret and solve applications and formulas. Concepts will be introduced numerically, graphically, symbolically, and in oral and written form. Scientific calculator with fraction capabilities required. Prerequisites: Pre-Algebra COMPASS score 21-48 or successful completion of MTH 11 with a "C" or better and Reading COMPAS score 44-65 or successful completion of RD 80 or ESOL 250 with a "C" or better.

MTH 30 Business Mathematics 4.00: Application of arithmetic to a variety of problems found in the business field, including simple and compound interest, annuities, payroll preparation, pricing, invoice preparation, trade discounts, taxes, and depreciation. Scientific calculator required. Prerequisites: MTH 20; (RD 80 or ESOL 250).

MTH 60 Introductory Algebra- 1st Term 4.00: Use applications, formulas, and reasoning skills to write, manipulate, interpret, solve and graph linear equations. Concepts introduced numerically, graphically, and symbolically. Communicate results in oral and written form. See instructor for calculator recommendation. Prerequisite: Successful completion of MTH 20 and (RD 80 or ESOL 250).

MTH 61 Introductory Algebra-Part I 3.00: Use applications, formulas and reasoning skills to write, manipulate and interpret expressions and equations. Concepts introduced numerically, graphically, and symbolically. Results communicated in oral and written form. See instructor for calculator recommendation. Prerequisites: MTH 20; (RD 80 or ESOL 250).

MTH 62 Introductory Algebra-Part II 3.00: Use applications, formulas, and reasoning skills to write, manipulate, interpret, solve, and graph linear equations. Concepts introduced numerically, graphically and symbolically. Results communicated in oral and written form. See instructor for calculator recommendation. Prerequisites: MTH 61; (RD 80 or ESOL 250).

MTH 63 Introductory Algebra-Part III 3.00: Use applications, formulas, and reasoning skills to write, manipulate, interpret, solve, and graph quadratic equations. Concepts will be introduced numerically, graphically and symbolically. Results communicated in oral and written form. See instructor for calculator recommendation. Prerequisites: MTH 62; (RD 80 or ESOL 250).

MTH 65 Introductory Algebra-2nd Term 4.00: Use applications, formulas, and reasoning skills to write, simplify, solve, and graph linear systems and quadratic. equations. Concepts introduced numerically, graphically, and symbolically. Communicate results in oral and written form. See instructor for calculator recommendation. Prerequisites: Successful completion of (MTH 60 or 62); and (RD 80 or ESOL 250).

MTH 70 Review of Introduction Algebra 4.00: Linear and quadratic equations, systems of equations, properties of exponents and factoring polynomial expressions are reviewed. Technology is integrated as appropriate. Students communicate results in oral and written form. Prerequisites: MTH 63 or MTH 65, and

RD 80 or ESOL 250.

MTH 75 Introduction to Formal Geometry 4.00: Topics include: inductive and deductive reasoning, geometric constructions, line and angle properties, triangle properties, polygon properties, circles, transformations, area, volume, Pythagorean Theorem, similarity, and geometric proofs. Results communicated in oral and written form. Prerequisite: MTH 60.

MTH 91 Intermediate Algebra Part 2.00: Functions are investigated graphically and symbolically with an emphasis on function notation. Quadratic functions are examined in detail. Radical expressions are introduced. Absolute value equations and inequalities are solved. Technology is integrated as appropriate. Students communicate results in oral and written form. Graphing calculator required: TI 89/92 plus or Voyage 200 recommended. Prerequisite: MTH 63, MTH 65 or MTH 70 and placement into WR 115. Students must take both MTH 91 and MTH 92 to satisfy MTH 95 requirements.

MTH 92 Intermediate Algebra Part II 2.00: Functions are investigated graphically and symbolically with emphasis on function notation. Rational and radical expressions and equations are emphasized. Technology is integrated as appropriate. Students communicate results in oral and written form. G Graphing calculator required: TI-89/92 recommended. Prerequisite: Successful completion of MTH 91 and placement into WR 115. Students must take both MTH 91 and MTH 92 to satisfy MTH 95 requirements.

MTH 93 Introduction to the TI Graphics Calculator 1.00: Explores the power of your programmable graphing calculator for use at school and home. The TI-89, TI 92+, or Voyage 200 graphing calculator is required.

MTH 95 Intermediate Algebra 4.00: Functions are investigated graphically and symbolically with an emphasis on function notation. Quadratic functions are examined in detail. Rational and radical expressions and equations are emphasized. Absolute value equations and inequalities are solved. Technology is integrated as appropriate. Students communicate results in oral and written form. Graphing calculator required: TI 89/92 plus or Voyage 200 recommended. Prerequisites: MTH 63, MTH 65 or MTH 70 and placement into WR 115.

MTH 105 Explorations in Mathematics 4.00: Students engage in the discovery and exploration of selected non-traditional topics in mathematics. Possible topics include mathematics of social choice, geometry, statistics, probability, and discrete mathematics. Technology will be used where appropriate. Students communicate results in oral and written form. Prerequisites: WR 115, RD 115 and MTH 95 or equivalent placement test scores.

MTH 111B College Algebra-Business, Management, Life & Social Science 5.00: Relations and functions are investigated graphically, numerically, symbolically, and verbally. Logarithmic functions, exponential functions, and systems of equations are explored. Special topics include polynomial and rational functions. Applications are investigated from business, management, life and social science perspectives. Technology is integrated throughout the course. TI graphing calculator required, see instructor at first class meeting. Prerequisites: WR 115, RD 115 and MTH 95 or equivalent placement test scores.

MTH 111C College Algebra for Math, Science, & Engineering 5.00: Relations and functions are investigated graphically, numerically, symbolically, and verbally. Exponential, logarithic, polynomial, power, and rational functions are explored. Special topics include systems of linear and non-linear equations. Applications are investigates from Science and Engineering perspectives. Technology is integrated throughout the course. Students communicate results in oral and written form. Prerequisite: WR 115, RD 115 and MTH 95 or equivalent placement test scores. Graphing calculator required; TI 89, TI 92 or Voyage 200 recommended.

MTH 112 Elementary Functions 5.00: Topics investigated graphically, numerically, symbolically, and verbally and include: trigonometric functions and their graphs, trigonometric equations and identities, solution of right and oblique triangles, vectors, polar coordinates, parametric equations and complex numbers. Technology is integrated throughout the course. Students communicate results in oral and written form. Graphing calculator required; TI 89, TI 92 or Voyage 200 recommended. Prerequisite: WR 115, RD 115 and MTH 111B or 111C or equivalent placement test scores.

MTH 191 Math Tutoring 3.00: Pre 100-level Credit Courses Training in one-to-one and small group tutoring in arithmetic and other non-transfer courses. Required field work consists of providing tutoring service in the community or college. Concurrent enrollment in a math transfer course of MTH 111 or above.

MTH 192 Math Tutoring 3.00: 100-level Credit Courses Training in one-to-one and small group tutoring in 100-level courses. Required field work consists of providing tutoring service in the community or college. Prerequisite: MTH 251 or equivalent.

MTH 193 Math Tutoring 3.00: 200-level Credit Courses Training in one-to-one and small group tutoring in 200-level math courses. Required field work consists of providing tutoring service in the community or college. Consent of instructor required.

MTH 211 Foundations of Elementary Math I 4.00: Surveys mathematical topics for those interested in the presentation of mathematics at the K-9 levels. Topics emphasized are problem solving, patterns, sequences, set theory, logic, numeration systems, number bases, arithmetic operations, and number theory. Various manipulative and problem solving strategies are used. Prerequisite: MTH 95 or higher, and WR 115 and RD 115 or equivalent placement test scores.

MTH 212 Foundations of Elementary Math II 4.00: Surveys mathematical topics for those interested in the presentation of mathematics at the K-9 levels. Various manipulatives and problem solving approaches are used to explore rational numbers (fractions, decimals, percents), integers, the set of irrational numbers, the set of real numbers, and simple probability and statistics. Prerequisite: MTH 211 and its prerequisite requirements.

MTH 213 Foundations of Elementary Math III 4.00: Surveys mathematical topics for those interested in the presentation of mathematics at the K-9 levels. Various manipulatives and problem solving approaches are used to explore informal geometry, transformational geometry, and measurement systems. Prerequisite: MTH 211 and its prerequisite requirements.

MTH 231 Elements of Discrete Mathematics I 4.00: A survey course introducing the language, concepts, techniques, and applications of Discrete Math. Topics include:Logic, Set Theory, Graph Theory, Boolean Algebra, Math Induction, and Recursion. Prerequisite: MTH 111B or 111C and their prerequisite requirements. MTH

MTH 232 Elements of Discrete Mathematics II 4.00: Second term of a survey course that continues with topics from Discrete Mathematics. Topics include: direct proof and counterexample, probability, ccombinatorics, cardinality, and algorithms. Students will not get credit for both (CS 251 and 252); and (MTH 231 and MTH 232). Prerequisite: MTH 231 and its prerequisite requirements.

MTH 241 Calculus for Management, Life and Social Science 4.00: Topics include limits, continuity, derivatives, and integrals. Applications are investigated from science, business, and social science perspectives. TI graphing calculator required, see instructor at first class meeting. Prerequisite: MTH 111B or MTH 111C and their prerequisite requirements.

MTH 243 Statistics I 4.00: Topics include displaying data with graphs, numerical descriptions of data, producing data, elementary probability, probability distributions, and introduction to confidence intervals. Applications are investigated from science, business, and social science perspectives. TI graphing calculator with advanced statistical programs and/or computer software, see instructor. Prerequisites: MTH 111B or 111C and their prerequisite requirements.

MTH 244 Statistics II 4.00: Topics include confidence interval estimation; tests of significance including z-tests, t-tests, ANOVA, and chi-square; and inference for linear regression. Applications are investigated from science, business, and social science perspectives. TI graphing calculator with advanced statistical programs required and/or computer software, see instructor. Prerequisites: MTH 243 and its prerequisite requirements.

MTH 251 Calculus I 4.00: The student will develop an understanding of limits, continuity, derivatives and applications of derivatives. Students will communicate their results in oral and written form. Graphing calculator required. Prerequisites: MTH 112 or MTH 116 or CMET 131; and their prerequisite requirements. Corequisite: MTH 251 Lab section.

MTH 252 Calculus II 5.00: The student will develop an understanding of antiderivatives, the definite integral, topics of integration, and improper integrals. Students will communicate their results in oral and written form. Graphic calculator required. Prerequisites: MTH 251 and its prerequisite requirements.

MTH 253 Calculus III 5.00: Topics include: infinite sequences and series (emphasis on Taylor series), an introduction to differential equations, and vectors in

three space. Students will communicate their results in oral and written form. TI graphing calculator required, see instructor at first class meeting. Prerequisites: MTH 252 and its prerequisite requirements.

MTH 254 Vector Calculus I 5.00: Topics include multivariate and vector-valued functions from a graphical, numerical, and symbolic perspective. Applies integration and differentiation of both types of functions to solve real world problems. Students will communicate their results in oral and written form. TI graphing calculator required, see instructor at first class meeting. Prerequisites: MTH 253 and its prerequisite requirements.

MTH 256 Differential Equations 5.00: Study a variety of differential equations and their solutions, with emphasis on applied problems in engineering and physics. Differential equations software will be used. Students communicate results in oral and written form. TI graphing calculator required, see instructor at first class meeting. Prerequisites: MTH 253 and its prerequisite requirements.

MTH 261 Applied Linear Algebra I 5.00: Overview of linear algebra with some applications. Includes linear systems, vectors, and vector spaces, including eigenspaces. TI graphing calculator required, see instructor at first class meeting. Prerequisites: MTH 253 and its prerequisite requirements.

Professional Music

MUC 101 Commercial Music Theory I 3.00: Covers chord types and scales, and their proper spellings. Practice dictation practice. Includes music copying.

MUC 102 Commercial Music Theory II 3.00: Covers functional harmony and altered chords, especially dominants. Focuses on chord progressions presented aurally and analyzed in reference to popular tunes, and scalular techniques to include melody writing with emphasis on jazz, rock and other commercial rhythms. Basic tune forms are analyzed. Must have prerequisite or instructor permission. Prerequisite: MUC 101.

MUC 103 Commercial Music Theory III 3.00: Covers preliminary score layout. Introduces harmonizing and blocking melodies and transposition, stressing craft and execution. Continue dictation adding elements of melodic and harmonic transcription. Must have prerequisite or instructor permission. Prerequisite: MUC 102.

MUC 120A Sight Singing and Ear Training I 1.00: Develops ability to use the ear accurately to discern the quality of intervals, rhythms, harmonies and melodies, and to intone rhythms. Musical samples are transcribed by ear to include melody, rhythm, and harmony.

MUC 120B Sight Singing and Ear Training II 1.00: Develop the ability to use the ear accurately to discern the quality of intervals, rhythms, harmonies and melodies, and to intone rhythms. Musical samples are transcribed by ear to include melody, rhythm, and harmony. Must have prerequisite or instructor permission. Prerequisite: MUC 120A.

MUC 120C Sight Singing and Ear Training III 1.00: Develops the ability to use the ear accurately to discern the quality of intervals, rhythms, harmonies and melodies, and to intone rhythms. Musical samples are transcribed by ear to include melody, rhythm, and harmony. Must have prerequisite or instructor permission. Prerequisite: MUC 120B.

MUC 123 Electronic Music I 2.00: Covers computer based recording, synthesis and notation for the composer/arranger. Includes fundamentals in Midi, sequencing, sampling, basic signal processing, and practical production skills using current digital technology. Write original material during lab sessions.

MUC 124 Electronic Media II 2.00: Covers computer based recording, synthesis and notation for the composer/arranger. Includes fundamentals in Midi, sequencing, sampling, basic signal processing, and practical production skills using current digital technology. Write original material during labs sessions. Must have prerequisite or instructor permission. Prerequisite: MUC 123.

MUC 125 Electronic Media III 2.00: Covers computer based recording, synthesis and notation for the composer/arranger. Includes fundamentals in Midi, sequencing, sampling, basic signal processing, and practical production skills using current digital technology. Write original material during lab sessions. Must have prerequisite or instructor permission. Prerequisite: MUC 124.

MUC 130A Rhythm Training I 1.00: Develops basic skills of rhythmic sight reading.

MUC 130B Rhythm Training II1.00: Develops basic skills of rhythmic sight reading.

MUC 130C Rhythm Training III1.00: Develops basic skills of rhythmic sight reading.

MUC 140A Group Piano I 2.00: Introduces the basics of piano technique with correct observance of pitch, clef, meter, phrasing and interpretation in a contemporary style.

MUC 140B Group Piano II 2.00: Advanced beginner to intermediate instruction for piano. Develops practice skills, sight reading and technical form. Also covers music fundamentals, harmony, notation, improvisation, and stylistic nuances.

MUC 143 Group Percussion 2.00: Uses rhythms from rock, jazz, R&B, funk and Latin music to cover basic techniques of performance on percussion instruments.

MUC 144 Contemporary Singing 2.00: Covers basic technical skills necessary to develop individual ability in solo or ensemble performance. CDA: Additional lab hours may be required.

MUC 145A Group Guitar/Bass I 2.00: Beginning instruction for guitar and bass. Includes basic chords, strums, patterns and song forms.

MUC 145B Group Guitar/Bass II 2.00: Advanced beginner to intermediate instruction for guitar and bass. Includes moveable chords, scales, patterns, and song forms. Also, open tuning and slide guitar, basic soloing and accompaniment techniques. CDA: Additional lab hours may be required.

MUC 145C Group Guitar/Bass III 2.00: Intermediate to advanced intermediate instruction for guitar and bass. Includes chord studies, chord progressions, scales, basic chord substitution. Also, open tuning and slide guitar, soloing and accompaniment techniques.

MUC 150A Keyboard Harmony I 1.00: Piano keyboard performance of simple keyboard skills introducing scales, cadences, melody harmonization, simple accompaniment patterns and transposition as they apply to principles studied in Commercial Music Theory I.

MUC 150B Keyboard Harmony II 1.00: Piano keyboard performance of simple keyboard skills introducing scales, cadences, melody harmonization, simple accompaniment patterns and transposition as they apply to principles studied in Commercial Music Theory II. Must have prerequisite or instructor permission. Prerequisite: MUC 150A.

MUC 150C Keyboard Harmony III 1.00: Piano keyboard performance of simple keyboard skills introducing scales, cadences, melody harmonization, simple accompaniment patterns and transposition as they apply to principles studied in Commercial Music Theory III. Must have prerequisite or instructor permission. Prerequisite: MUC 150B.

MUC 152A Contemporary Arranging Settings for Originals and Covers I 3.00: Develops skills in the tonal placement of sound required for orchestration and arrangement for various styles of music and sizes of musical groups. Focuses on individual instruments and the scoring of each section in the jazz idiom. Includes instrumental and vocal transposition, ranges, harmony, voicing, form, counterpoint, styles, introductions, modulations, interludes, endings, harmonic progression and experimental materials.

MUC 152B Contemporary Arranging 3.00: Settings for Originals and Covers II Develops skills in the tonal placement of sound required for orchestration and arrangement for various styles of music and sizes of musical groups. Focuses on individual instruments and the scoring of each section in the jazz idiom. Includes instrmental and vocal transposition, ranges, harmony, voicing, form, counterpoint, styles, introductions, modulations, interludes, endings, harmonic progression and experimental materials Must have prerequisite or instructor permission. Prerequisite: MUS 152A.

MUC 152C Contemporary Arranging 3.00: Settings for Originals Covers III Develops skills in the tonal placement of sound required for ochestration and arrangement for various styles of music and sizes of musical groups. Focuses on individual instruments and the scoring of each section in the jazz idiom. Includes instrumental and vocal transposition, ranges, harmony, voicing, form, counterpoint, styles, introductions, modulations, interludes, endings, harmonic progression and experimental materials. Must have prerequisite or instructor permission. Prerequisite: MUS 152B.

MUC 153A Show Band (Large) 2.00: Stage band. Select, rehearse and perform a variety of music.

MUC 153B Show Band (Large) 2.00: Stage band.

Select, rehearse and perform a variety of music.

MUC 153C Show Band (Large) 2.00: Stage band. Select, rehearse and perform a variety of music.

MUC 154A Band Performance Workshop 2.00: Class chooses, rehearses, and performs a variety of musical styles, vocal and instrumental. Includes popular, jazz, and R&B. Rehearsal and presentation skills developed.

MUC 154B Band Performance Workshop 2.00: Class chooses, rehearses, and performs a variety of musical styles, vocal and instrumental. Includes popular, jazz, and R&B. Rehearsal and presentation skills developed.

MUC 154C Band Performance Workshop 2.00: Class chooses, rehearses, and performs a variety of musical styles, vocal and instrumental. Includes popular, jazz and R&B. Rehearsal and presentation skills developed.

MUC 155 Introduction to Improvisation 2.00: Introduces the beginning improviser to the art of soloing. On the most basic level common staples of the jazz solo are presented and practiced. Simple tunes featuring these staples are used as "vehicles" for soloing. Enrollment open for this class.

MUC 155A Improvisation I 2.00: Covers how scales and chords are constructed and used, including melodic construction, phrasing, motifs, riffs, substitution chords, voice leading, paraphrase and melodic ramps. Includes harmonic construction of all styles of jazz and ear training. By the end of the sequence, students solo against song form.

MUC 155B Improvisation II 2.00: Covers how scales and chords are constructed and used, including melodic construction, phrasing, motifs, riffs, substitution chords, voice leading, paraphrase and melodic ramps. Includes harmonic construction of all styles jazz and ear training. By the end of the sequence, students match solo against song form. Must have prerequisite instructor permission. Prerequisite: MUC 155A.

MUC 155C Improvisation III 2.00: Vocal and instrumental improvisation. Covers how scales and chords are constructed and used, including melodic construction, phrasing, motifs, riffs, substitution chords, voice leading, paraphrase and melodic ramps. Focuses on harmonic construction of all styles of jazz and ear training. By the end of the sequence, students match solo against song form. Must have prerequisite or instructor permission. Prerequisite: MUC 155B.

MUC 164 Survey of the Music Industry 1.00: Provides overview of career options in the music industry. Focuses on making a reasonable and informed choice as to a career in music.

MUC 165 Business for the Musician 1.00: Instructs prospective music-related business owners, such as bands or private teachers, how to initiate, organize and operate a successful small business. Included are promotion, marketing, and record-keeping. MUC 199 Business of Music The Music Business: Career Opportunities and Self-Defense Covers what you need to know to pursue a career in music and the music business.

MUC 222 Introduction Recording Technologies 2.00: Course familiarizes students with the terminology, equipment and basics used in the recording industry. Prepares students for the technical requirements of the Recording Technologies courses.

MUC 223 Studio Recording Technology I 3.00: Fundamental skills in audio engineering including a mixture of theory and practical application of current recording technology. Includes fundamental acoustics, microphone placement, editing, multi-track recording, mix-down, signal processing, Midi, and time code synchronization. Focuses on commercials, music recording and sound tracks for visual media.

MUC 224 Studio Recording Technology II 3.00: Fundamental skills in audio engineering including a mixture of theory and practical application of current recording technology. Includes fundamental acoustics, microphone placement, editing, multi-track recording, mix-down, signal processing, Midi, and time code synchronization. Focuses on commercials, music recording and sound tracks for visual media. Prerequisite: MUC 223.

MUC 225 Studio Recording Tech III 3.00: Fundamental skills in audio engineering incuding a mixture of theory and practical applicaiton of current recording technology. Includes fundamental acoustics, microphone placement, editing, multi-track recording, mix-down, signal processing, Midi, and time code synchronization. Focuses on commercials, music recording and sound tracks for visual media. Prerequisite: MUC 224.

MUC 226 Digital Recording 1 – 3.00: Covers digital technology used in the recording industry. Principle studies are A/D-D/A conversions, graphic editing, plug in effects programming and data handling. Prerequisites: MUC 225.

MUC 227 Digital Recording 2 – 3.00: Second course in a three part series. Focuses on mixing, automation and synchronization. Both graphic and console methods will be practiced. Lectures focus on theory, musical qualities and functions of both. Prerequisite: MUC 226.

MUC 228 Digital Recording 3 – 3.00: Third part of a three part series. Focuses on competencies in varied applications such as audio for video and picture. Lectures focus on musical requirements, theory, and practical approaches to field related tasks. Labs will consist of practical appliations of all previously learned artistic and command skills. Prerequisite: MUC 227.

MUC 234 Income Tax Prep for Musicians I 1.00: Prepare federal and state individual returns, and introduces partnership and corporate taxation. Includes basics of record-keeping and financial planning.

MUC 280A CE / Vocational Music 1.00–3.00: Develops individual music performance, writing or recording skills in a department approved work setting. Department permission required. Corequisite: MUS 280B.

MUC 280B CE / Vocation Music - Seminar 1.00: Discusses and compares training experience under the guidance of a program instructor in a weekly seminar. Department permission required. Corequisite: MUC 280A.

Applied Music

MUP 100 Individual Lessons for Non-majors 1.00: Includes individual instruction in piano, organ, voice and instruments of the band and orchestra. Can be taken for a maximum of six credits. Credit fee is paid to the college. Lesson fees are variable and paid directly to instructor.

MUP 156A Applied Brass I 1.00

MUP 156B Applied Brass II 1.00

MUP 156C Applied Brass III 1.00

MUP 157A Applied Woodwind I 1.00

MUP 157B Applied Woodwind II 1.00

MUP 157C Applied Woodwind III 1.00

MUP 159A Applied Percussion I 1.00

MUP 159B Applied Percussion II 1.00

MUP 159C Applied Percussion III 1.00

MUP 160A Applied Vocal I 1.00

MUP 160B Applied Vocal II 1.00

MUP 160C Applied Vocal III 1.00

MUP 161A Applied Piano I 1.00

MUP 161B Applied Piano II 1.00

MUP 161C Applied Piano III 1.00

MUP 162A Applied Bass I 1.00

MUP 162B Applied Bass II 1.00

MUP 162C Applied Bass III 1.00

MUP 163A Applied Guitar I 1.00

MUP 163B Applied Guitar 1.00

MUP 163C Applied Guitar 1.00

MUP 171 Applied Piano 1.00

MUP 172 Applied Harpsichord 1.00

MUP 173 Applied Organ 1.00

MUP 174 Applied Voice 1.00

MUP 175 Applied Violin 1.00

MUP 176 Applied Viola 1.00

MUP 177 Applied Cell 1.00

MUP 178 Applied Bass 1.00

MUP 179 Applied Harp 1.00

MUP 180 Applied Guitar 1.00

MUP 181 Applied Flute 1.00

MUP 182 Applied Oboe 1.00

MUP 183 Applied Clarinet 1.00

MUP 184 Applied Saxophone 1.00

MUP 185 Applied Bassoon 1.00

MUP 186 Applied Trumpet 1.00

MUP 187 Applied French Horn 1.00

MUP 188 Applied Trombone 1.00

MUP 190 Applied Tuba 1.00

MUP 191 Applied Percussion 1.00

MUP 192 Applied Music Miscellaneous 1.00

Individual first-year instruction in piano, voice and instruments of the band and orchestra.

MUP 271 Applied Piano 1.00

MUP 272 Applied Harpsichord 1.00

MUP 273 Applied Organ 1.00

MUP 274 Applied Voice 1.00

MUP 275 Applied Violin 1.00

MUP 276 Applied Viola 1.00

MUP 277 Applied Cello 1.00

MUP 278 Applied Bass 1.00

MUP 279 Applied Harp 1.00

MUP 281 Applied Flute 1.00

MUP 282 Applied Oboe 1.00

MUP 283 Applied Clarinet 1.00

MUP 284 Applied Saxophone 1.00

MUP 285 Applied Bassoon 1.00

MUP 286 Applied Trumpet 1.00

MUP 287 Applied French Horn 1.00

MUP 288 Applied Trombone 1.00

MUP 289 Applied Baritone 1.00

MUP 290 Applied Tuba 1.00

MUP 291 Applied Percussion 1.00

MUP 292 Applied Music Miscellaneous 1.00

Individual second-year instruction in piano, voice and instruments of the band and orchestra. Prerequisites: MUP 171-192.

MUP 293 Applied Guitar 1.00

Music

MUS 105 Music Appreciation 3.00: Provides an introduction to understanding symphonic music in the vocal and instrumental genres from the ancient period through the contemporary music of our time. Class will be presented using a multi-media format. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

MUS 106 Opera Appreciation3.00: Covers musical and dramatic analysis of opera. Read about and listen to operas dating from 1600 to the present. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

MUS 108 Music Cultures of the World 3.00: Examines the world's music with attention to musical styles and cultural contexts. Includes the study of Oceania, Indonesia, Africa, India, China, Japan, Middle East, Latin America, and ethnic North America. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

MUS 110 Fundamentals of Music 3.00: Covers concepts of sound, music notation, rhythm, meter, intervals, modes, scales, triads, sight singing and ear training. Introduces the basic terminology of music theory and begins development of musical skills. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

MUS 111 Music Theory I (part one) 3.00: Covers music theory as exhibited in the works of the great composers of the 17th and 18th centuries. Includes notation, pitch, meter, tonality, modality, harmony and diatonic function. Basic music analysis focusing on harmonic function and figured bass notation. Includes written composition. Part one of three-term sequence. Meets arts and humanities sequence requirement for Associate of Arts Oregon Transfer degree. MUS 111C Recommended for music transfer students. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores, and MUS 110.

MUS 111C Sight Singing and Ear Training (part one) 1.00: Focuses on the development of skills related to the notation, performance and aural recognition of music. Includes meter, rhythm, diatonic melodies, triads, solfeggio, intervals, and harmonic function. Part one of three term sequence. Corequisite: MUS 111.

MUS 112 Music Theory I (part two) 3.00: Continues work from MUS 111.Focuses on four-part harmony and common practice period voice leading. Includes figured bass realization, harmonic analysis and written composition. Part two of three-term sequence. Meets arts and humanities sequence requirement for Associate of Arts Oregon Transfer degree. Concurrent enrollment in MUS 112C recommended for music transfer majors. Prerequisites: MUS 111 and its prerequisite requirements.

MUS 112C Music Theory I / Sight Singing and Ear Training (part two) 1.00: Continues development of skills from MUS 111C. Includes harmonic implications in melody, complex rhythms, beat subdivisions and four-part harmony. Introduces melodic chromaticism, extended harmony and phrase relationships. Part two of three-term sequence. Recommended for music transfer students. Corequisite: MUS 112A Prerequisite: MUS 111C. Corequisite: MUS 112.

MUS 113 Music Theory I (part three) 3.00: Continues work from MUS 112. Introduction to chromatic harmony as exhibited through tonicization and harmonic modulation. Covers melodic structure and basic Schenkerian reduction technique. Also includes large-scale form and analysis and written composition. Meets arts and humanities sequence requirement for Associate of Arts Oregon Transfer degree. Part three of three-term sequence. Concurrent enrollment in MUS 113C recommended for music transfer majors. Prerequisite: MUS 112 and its prerequisite requirements.

MUS 113C Music Theory I / Sight Singing and Ear Training (part three) 1.00: Continues development of skills learned in MUS 112C. Includes two-part melodic and rhythmic notation. Introduces secondary function and diatonic modulation. Part three of three-term sequence. Corequisite: MUS 113. Prerequisite: MUS 112C. Corequisite: MUS 113.

MUS 131 Group Vocal 1.00: Basic technique and theory of vocal proficiency necessary to develop individual ability in solo or ensemble settings. Students will learn to apply topics covered (including breath support, projection, phrasing, musical styles) to their own voices in solo repertoire.

MUS 152A Contemporary Arranging / Settings for Originals & Covers I 3.00: Develops skills in the tonal placement of sound required for orchestration and arrangement for various styles of music and sizes of musical groups. Focus on individual instruments and the scoring of each section in the jazz idiom. Includes instrumental and vocal transposition, ranges, harmony, voicing, form, counterpoint, styles, introductions, modulations, interludes, endings, harmonic progression and experimental materials.

MUS 152B Contemporary Arranging / Settings for Originals & Covers II 3.00: Develops skills in the tonal placement of sound required for orchestration and arrangement for various styles of music and sizes of musical groups. Focus on individual instruments and the scoring of each section in the jazz idiom. Includes instrumental and vocal transposition, ranges, harmony, voicing, form, counterpoint, styles, introductions, modulations, interludes, endings, harmonic progression and experimental materials. Must have prerequisite or instructor permission. Prerequisite: MUS 152A.

MUS 152C Contemporary Arranging / Settings for Originals & Covers III 3.00: Develops skills in the tonal placement of sound required for orchestration and arrangement for various styles of music and sizes of musical groups. Focus on individual instruments and the scoring of each section in the jazz idiom. Includes instrumental and vocal transposition, ranges, harmony, voicing, form, counterpoint, styles, introductions, modulations, interludes, endings, harmonic progression and experimental materials. Must have prerequisite or instructor permission. Prerequisite: MUS 152B.

MUS 154A Band Performance Workshop A Show Band (Small) 2.00: Class chooses, rehearses, and performs a variety of musical styles, vocal and instrumental. Includes popular, jazz, and R&B. Rehearsal and presentation skills developed.

MUS 154B Band Performance Workshop B Show Band (Small) 2.00: Class chooses, rehearses, and

performs a variety of musical styles, vocal and instrumental. Includes popular, jazz, and R&B. Rehearsal and presentation skills developed.

MUS 154C Band Performance Workshop C Show Band (Small) 2.00: Class chooses, rehearses, and performs a variety of musical styles, vocal and instrumental. Includes popular, jazz, and R&B. Rehearsal and presentation skills developed.

MUS 158 Chamber Ensemble 1.00: Provides opportunity for instrumentalists and vocalists to form small ensembles (i.e. solo, duet, trio, quartet, etc.). Ensembles rehearse individually and participate in performance. Requires the ability to read music.

MUS 170 Music and Computers 2.00: Introduction to computer technology for musicians and musicians and music major. Focuses on software-based music composition and notation. Introduces electronic music composers and compositional techniques. Basic knowledge of computers is recommended. Prerequisite: MUS 110 or MUS 111.

MUS 191 Class Guitar I 2.00: Group instruction in guitar. Covers traditional classical guitar technique. Focuses on note reading and basic music theory as applies to guitar. Topics include single line first position melodies, common arpeggio patterns and music in two or more parts. Includes both solo and ensemble performance. Attention given to history and repertoire of the guitar. No previous experience required.

MUS 191P Class Piano I 2.00: Group instruction in piano performance. Intent of course is the development of piano proficiency skills. Focus given to basic keyboard technique, score reading and performance, sight-reading, harmonization, accompanying, and transposition. Designed for music majors but is available to all students. No previous experience required.

MUS 192 Class Guitar II 2.00: Group instruction in guitar. Continues material presented in Music 191. Topics include reading notes up to the fifth position, advanced left hand technique, chord structure, flamenco technique and music theory as it applies to the guitar. Includes both solo and ensemble performance. More in depth study of the historical origins of the guitar, the repertoire and its major players. Prerequisite: MUS 191 or knowledge of first position note reading.

MUS 192P Class Piano II 2.00: Continues group instruction in piano performance covered in MUS 191p. Intent of course is the development of piano proficiency skills. Focus given to basic keyboard technique, score reading and performance, sight-reading, harmonization, accompanying, and transposition. Designed for music majors but is available to all students. Prerequisite: MUS 191p.

MUS 193 Class Guitar III 2.00: Group instruction in guitar. Continues material presented in Music 192. Topics include reading notes up to the twelfth position, alternate tunings, altered chords, creating original arrangements and music theory as it applies to the guitar. Includes both performing as a soloist and as a member of an ensemble. Detailed study of twentieth century guitar practice and the influence of popular styles. Prerequisite: MUS 192.

MUS 193P Class Piano III 2.00: Continues group instruction in piano performance covered in MUS 192p. Intent of course is the development of piano proficiency skills. Focus given to basic keyboard technique, score reading and performance, sight-reading, harmonization, accompanying, and transposition. Designed for music majors but available to all students. Prerequisite: MUS 192p.

MUS 201A Introduction to Music and Its Literature 3.00: Covers music of the Medieval, Renaissance and Baroque eras of music history. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

MUS 202 Introduction to Music and Its Literature 3.00: Covers music of the Classic and Romantic eras of music history. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

MUS 203 Introduction to Music and Its Literature 3.00: Covers music of the post-Romantic era and the 20th century. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

MUS 204 Music of the Western World 4.00: Designed primarily for music transfer students and those with the ability to read music. Provides a survey of the music of the western world. Major periods, forms, styles, and music scores from the ancient period through the contemporary music of our time will be covered. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

MUS 205 Introduction to Jazz History 3.00: Covers the 90-year history of jazz, a truly American art form. Eras, styles, and significant artists are examined and analyzed. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

MUS 206 Introduction to History of Rock Music3.00: Examines rock music's roots and development, its innovators and significant events through a cultural as well as musical perspective. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

MUS 207 Introduction to History of Folk Music 3.00: Examines ballads, worksongs, bluegrass, country blues and gospel music are examined as well as influential non-American styles. Also covers protest songs and the "folk revival" of the sixties. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

MUS 208 African-American Music 3.00: Traces the spiritual and all of its counter-parts to gospel music back to its African beginnings. Includes certain musical aspects of various African, Caribbean and South American cultures. See how African-American music is related to these cultures and how the inception of music in the African-American tradition occurred. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

MUS 209 African-American Music 3.00: Examines the progression of African-American music to the blues. Includes the elements of the blues and the various historical avenues in which it has developed. Study how the blues has inspired and constructed the format of today's music. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

MUS 210 African-American Music 3.00: Examines present-day jazz art-form through its progression from the blues. Study the construction of jazz and its various formats, appreciate of the art-form through direct exposure to the music, receive historical background and examine its contribution to the international field of music. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

MUS 211A Music Theory II 3.00: Continues work on skills from in Music Theory I adding compositional techniques associated with the 20th century, as well as introducing tonal counterpoint and formal musical analysis. Prerequisite: MUS 113.

MUS 211B Music Theory II / Keyboard Harmony 1.00: Piano keyboard performance of simple keyboard skills (scales, cadences, melody harmonization, simple accompaniment patterns and transposition) as they apply to principles studied in Music Theory II. Corequisite: MUS 211A.

MUS 212A Music Theory II 3.00: Continues work on skills from Music Theory I, adding compositional techniques associated with the 20th century, as well as introducing tonal counterpoint and formal musical analysis. Prerequisite: MUS 211.

MUS 212B Music Theory II / Keyboard Harmony 1.00: Continues development of piano keyboard skills (scales, cadences, melody harmonization, simple accompaniment patterns and transposition) as they apply to principles studied in Music Theory II. Prerequisite: MUS 211B. Corequisite: MUS 212A.

MUS 213A Music Theory II 3.00: Continues to work on skills from Music Theory I adding compositional techniques associated with the 20th century. Includes tonal counterpoint and formal musical analysis. Prerequisite: MUS 212A.

MUS 213B Music Theory II / Keyboard Harmony 1.00: Continues development of piano keyboard skills (scales, cadences, melody harmonization, simple accompaniment patterns and transposition) as they apply to principles studied in Music Theory II. Prerequisite: MUS 212B. Corequisite: MUS 213.

MUS 220 Chorus 1.00: Directed rehearsal and performance of music for the larger general chorus of mixed voices--soprano, alto, tenor, bass. Chorus is open to all students who desire to sing. No audition is required. Music selected will be keyed to the ability of the group. Purpose is to develop as high a level of artistic choral singing as is possible within the capability of the group.

MUS 221 Chorus / Chamber Choir 1.00: Develop a high level of artistic choral singing through directed rehearsal and performance of music for the smaller choir of mixed voices--soprano, alto, tenor, bass. Audition required.

Nursing

NUR 104 Introduction to Nursing 2.00: Introduces the basic concepts of nursing practice as a preparation for NUR 106. Educational survival in college setting also addressed. Concepts include communication, legal/ethical issues, professionalism, and safety. Laboratory experiences provide the opportunity to develop basic health care skills related to these concepts. Students must be admitted into the nursing program before registering for this course.

NUR 106 Foundations for Nursing and Client Self-Care 9.00: Provides foundation for nursing practice using the self-care model and the nursing process. Explores influences of legal, ethical, and cultural issues on the role of the nurse. Applies nursing process and principles of effective communication to professional nursing care. Provides an introduction to community-based nursing health principles. Prerequisites: Admission into the Nursing program and satisfactory completion of NUR 104. Prerequisite/concurrent: PSY 215, BI 233.

NUR 107 Nursing Care for the Perioperative Clinic/Psychosocial Adapt 9.00: Assists students to apply the nursing process to perioperative clients and clients with mental health needs. Principles of therapeutic communication in promoting adaptive behaviors for clients and families in stress, loss, and grief. Health promotion, client education, and culturally sensitive nursing care are emphasized. Prerequisite: NUR 106.

NUR 108 Nursing Care for Clients with Chronic Health Care Needs 9.00: Assists the student to apply biological, psychosocial, and cultural concepts to the care of clients with chronic health needs. A focus is to promote optimal health or peaceful death for clients. The practice of the professional nursing role is emphasized in subacute, acute, and community settings. Prerequisites: NUR 106, 107.

NUR 110 Nursing I 9.00: Beginning concepts and skills develop the foundation for socialization into the nursing profession and for providing safe basic nursing care. Introduces nursing process with emphasis on assessing basic human needs of patients. This course for Columbia Gorge Nursing Program only. Prerequisite: Admission to the Nursing program. Clinical: Registration must be completed and TB test results and proof of current immunizations submitted before permitted in the clinical area. Current CPR certification required. Class fee $40. (F)

NUR 111 Nursing II 9.00: Concepts and skills integrate growth and development, psycho-social coping responses to illness and alterations in health status in children and adults. Nursing process is applied to meet basic human needs of individual patients. This course is for the Columbia Gorge Nursing Program only. Prerequisite: NUR 110. Clinical: Registration must be completed and TB test results and proof of current immunizations submitted before a student is permitted in the clinical area. Current CPR certification required. Class fee $30. (W) For Columbia Gorge nursing students only.

NUR 112 Nursing III 9.00: Concepts and skills are related to nursing care of medical/surgical and childbearing patients and families. Nursing process is applied to meet basic human needs of patients and families at the practical nurse level. This course is for the Columbia Gorge Nursing Program only. Prerequisite: NUR 111. Clinical: Registration must be completed and TB test results and proof of current immunizations submitted before a student permitted in clinical area. Current CPR certification required. Class fee $30. (Sp)

NUR 206 Nursing Care Clients w/Acute Hlth Care Need & Care of Family 9.00: Focuses on the nursing management of adults, child-bearing and child-rearing families with acute and complex health care needs. Learning experiences engage students with opportunities to further develop nursing competencies while collaborating with other health care disciplines in multiple settings. Prerequisites: NUR 106, 107, 108.

NUR 207 Nursing Care Clients w/Complex & Unstable Health Care Needs 9.00: Focuses on the nursing management of clients with complex and unstable health care needs. Leadership and management principles are explored in relation to caring for clients with changing needs. An additional focus is on disease prevention for vulnerable groups in the community. Prerequisites: NUR 106,107, 108, 206.

NUR 208 Nursing Care of Clients with Emergent Health Care Needs 8.00: Focuses on the nursing management of clients experiencing physical and emotional crises. Role transition is facilitated from student to the professional graduate nurse with a focus on leadership, management and legal/ethical concepts. Prerequisites: NUR 207.

NUR 210 Nursing IV 9.00: Concepts and skills related to nursing care of medical/surgical patients and families, and mentally ill clients. Standards of nursing care are adopted to meet the basic human needs of individual patients. Patient/client teaching is emphasized. This course is for the Columbia Gorge Nursing Program only. Prerequisite: NUR 112. Clinical: Registration must be completed and TB test results and proof of current immunizations submitted before a student permitted in clinic area. Current CPR certification required. Class fee $30. (F) For Columbia Gorge nursing students only.

NUR 211 Nursing V 9.00: Concepts and skills related to nursing care of medical/surgical patients and families with ambulatory, acute and critical needs. Discharge planning emphasized. Multiple standards of nursing care are synthesized to meet basic human needs of individual patients. This course is for the Columbia Gorge Nursing Program only. Prerequisites: NUR 110, 111, 112, 210. Clinical: Registration must be completed and TB test results and proof of current immunizations submitted before student permitted in clinical area. Current CPR certification required. Class fee $20. (W)

NUR 212 Nursing VI 8.00: Emphasizes leadership and management concepts and skills in providing nursing care at the associate degree nurse level for groups of patients. This course is for the Columbia Gorge Nursing Program only. Prerequisites: NUR 211. Clinical: Registration must be completed and TB test results and proof of current immunizations submitted before student permitted in clinical area. Current CPR certification required. Class fee $5. (Sp)

NUR 298 Independent Study 1.00–9.00: This is a 1-9 credit elective course using a pass/no pass grading system. It can include lecture and clinical laboratory experiences in order to increase competence in nursing. It also can be a forum to perform and discuss off-campus clinical experiences with peers and instructor. Attendance at the initial advisory group meeting is required to enroll. The course is used as a route to assist re-entry students to prepare for the coming term, to improve academic skills, nursing knowledge and clinical skills. Previous enrollment in the nursing program and department permission required.

Ophthalmic Medical Technology

OMT 102 Pharmacology/Eye Disease I 2.00: Studies major ocular diseases and related structures integrated with symptomology and treatment. Introduction of ophthalmic drugs.

OMT 103 Pharmacology/Eye Disease 2 2.00: Continuation of OMT 102. Details major classifications of ophthalmic drugs, mechanism of action, side effects, first aid techniques for acute ophthalmic drug reactions. Explores the relationship of ocular pathology and medications used to treat. Prerequisite: OMT 102.

OMT 104 Ophthalmic Office Procedures 3.00: Utilizes techniques to obtain medical and ophthalmic history, transcription of information into the medical chart, and common terms/abbreviations used in history taking. Covers front office techniques, including basic functions of a computer in the medical office. Develops skills needed to obtain accurate patient visual acuity.

OMT 106 Introduction to Clinical Skills 3.00: Covers basic test principles and techniques including tangent screen visual fields, non-contact tonometry, tear function, color plates, slit lamp function, extra-ocular muscle function and anterior chamber depth. Assisting the physically or visually disabled patient and dealing with children during the eye examination is addressed.

OMT 111 Introduction to Medical Terminology 3.00: Analyzes structure of medical terminology and application to basic anatomy, physiology and disease processes of the human body. Emphasis on definition, spelling and pronunciation.

OMT 121 Practicum I 1.00–4.00: Introduces clinical work designed to apply technical skills acquired in previous course work. Recording of clinical data, front office procedures, obtaining patient's health and ocular history, measuring visual acuity, medical record management, commonly used abbreviations/terms stressed.

OMT 145 Clinical Optics 1 – 2.00: Presents basic optical principles and the human eye from both theoretical and practical standpoints. Explores prisms, basic dispensing, techniques for measuring types of lenses, use of the lens clock, use and maintenance of ophthalmic instruments and equipment.

OMT 146 Clinical Optics 2 – 2.00: Continuation of OMT 145 Clinical Optics 1. Introduces principles of retinoscopy, refractometry, basic lensometry, basic keratometry, and prisms as they relate to ocular motility. Prerequisite: OMT 145.

OMT 163 Ocular Anatomy & Physiology 2.00: Relates structure and function of the human visual

system. Anatomy and physiology of the eyeball, orbit, and ocular adnexa are covered. Special emphasis placed on ocular terminology.

OMT 206 Diagnostic Procedures I 4.00: Introduces fundamentals of diagnostic testing and techniques including: applanation and Schiotz tonometry and biomicroscopy. Presents principles and techniques of refractometry and retinoscopy with emphasis on skill development utilizing the schematic eye.

OMT 207 Diagnostic Procedures II 4.00: Presents principles and techniques of various methods of visual field examination. The visual pathway, common causes of visual field loss, and related anatomy will be covered with emphasis on Goldmann perimetry. Also covers principles and techniques of exophthalmometry, color vision and tear function tests. Emphasis placed on skill development.

OMT 208 Ocular Motility/Binocular Vision 2.00: Introduces ocular motility and binocular vision. Emphasis placed on understanding the presentation, characteristics, natural history of the strabismus patient. Amblyopia and binocular vision are also addressed.

OMT 209 Surgical Assisting Procedures 3.00: Addresses the technician's role in minor office surgery and assisting in the operating room. Topics include proper aseptic technique, scrubbing, gowning and gloving, sterilization of instruments, the importance of surgical conscience/legal responsibilities, proper disposition of supplies/medications and security procedures of medications as regulated by law.

OMT 210 Therapeutic Assist Procedures 4.00: Focuses on technician's role in assisting in the management of preoperative and post operative patients. More advanced ophthalmic procedures included such as ultrasound, potential acuity meter, direct ophthalmoscopy and contrast sensitivity. Specimen collection for the laboratory addressed.

OMT 212 Contact Lens 1 – 3.00: Covers fundamentals of contact lens. Principles of lens structures, materials used in manufacture, categorization, comparison of characteristics of soft and rigid lenses. Includes theory and utilization of instruments commonly used in fitting and assessing contact lenses. Includes use of keratometer, biomicroscope, radiuscope, lensometer, gauges, loupes, magnifiers and fluorescent tubes.

OMT 213 Contact Lens 2 – 3.00: Continuation of OMT 212. Covers fitting theories and principles for soft and rigid contact lenses, solutions for care and maintenance, dispensing, patient education, post fitting observations and theories on fitting keratoconus and bifocal contact lenses. Lab activities allow for observation of physical properties and fitting challenges of contact lenses.

OMT 222 Practicum II 4.00: Work in local ophthalmic practices and health care facilities under the supervision of facility personnel. Includes exposure to actual working conditions and skills in ophthalmic diagnostic and therapeutic procedures.

OMT 223 Practicum III 4.00: Work in local ophthalmic practices and health care facilities under the supervision of facility personnel. Includes exposure to actual working conditions and skills in ophthalmic diagnostic and therapeutic procedures.

OMT 224 Practicum IV 4.00: Work in local ophthalmic practices and health care facilities under the supervision of facility personnel. Includes exposure to actual working conditions and skills in ophthalmic diagnostic and therapeutic procedures.

OMT 231 Seminar I 1.00: Discusses practicum experiences, review of major professional subject areas, and hear guest speakers on topics of interest to the class. Complete clinical research papers.

OMT 232 Seminar II 2.00: Discusses practicum experiences, review of major professional subject areas, and hear guest speakers on topics of interest to the class.

OMT 233 Seminar III 2.00: Discusses practicum experiences, review of major professional subject areas, and hear guest speakers on topics of interest to the class.

OMT 234 Seminar IV 2.00: Discusses challenges confronting practitioners and the presentation of new material in the field. May include field trips and guest speakers on topics of interest. Discussion of clinical practicum experiences and a general review for national certification examinations included.

OMT 283 Perception/Low Vision 2.00: Covers theories of visual perception and how lenses affect perception. Introduces basic and advanced visual aids and their application to patients with various forms of low vision. Concepts of depth perception and color vision explored.

Office Systems

OS 120 Business Editing Skills 4.00: Develops skills necessary for editing, transcribing, and writing memos, letters and e-mail. Emphasis: punctuation, capitalization, spelling, grammar, and word use. Recommended: Qualify for WR 121, keyboard by touch and completion of a beginning word processing class, or consent of instructor.

OS 131 10-key on Calculators 1.00: Develops 10-key skills by touch. Recommended: qualify to enter Reading 115 or WR 115.

OS 240 Filing and Records Management 4.00: Develops skills for indexing, coding, and cross-referencing documents to be filed. Includes requisitions and charge-outs, records transfer, various filing systems, and an overall view of the role of records management in business including electronic and image records. Recommended: RD 115; WR 115; and basic computer skills.

OS 245 Office Systems and Procedures 4.00: Use computer technology for tasks such as scheduling, e-mail, and faxing. Develops communication skills and telephone techniques. Organize and prioritize office work. Develops workplace readiness and job search skills. Prerequisites: CAS 216 and OS 120.

OS 280F CE / Administrative Assistant 1.00–5.00: Provides field experience for the administrative assistant student. Recommended: RD 115, WR 115 and satisfactory progress through at least 15 credit hours of CAS/OS courses, or instructor permission required.

OS 280G CE / Administrative Assistant - Seminar 1.00: Supplements the work experience portion of cooperative education and the student's on-campus program through feedback sessions, instruction in job-related area. Co-requisite: OS 280F. Recommended: RD 115, WR 115 and satisfactory progress through at least 15 credit hours of CAS/OS courses, or instructor permission required.

Physical Education

PE 10 Physical Education Activity Program 1.00: Independent study format allowing students to participate in a variety of activities using designated PCC facilities when classes are not scheduled. This class does not count towards PCC degrees or PCC financial aid. Check with appropriate institution or high school for transferability of this class. Consultation with instructor may be required. Recommended: signed physical examination form.

PE 180A Beginning Swim 1.00: Introduces swimming and aquatic skills to students who have very limited or no swimming skills and may be uncomfortable in the water.

PE 180B Intermediate Swimming 1.00: Continues the development of swimming and water safety skills. New strokes introduced include the breaststroke, sidestroke, and elementary backstroke. Deepwater skills also developed. Prerequisite: PE 180A or instructor permission.

PE 180C Advanced Swimming 1.00: Continues the development of the student's swimming and water safety skills. Stroke refinement, and skill proficiency are stressed. New strokes introduced include the butterfly and underwater swimming. Prerequisite: PE 180B or instructor permission.

PE 180F Lap Swimming 1.00: Continued improvement of skilled swimmer's cardiovascular endurance. Explores and develops various training methods to enhance swimming techniques and knowledge of training strategy. PE 180G Swim Conditioning Swim Conditioning Uses aspects of swim skills to improve cardiovascular endurance, muscular strength/endurance, and flexibility. Includes water/land exercises, lap swimming and water games. Recommended: Intermediate level swim skills or equivalent.

PE 180H Aquatic Exercise 1.00: Includes aerobic exercise, strength conditioning, and stretching movements set to music. Performed in shallow water to reduce the effects of gravity. Swimming skills are not required.

PE 180K Masters Swimming 1.00: Enjoy a more competitive swimming class that incorporates all competition strokes, turns, strategies and training. Possibilities for optional weekend Masters swim meets. Advanced swimming skills highly recommended.

PE 181A Beginning Weight Training - Coed 1.00: Stresses the proper techniques of weight lifting and the development of muscular strength and endurance. Individual programs developed which allow for body and strength differences and safety in lifting.

PE 181B Intermediate Weight Training - Coed 1.00: Continues the development of the student's strength/fitness. Individual evaluation and weight lifting programs developed to meet the student's needs. Recommended: Beginning weight training or equivalent.

PE 181C Advanced Weight Training - Coed 1.00: High level development of student muscular strength, endurance and cardiovascular fitness. Individual programs developed to meet the student's needs. Recommended: Intermediate weight training or equivalent.

PE 181D Circuit Weight Training 1 - Coed 1.00: Cardiopulmonary and strength fitness are maintained/improved through the use of multiple weight and aerobic stations, based on a structured time and rotation system. PE 181E Circuit Weight Training 2-Coed Circuit Weight Training 2 - Coed Cardiopulmonary and strength fitness are maintained/improved through the use of multiple weight and aerobic stations, based on a structured time and rotation system.

PE 182A Beginning Group Fitness 1.00: Offers students knowledge and skills to keep fit for life. Teaches safe performance of movement and exercise in a progressive approach. Includes cardiovascular and muscular endurance, flexibility and body composition. Aerobic training principles stressed using target heart rate and Borg methods.

PE 182B Intermediate Group Fitness 1.00: Offers students an opportunity to improve and/or maintain a high level of fitness. Includes cardio-vascular endurance, muscular endurance, flexibility, and body composition. Recommended: Beginning Aerobic Fitness or a recent aerobic dance/exercise class.

PE 182C Beginning Fitness and Walking 1.00: Beginning level, self-paced walking programs and a variety of conditioning exercises for specific body areas. Provides instruction for integrating walking into a lifetime fitness program.

PE 182D Intermediate Fitness & Walking 1.00: Improves fitness through self-paced walking programs designed to increase the frequency and duration of regular workouts. Incorporate a walking program into a total fitness program for future use. Recommended: Beginning Fitness and Walking or average fitness level.

PE 182E Jogging for Health 1.00: Introduces the proper running technique and provides the opportunity to improve general fitness. Running will be done on the track until student and instructor feel the student is ready to run on the road.

PE 182F Boot Camp 1.00: A group exercise class focusing on cardio respiratory fitness and muscular endurance using dumbbells and other equipment (physioballs, steps, etc.) This class concentrates on all key muscle groups, working toward muscle fitness and flexibility gains. This class is geared to those who enjoy high-intensity callisthenic training in a group class format. PE 182H Adult Fitness Adult Fitness Exercises and activities which strengthen and condition specific large muscle groups, improve cardiovascular fitness and flexibility.

PE 182J Gentle Yoga 1.00: Introduces techniques to better manage stress. Vinyasa yoga is a dynamic series of poses performed at a gentle pace and helps to reduce stress levels. Recommend for students with limited abilities and beginners who are not ready for Yoga I. Covers basic yoga philosophy, asanas, pranayama, meditation and relaxation for a holistic approach to better health and wellness.

PE 182K Yoga I 1.00: Introduces the values and skills of Hatha Yoga (Yoga of exercise). Includes basic Yoga philosophy and exercises for increased flexibility, improved health, relaxation, and reduced stress in daily living.

PE 182L Yoga II 1.00: Expand knowledge, application and skill in Hatha Yoga. Offers exposure to other areas of health care and an opportunity to study a selected topic in depth. Recommended: prior class in Hatha Yoga.

PE 182N Corrective Physical Education 1.00: Individualized, self-paced exercise and swim programs for students with acute or chronic injuries or disabilities.

PE 182P Body in Balance - Pilates Conditioning 1.00: Covers basic concepts and skills in the Pilates Method of conditioning, designed to increase core strength and stabilization, muscle balance, tone, coordination, and flexibility. Non-impact mat exercises develop whole body awareness and control, and can be modified to various fitness levels.

PE 182Q Self-Paced Fitness 1.00: Provides opportunity to develop regular physical fitness habits for everyday schedule. Faculty assesses student through pre/post fitness testing and required consultations. Due to independent format it is intended for those with a high level of fitness. Requires active email account.

PE 182R Back Care 1.00: Explore appropriate exercises, body mechanics, posture, and other techniques for prevention and relief of back pain.

PE 182S Tai Chi 1.00: Explore this ancient form of gentle movement which emphasizes balance, concentration and coordination. Learn traditional styles of Tai Chi in an easy to follow format. Gain strength while relieving tension and stress.

PE 182T Triathlon Training 1.00: Prepares student for olympic and/or Sprint distance swim, bike, run triathlon. Focuses on endurance training and transition work for the three events. Covers basic metabolic and nutritional concepts, triathlon rules, and equipment. Requirements: Student must have their own bike and helmet (CPSC or ANSI). Student must arrange their transportation to off campus events.

PE 182U Pilates II 1.00: Builds on concepts and skills in the Pilates method of conditioning. Designed to continue to increase core strength and stabilization challenging the body to further its range of motion. Recommended: Pilates I or instructor permission.

PE 183E Beginning Tennis 1.00: Includes basic history/terminology/etiquette/strategy and skills of game.

PE 183F Intermediate Tennis 1.00: Builds further on the beginning techniques of the game. Emphasizes singles, doubles and competition play.

PE 183G Beginning Golf 1.00: Emphasizes fundamental techniques in the use of all clubs along with an understanding and appreciation of rules, course management and etiquette. Playing a few rounds outside of class is required. In-class time is spent on the range, putting green, pitching area and in video assessment sessions.

PE 183H Intermediate Golf 1.00: Emphasizes proper use of all clubs under variable conditions. Focuses on rules, etiquette and course management. Requires several out-of-class rounds.

PE 183I Beginning Volkswalking 1.00: Provides independent opportunity to achieve/maintain age-related walking/fitness levels through individual walking program and active participation in Volkswalking events. Due to independent nature of course, requires weekly walking log reports via current email account.

PE 183J Intermediate Volkswalking 1.00: Allows student to independently continue progress from beginning age-related walking/fitness levels through individual walking program and active participation in intermediate Volkswalking activities. Due to nature of course, requires weekly walking log reports via current email account. Recommend: Beginning Volkswalking or average fitness level.

PE 183K Pickleball - Badminton 1.00: Introduces the fundamentals of pickleball and badminton. Racquet grip, hitting strokes, court position, strategy and rules of the games will be taught.

PE 183M Advanced Volkswalking 1.00: Allows student to independently continue progress from intermediate age-related walking/fitness levels through individual walking program and active participation in advanced Volkswalking activities. Due to nature of course, requires weekly walking log reports via current email account. Recommend: Intermediate Volkswalking or above average fitness level.

PE 183N Racquet Sports 1.00: Introduces two court games: pickelball and badminton. Several weeks spent with each game emphasizing rules, equipment, technique and strategy for both singles and doubles play. Most class time spent in game play.

PE 183O Beginning Table Tennis 1.00: Introduces fundamentals of table tennis skills in singles/doubles, serving, smashing, forehand/backhand rules and strategy. Knowledge and recreational play emphasized.

PE 183P Intermediate Table 1.00: Reviews strokes, strategies, and skills in singles and doubles play. Emphasizes recreational and competitive play. Recommended: Beginning table tennis skills.

PE 183Q Advanced Table Tennis 1.00: Reviews skills, strokes and strategies used in singles and doubles play. Prepare for competition necessary to play. Recommended: Beginning, intermediate table tennis or equivalent experience.

PE 183R Beginning Karate I 1.00: Introduces a working knowledge of the fundamental techniques employed in the art of Karate-Do.

PE 183S Beginning Karate II 1.00: Progressive continuation of fundamental techniques employed in

the art of Karate-Do. Recommended: Beginning Karate I or equivalent.

PE 183T Aikido I 1.00: Introduces a working knowledge of the fundamental techniques employed in the art of Aikido.

PE 183U Aikido II 1.00: Progressive continuation of the fundamental techniques employed in the art of Aikido.

PE 183V Judo I 1.00: Introduces a working knowledge of the fundamental techniques employed in the art of Kodolan Judo.

PE 183W Judo II 1.00: Build on knowledge and skill areas covered in Judo I.

PE 183X Tae Kwon Do I 1.00: Introduces a working knowledge of the fundamental techniques employed in the art of Tae Kwon Do.

PE 183Y Tae Kwon Do II 1.00: Progressive continuation of the fundamental techniques employed in the art of Tae Kwon Do I.

PE 184A Beginning Skiing - Nordic 1.00: Designed to teach beginning nordic skiers proper skiing technique for groomed tracks and ungroomed snow conditions. Emphasizes speed control, efficient body movement and safety. Basics of winter survival, proper clothing, and trail etiquette are also emphasized.

PE 184B Intermediate Skiing - Nordic 1.00: Emphasizes techniques to increase power and control in the diagonal stride, speed control in varied downhill conditions, varied turning maneuvers and beginning skating and telemark skiing Recommended: experience in basic cross country skiing.

PE 184C Advanced Skiing - Nordic 1.00: Designed to teach student who can perform dynamic diagonal stride and turning maneuvers to perform dynamic technique adjustments to timing, terrain changes, turning for speed control and efficiency in skating and telemark skiing. Addresses terrain changes, weather and snow conditions.

PE 184D Beginning Skiing - Alpine 1.00: Designed to teach inexperienced skiers to link turns together with control on beginning and beginning/intermediate terrain. Introduces the fun of downhill skiing and emphasizes skills necessary to ski safely on appropriate terrain. Addresses the variables of weather and snow conditions.

PE 184E Intermediate Skiing - Alpine 1.00: Opportunity for continued improvement in safe, enjoyable skiing for students capable of beginning wedge christies. Includes skidded parallel turns of varying radii with control on intermediate and beginning beginning/advanced terrain. Addresses variables of weather, snow conditions, and terrain. Recommended: Beginning Alpine class or equivalent.

PE 184F Advanced Skiing - Alpine 1.00: Ski on intermediate/advanced terrain with dynamic parallel turns. Apply edging, pressure control, rotary and balancing movements to allow confidence and versatility on steeper terrain and in varying snow conditions. Addresses variables of weather, snow conditions, and terrain. Recommended: Intermediate Alpine class or equivalent.

PE 184I Beginning Snowboard Skiing 1.00: Basic skills necessary for safe and fun snowboarding on appropriate terrain will be taught. Also skidded turns with control on beginning and beginning/intermediate terrain. The variables of weather and snow conditions will be addressed.

PE 184J Intermediate Snowboard Skiing 1.00: Continues refinement of basic skills. Students will be taught to link beginning carved turns with rhythm and control on intermediate and beginning advanced terrain. Stresses safe boarding with improvement in skill applications. The variables of weather and snow conditions will be addressed. Recommended: Beginning Snowboarding class or equivalent.

PE 184K Alpine Ski Instructor Training 1.00: Develops skills needed to teach alpine skiing. American Teaching System progression will be taught from first day through open parallel turns. Skills concept, demonstrations, class safety and handling, movement analysis and limited practice teaching will be covered. Recommended: Advanced Alpine Skiing or equivalent.

PE 184L Advanced Snowboarding Skiing 1.00: Development of snowboarding skills at higher speeds, varied and difficult terrain. Includes instruction in park riding, freestyle, or powder. Emphasizes safe boarding in challenging conditions. Recommended: Intermediate snowboard skiing or equivalent.

PE 185A Beginning Basketball 1.00: Provides instruction in basketball fundamentals, skills, and rules through drills and game play.

PE 185B Intermediate Basketball 1.00: Provides instruction and opportunity to develop skills and knowledge above the basic level. Implements set plays and skills through drills and game play. Beginning basketball skills required.

PE 185C Advanced Basketball 1.00: Emphasizes continued development of skills necessary to participate in basketball at an advanced level through game play and drills. Beginning/Intermediate basketball skills required.

PE 185D Beginning Volleyball 1.00: Includes basic history, terminology, etiquette, strategies and skills of game.

PE 185E Intermediate Volleyball 1.00: Builds further on the beginning techniques of the game. Emphasizes team play, special situations and officiating. Beginning volleyball class or instructor permission required.

PE 185F Advanced Volleyball 1.00: Builds further on the intermediate techniques of the game. Emphasizes team play, offensive/defensive situations and other advanced skills of spiking, team blocking and shoulder roll. Beginning volleyball and intermediate volleyball skills or instructor permission required.

PE 185G Beginning Soccer 1.00: Basic skills, rules, and strategies for soccer will be taught. Includes dribbling, kicking, trapping, heading, throw-in, tackling, shooting, goalie play, corner kicks, goalie kicks, penalty kicks, soccer formations (5-3-2, 4-3-3, 3-3-4, 2-4-4), defensive play, offensive play, rules of soccer.

PE 185H Advanced Soccer 1.00: Presents more advanced soccer skills, strategies and rules not covered in the beginning course. Includes footwork (trapping, feinting, shielding, dribbling), tackling, volley kicking, shooting, heading, goalkeeper play, soccer formations, defense, offense, rules. Beginning and intermediate soccer skills required.

PE 185I Flag Football 1.00: Covers skills, rules and strategies. Emphasizes individual and team offensive, defensive and kicking techniques as well as concepts of team organization and play. Considerable time is spent playing the game.

PE 185J Softball 1.00: Emphasizes team play, strategy and individual skills. Included are: batting, running bases and sliding, throwing from outfield, throwing from infield, pitching, catching, fielding and communication. Time is divided between drills and game play.

PE 185K Slowpitch Softball 1.00: Uses basic rules and skills of softball, altered for slowpitch. Generally utilizes equal numbers of men and women in playing positions.

PE 185L Intermediate Soccer 1.00: Applies skills acquired in basic/beginning soccer play. Utilizes kicking, passing, dribbling, heading, play strategies, and goal-keeper skills. May be played on outdoor field or altered for indoor play.

PE 186A Ballet I 1.00: Develops skills and examines principles in the fundamentals of classical ballet technique. Emphasizes correct alignment, basic barre and center work, traveling steps, and ballet vocabulary.

PE 186B Ballet II 1.00: Continues development of skills and principles of classical ballet technique beyond the beginning level. Emphasizes correct alignment, increased speed, strength, flexibility, balance, coordination, and ballet vocabulary in more challenging combinations. Recommended courses: PE 186A or D 192A or equivalent.

PE 186F Jazz Dance I 1.00: Introduces principles and skills in the fundamentals of jazz dance technique. Emphasizes and develops correct body alignment, coordination, strength, flexibility, rhythm, and movement awareness. Includes jazz dance vocabulary and simple dance combinations. Course may be taken 3 times for credit.

PE 186G Jazz Dance II 1.00: Continues development of jazz dance technique at the beginning /intermediate level. Emphasizes increased coordination, strength, control, flexibility, stamina, musicality, and jazz dance vocabulary in more challenging combinations. Course may be taken 3 times for credit (D 151 or PE 186G separately or in combination). Recommended courses: D 150, or PE 186F, or equivalent.

PE 186I Modern Dance I 1.00: Introduces knowledge and skills in beginning modern dance technique. Includes dance fundamentals, vocabulary, and improvisation, emphasizing correct alignment, coordination,

strength, and awareness of movement. Course may be taken 3 times for credit (D 192C or PE 186I separately or in combination).

PE 186J Modern Dance II 1.00: Continues development of modern dance technique, with focus on alignment, strength, control, musicality, and dynamics. Includes expanded modern dance vocabulary, dance combinations, and improvisation. Course may be taken 3 times for credit (D 192D or PE 186J separately or in combination). Recommended courses: D 192C or PE 186I or equivalent.

PE 186K Tap Dance I 1.00: Introduces beginning skills in tap dance. Covers basic steps, terminology, rhythms, and combinations.

PE 186L Basic Dance / Ballroom, Country, Folk 1.00: Offers instruction in ballroom, folk and country western dance. Includes instruction, practice time, and development of personal confidence in a social setting. Coursework develops coordination, rhythm, and knowledge of basic dance skills.

PE 186N Intermediate Ballroom Dancing 1.00: Continues development and refinement of skills in ballroom dance. Practice and improvement of rhythm, styling, dance variations, and dynamics.

PE 281 Professional Activities / Weight Training 2.00: Work with a faculty mentor to develop knowledge and skill in weight training. Design programs for circuit training and strength and endurance training. Includes equipment selection, teaching methods and safety guidelines. Prerequisite: PE 181A or 181B

PE 282A Professional Activities / Aerobic Group Exercise 1.00: Work with a faculty mentor to explore and develop knowledge about aerobic fitness. Covers components of aerobic fitness, styles of aerobic exercise, and teaching methods. Corequisite: Concurrent enrollment in PE 182A, 182B, or instructor permission.

PE 282B Professional Activities / Special Populations 2.00: Work with a faculty mentor to identify special populations within the fitness industry. Explore the needs and abilities of these populations with an emphasis on modifications in assessments, adaptive equipment, and fitness programs. Recommended: Active email account and transportation to Portland metropolitan area facilities.

PE 283 Professional Activities: Mind/Body Disciplines 1.00: Explores, with faculty mentor, traditional and contemporary mind/body disciplines. Applies mind/body principles to fitness programming.

PE 287 Professional Activities - Aquatics 1.00: Work with a faculty mentor to develop knowledge and skill in aquatics. Explores the use of swimming and water exercise to achieve total fitness. Corequisite: Concurrent enrollment in PE 180H, PE 180G, or PE 180F or instructor permission.

PE 291A Lifeguard Training 2.00: Designed to help students learn, practice, and develop the skills of water safety. Successful completion results in receiving an American Red Cross Lifeguard Training certificate. Red Cross swim screening test required.

PE 292A Water Safety Instructor 2.00: Teach swimming and water safety and further develop personal skills in these areas. Successful completion leads to receiving the American Red Cross Water Safety instructor (WSI) certificate. Students must be at least 17 years of age, skilled at intermediate swim level, and have completed pertinent Red Cross requirements.

Philosophy

PHL 185 Computer Ethics 3.00: Discusses ethical and social issues around the use of computer technology. Computer use has created unique ethical issues not addressed in traditional ethics for computer professionals and even casual computer users, it is imperative not only to explore what we can do with computer technology, but our ethical responsibilities in using that technology. CIS 185 and PHL 185 cannot both be taken for credit.

PHL 191 Critical Thinking / Language and the Layout of Argument 4.00: Analyzing arguments, recognizing arguments when they occur, discerning simple logical patterns of argument, extracting arguments from the contexts in which they occur, restating them in clear and concise terms and clearing away needless language in formulating arguments. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

PHL 195 Critical Thinking: Science and the Occult 4.00: Introduces scientific method, assessment criteria for scientific observations and explanations and the difference between genuine and bogus science. Prerequisites: WR115, RD115, And MTH30 or equivalent placement test scores.

PHL 197 Critical Thinking: Television & The Presentation of Reality 4.00: Thoughtful and critical look at television programming. Includes news, entertainment programming and commercials. Emphasizes thinking, talking and writing about what students see on TV and reflecting on how television influences their images of themselves and their reality. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

PHL 201 Introduction to Philosophy: Philosophical Problems 4.00: Introduces metaphysics and the theory of knowledge via the works of important figures in the history of philosophy. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

PHL 202 Introduction to Philosophy: Elementary Ethics 4.00: Studies attempts by philosophers to account for the difference between right and wrong, for the notion of moral obligation and to answer the question: How should we lead our lives. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

PHL 204 Philosophy of Religion 4.00: Examines the existence and attributes of God, faith, reason and mysticism, religion and science, religion and morality, religious language and life after death from the perspective of the philosopher. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

PHL 205 Contemporary Moral Problems: Biomedical Ethics 4.00: Designed primarily for nursing and other health care students. Focuses on applying ethical concepts to the situations and dilemmas nurses and other health care workers confront in their professional roles. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

PHL 206 Introduction to Environmental Ethics 4.00: Investigates the ethical questions that pertain to human choices regarding the environment. Some of the questions addressed include: Do non-human animals have rights? What is the environment and do we have an obligation to protect it? What is the proper ethical balance between economic and environmental concerns regarding natural resources? Does the present generation have an ethical obligation to preserve a healthy environment for future generations? Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

PHL 207 Ethical Issues in Aging 4.00: This course will investigate central ethical issues pertaining to the care of elderly patients. Students will become more familiar with various ethical principles and frameworks and then apply these to various ethical issues and dilemmas that arise in caring for the elderly. Students will learn how to identify ethical issues in caring for the elderly and become more proficient in ethical decision making in order to render well-reasoned ethical decisions regarding care for the elderly. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

PHL 208 Political Philosophy 4.00: Introduction to and analysis of political theories and concepts through study of the works of major figures in the history of political philosophy from Plato to the present. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

PHL 209 Business Ethics 4.00: Designed primarily for students of business and related fields. Reviews some historical and contemporary ethical theories and ethical issues that arise in several aspects of business, such as, management, use of computers, marketing, accounting, and doing business in an international setting. Includes the social responsibilities of corporations, the rights of workers, truth in advertising, the environmental impact of doing business, affirmative action in hiring, sexual harassment in the workplace, respect for cultural differences, and the responsibilities of the individual in the corporate setting. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

PHL 210 Introduction to Asian Philosophy 4.00: Introduces the non-dualistic philosophies of India, China, Japan, and South East Asia, which offer a complementary approach to Western traditions in logic, ethics, epistemology, and metaphysics. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

PHL 211 Existentialism 4.00: This course will investigate existential philosophy from the 19th Century to the present. Students will become familiar with the different branches of existentialist thought and the influence existentialism had on philosophy, literature, and culture in the 19th and 20th Centuries. Philosophers that will be studied include, but are not limited to, some

of the following: Kierkegaard, Nietzsche, Heidegger, Camus and Sartre. Prerequisite: Placement into WR 121 and placement into RD 90

PHL 221 Symbolic Logic 4.00: Propositional notation and truth value analysis of simple and compound statements. Includes quantificational notation and deductive techniques for determining consistency and validity. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

PHL 222 Philosophy of Art and Beauty 4.00: Introductory course exploring individual and cultural assumptions about the nature of art and aesthetic expression. Applies a philosophical approach to the study of art forms from many world cultures. In seminar/workshop format, the class involves the study of a variety of media and genres, with possible field trips to museums, galleries gardens, and performing arts events. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

PHL 298 Independent Study: Philosophy 4.00: Advanced, individualized study in areas of philosophy not considered in other courses to meet special interests or program requirements. Complete a term project and readings approved by the instructor. Recommended: prior study in philosophy and instructor permission.

Physics

PHY 101 Fundamentals of Physics I 4.00: Introduction to Physics. Includes mechanics, vectors, energy, simple machines, satellite motion, and the theory of special relativity. Prerequisite: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

PHY 102 Fundamentals of Physics II 4.00: A conceptual study of physics. Topics include properties of matter, heat and thermodynamics, and atomic and nuclear physics. Prerequisite: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

PHY 103 Fundamentals of Physics III 4.00: A conceptual study of physics. Topics include waves and sound, electricity and magnetism, and light and optics. Prerequisite: WR 115, RD 115, and MTH 20 or equivalent placement test scores.

PHY 121 Elementary Astronomy 4.00: Introduces the contents of our solar system, including the earth, its moon, the other planets and moons; asteroids, comets, and meteors. Algebra recommended. Prerequisite: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

PHY 122 Elementary Astronomy 4.00: Introduces stellar astronomy, including our sun, properties of stars, and stellar evolution. Algebra recommended. Prerequisite: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

PHY 123 Elementary Astronomy 4.00: Introduction to star clusters, the contents of our galaxy; other galaxies, including active galaxies, and cosmology. Algebra recommended. Prerequisite: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

PHY 196 Observational Astronomy 1.00: Designed to teach use of telescopes and binoculars in conjunction with star atlases and catalogs in locating and identifying astronomical objects in night skies. An introduction to clock drives, astrophotography, and photoelectric photometry will be provided. Prerequisite: PHY 123.

PHY 201 General Physics 4.00: Introductory physics (algebra based) for science majors, pre-medical, pre-dental, pre-chiropractic and pre-physical therapy students. Topics include mechanics including statics, forces and motion energy, collisions, circular motion and rotational dynamics. Prerequisite or concurrent: MTH 111A, B or C and their prerequisite requirements.

PHY 202 General Physics 4.00: Topics include mechanical properties of matter, heat, waves, sound and light. Algebra-based physics. Prerequisite: PHY 201 and its required prerequisites.

PHY 203 General Physics 4.00: Topics include electricity, magnetism and radioactivity. Algebra-based physics. Prerequisite: PHY 202 and its prerequisite requirements.

PHY 211 General Physics (Calculus) 5.00: Topics include concepts in mechanics and their relationship to practical applications for science and engineering majors. Prerequisites: MTH 251 and MTH 252 and their prerequisite requirements. Prerequisite/Concurrent: MTH 252.

PHY 212 General Physics (Calculus) 5.00: Topics include concepts in fluid mechanics, waves, thermodynamics and optics. Prerequisites: PHY 211 and its prerequisite requirements.

PHY 213 General Physics (Calculus) 5.00: Topics include concepts in electromagnetism together with their relationship to practical applications. Prerequisites: PHY 211 and its prerequisite requirements.

Political Science

PS 111 Skills and Issues 1.00: Designed to deepen understanding of PS 201 or PS 202. Includes interactive tutorials, student skills building exercises, and community-based projects. Co-requisite: PS 201 or PS 202.

PS 201 U.S. Government: Foundations & Principles 4.00: Examines the development of constitutional traditions in America. Includes topics such as free speech, equal rights under law, movements, interest groups, political parties, and elections in a democratic struggle for power. PS 201, 202, and 203 need not be taken in sequence. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

PS 202 U.S. Government: Institutions & Policies 4.00: Examines the national institutions of American politics including the Legislative, Executive, Judiciary, and Bureaucracy. Topics include national policies, foreign policy, taxation, spending priorities, government regulations and entitlements. PS 201, 202, and 203 need not be taken in sequence. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

PS 203 State and Local Government 4.00: Examines state and local government policy formulation and outcomes on issues ranging from taxation to prisons, and education to environmental concerns. Focuses on Oregon state and local politics. PS 201, 202, and 203 need not be taken in sequence. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

PS 204 Comparative Political Systems 4.00: Covers the study of political systems in various countries. Includes such issues as policy-making, representation/ participation, political culture, political economy and development and governance. Countries chosen will represent various political systems including, democracies, totalitarian regimes, dictatorships, post-communist systems in transition, newly industrializing and developing countries. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

PS 205 Global Politics: Conflict & Cooperation 4.00: Examines the nature of relations among states. Topics include motivating factors such as nationalism and imperialism, economic rivalries and the quest for security, questions of national sovereignty and international cooperation, war and peace, global issues, and the future. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

PS 211 Peace and Conflict 4.00: Explores the causes and manifestations of violence in actions involving oneself, society, one's nation, and the global community. Alternatives to oppressive behavior, undemocratic institutions, and the violent resolution of conflict are considered. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

PS 220 U.S. Foreign Policy 4.00: Historical analytical treatment of select foreign policy themes since World War I is presented. Examines the United States' attempt to create world order through use of economic, military and diplomatic power, the roles of democratic institutions and decision-making elites in creating foreign policy, and the interdependent basis of the contemporary international system. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

PS 225 Political Ideology: Alternative Idea Systems 4.00: Covers sources, strengths and weaknesses of contemporary ideologies, and the conditions which lead to conflict or to cooperation among them. Includes liberalisms, conservativisms, socialisms, fascisms, and other idea systems. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent test scores.

PS 280A CE / Political Science 1.00–4.00: Extends knowledge of Political Science through work and/ or volunteer time spent in settings that provide learning experiences. Department permission required.

PS 280B CE / Community Service & Action Seminar 2.00: This interdisciplinary seminar provides an integrative framework for students engaged in community service and cooperative education work. Focuses on social interaction, group and organizational processes, and public policies related to service, advocacy, and social change placements.

PS 280C CE / Peace and Conflict 1.00–4.00: Extends knowledge of Peace and Conflict Studies through work and/or volunteer time spent in settings that provide learning experiences. Department permis-

sion required.

PS 298 Independent Study: Political Science 4.00: Advanced individualized study of areas of political science not considered in other courses to meet special interests or program requirements. Includes a term project and readings approved by the instructor. Recommended: prior study in political science and instructor permission.

Occupational Skills Training

PST 101 Professional Skills Training 1.00–16.00: Unique off-campus training program which provides an opportunity to develop marketable job skills in areas not normally addressed by on-going programs. Custom designed training tailored to individual abilities, skills and interests. Program permission required.

Psychology

PSY 101 Psychology and Human Relations 4.00: Focuses on practical and personal applications of psychological principles. Encourages applications of psychological principles to daily living and human interactions to areas such as work, leisure, school and relationships. Prerequisite: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

PSY 201 Introduction to Psychology - Part 1 4.00: First term of a two-term sequence in introductory psychology covering the history of psychology, scientific methods, the brain and nervous system, sensation and perception, states of consciousness, human development, learning, memory, language, and cognition. Prerequisite: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

PSY 201A Introduction to Psychology - Part 1 4.00: First term of a two-term sequence in introductory psychology covering the history of psychology, scientific methods, the brain, nervous system, sensation, perception, consciousness, human development, learning, memory, language, and cognition. Taught from a sociocultural approach which assumes that gender, culture, and ethnicity are essential to understanding behavior, thought, and emotion. Meets cultural diversity requirements for Associate Degrees. Prerequisite: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

PSY 202 Introduction to Psychology - Part 2 4.00: The second term of a two-term sequence in introductory psychology, covering emotion, motivation, intelligence, personality theory, health psychology, abnormal psychology, therapies, and social psychology. Recommended: PSY 201 or 201A. Prerequisite: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

PSY 202A Introduction to Psychology - Part 2 4.00: The second term of a two-term sequence in introductory psychology, covering emotion, motivation, intelligence, personality theory, health psychology, abnormal psychology, therapies, and social psychology. Course taught from a sociocultural approach which assumes that gender, culture, and ethnicity are essential to understanding behavior, thought, and emotion. Meets cultural diversity requirements for Associate Degree. Recommended: PSY 201 or 201A. Prerequisite: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

PSY 213 Brain, Mind & Behavior 4.00: Provides overview of the brain's role in behavior. Emphasizes the neurophysiological properties relevant to psychological functions: sensation, perception, motivation, learning, emotion, activation, and motor responses. Includes extensive coverage of the anatomical and physiological aspects of the human nervous system. Prerequisite: WR 115, RD 115 and MTH 20 or equivalent placement test scores, and PSY 201 or one year biology.

PSY 214 Introduction to Personality 4.00: Covers personality theories including the theoretical and scientific explanations for individuals' characteristic patterns of perception, thought, emotion, and behavior. Incorporates activities which help students apply what they have learned about personality theories to their personal and professional lives. Recommended: PSY 201A or 202A Prerequisite: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

PSY 215 Human Development 4.00: Surveys major theories of behavior and patterns of change and continuity in people over the life span. Emphasizes development from physical, cognitive, social, emotional, moral, and cultural perspectives from prenatal development through development of infants, children, adolescents, adults, and the elderly. Recommended: PSY 201A or 202A. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

PSY 216 Social Psychology 4.00: Examines how society affects human behavior, including persuasion, conformity, aggression, conflict, and interpersonal attraction. Applications to business, politics, environment, health, the legal system and human relations. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

PSY 222 Family & Intimate Relationship 4.00: Explores processes involved in both traditional and non-traditional relationships and families; including love, cohabitation, dating, marriage, parenting, communication and conflict resolution, sexuality, balancing work and family, domestic violence, divorce, remarriage, and blended families. Prerequisite:WR 115, RD 115 and MTH 20 or equivalent placement test scores.

PSY 231 Human Sexuality 4.00: Part one of two-term sequence exploring sexual issues from scientific and humanistic perspectives. Topics: historical, cultural, cross-cultural perspectives on sexuality, sex research, female and male sexual and reproductive anatomy and physiology; gender issues; sexual response, communication, and behavior patterns; love and sexual orientations. Recommended: PSY 231 taken before PSY 232. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

PSY 232 Human Sexuality 4.00: Part two of sequence exploring sexual issues from scientific and humanistic perspectives. Topics: sexuality through the life cycle, sexual problems, sexual satisfaction, contraception, conception, sexuality and disability, sex and chronic illness, sexually transmitted infections, sexual victimization, atypical sexual behavior, commercialization of sex. Recommended: PSY 231 taken before PSY 232. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

PSY 239 Introduction to Abnormal Psychology 4.00: Surveys the history, theories, diagnosis, etiology, and treatment of the major mental disorders. Prerequisite: WR 115, RD 115 and MTH 20 or equivalent placement test scores, and PSY 201 or 201A or 202 or 202A.

PSY 240 Personal Awareness and Growth 4.00: Provides theory and experience to acquire a comprehensive perspective on intra- and inter-personal dynamics related to personal growth and awareness. Activities provide opportunities to increase self-understanding, awareness, and acceptance, identify areas for potential growth, and explore awareness of self as perceived by others to improve effectiveness relating to other people. Prerequisite: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

PSY 280A CE / Psychology - Worksite Placement 1.00–4.00: Extends knowledge of Psychology through work in settings which provide learning experiences supplementing classroom learning. Department permission required. Prerequisite: Placement in WR 121 or completion of WR 115 with a "C" or better.

PSY 285 Psychology Seminar and Practicum 4.00: Designed for psychology majors, the class consists of two hour weekly seminar and a practicum placement in the community (60 hours). The seminar will focus on career paths in psychology at both the undergraduate and graduate levels, research methods, and professional writing and presentation skills. Highly recommended: MTH 243 Prerequisites: PSY 201 or 201A and PSY 202 or 202A. Prerequiste/Concurrent: WR 122.

PSY 298 Independent Study / Psychology 3.00: Advanced individualized study of psychology not considered in other courses to meet special interests or program requirements. Complete a term project and readings approved by the instructor. Recommended: Prior study of psychology. Prerequisite: Placement in WR 121 or completion of WR 115 with a "C" or better. Instructor permission required.

Religious Studies

R 210 World Religions 4.00: A general survey course that examines the major religions of the world, including Hinduism, Buddhism, Chinese religions, Christianity, Judaism and Islam. Attention is given to their founds and history, myths and doctrines, rituals and traditions, and social and personal ethics. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

Radiography

RAD 100 Introduction to Radiology 2.00: Introduces the health care team and various aspects of radiological sciences. Includes medical ethics, professional organizations, medicolegal considerations, communication, cultural diversity, basic radiation protection, fundamental technical components, radiological history, health care organizations and medical specialties. Department permission required.

RAD 101 Radiographic Positioning I 3.00: Introduces basic positioning techniques used in radiography of the respiratory system, abdomen, upper and lower extremities. Lab includes peer positioning, film critique, anatomical identification, pathologies

and an energized section using phantoms. Department permission required.

RAD 102 Radiographic Positioning II 3.00: Basic positioning techniques used in radiography of the digestive system, urinary system and continuation of the upper and lower extremities. Lab includes peer positioning, film critique, anatomical identification, pathologies and an energized section using phantoms. Department permission required. Prerequisite: RAD 101.

RAD 103 Radiographic Positioning III 3.00: Basic positioning techniques used in radiography of the bony thorax, spinal column and pelvic girdle. Lab includes peer positioning, film critique, anatomical identification, pathologies and an energized section using phantoms. Department permission required. Prerequisite: RAD 102.

RAD 105 Methods of Patient Care 3.00: Covers general care of patients in radiology department. Emphasizes radiographer's role regarding patient care with cardiac arrest, vital signs, accident victims, bedside procedures, aseptic techniques, contagious disease control, blood borne pathogens, venipuncture, administration of medication and contrast media reactions. Introduces fundamentals of urinary catheterization. Lab provides application of theory. Department permission required.

RAD 106 Radiographic Equipment I 4.00: Covers fundamental concepts of energy and measurements, atomic structures, molecules, electricity, magnetism, electromagnetism, transformers, and rectifiers. Department permission required.

RAD 107 Radiographic Equipment II 4.00: Covers generators, timers, x- ray tubes, recording devices, physiology of sight, image intensifiers, television camera/monitors, digital radiography, mobile radiography and fluoroscopic equipment, tomography and teleradiography. Department permission required. Prerequisite: RAD 106.

RAD 107C Principles of Fluoroscopy 1.00: Covers the state of Oregon fluoroscopy education requirements on operation of the equipment. Designed as an update for physicians or radiographers and to satisfy the Oregon Radiation Protection Services rules for fluoroscopy. Department permission required.

RAD 110 Radiographic Clinic I 4.00: Provides clinical education experience in an affiliated hospital radiology department under the supervision of a registered radiographer and radiologist. Includes application of equipment manipulation and operation, radiological imaging procedures, radiation protection, medicolegal and ethical protocol, record keeping and patient care. Requires clinical competencies, objectives, performance assessment and attendance. Department permission required.

RAD 115 Principles of Exposure I 3.00: Covers production and control of scattered radiation, stereo radiography, grid technique, filtration, half value layer, magnification, contrast and density principles. Lab includes application of theories using energized equipment and test tools. Department permission required. Prerequisite: RAD 106.

RAD 120 Radiographic Clinic II 4.00: Provides clinical education experience in an affiliated hospital radiology department under the supervision of a registered radiographer and radiologist. Includes application of equipment manipulation and operation, radiological imaging procedures, radiation protection, medicolegal and ethical protocol, recordkeeping and patient care. Requires clinical competencies, objectives, performance assessment and attendance. Department permission required. Prerequisite: RAD 110.

RAD 122 Radiation Protection - Biology 3.00: Introduces biological effects of ionizing radiation and application of principles to minimize the risks of man-made radiation. Examines standards and requirements determined by government guidelines. Department permission required. Prerequisite: RAD 106.

RAD 130 Radiographic Clinic III 4.00: Provides clinical education experience in an affiliated hospital radiology department under the supervision of a registered radiographer and radiologist. Includes application of equipment manipulation and operation, radiological imaging procedures, radiation protection, medicolegal and ethical protocol, recordkeeping and patient care. Requires clinical competencies, objectives, performance assessment and attendance. Department permission required. Prerequisite: RAD 120.

RAD 132 Radiographic Image Production 3.00: Introduces theory and practical application of film/screen systems, sensitometry, image formation, automatic film processing, subtraction/duplication, computed radiography and quality assurance. Lab includes using test tools with energized equipment. Department permission required. Prerquisite: RAD 115.

RAD 140 Radiographic Clinic IV 10.00: Provides clinical education experience in an affiliated hospital radiology department under the supervision of a registered radiographer and radiologist. Includes application of equipment manipulation and operation, radiological imaging procedures, radiation protection, medicolegal and ethical protocol, recordkeeping and patient care. Requires clinical competencies, objectives, performance assessment and attendance. Department permission required. Prerequisite: RAD 130.

RAD 203 Applied Radiography Topics 2.00: Examines legal principles in radiography by looking at a variety of topics related to medical/professional ethics. Discussions will include the code of ethics and bioethical issues in radiography. Also covered will be the attitudes and communication knowledge needed to develop critical thinking skills in patient care. Prerequisite: RAD 140.

RAD 205 Radiographic Positioning V 3.00: Covers basic positioning of the skull, paranasal sinuses, facial bones, temporal bone, mastoids and mandible. Lab includes peer positioning, film critique, anatomical identification, pathologies and energized imaging with the use of phantoms. Department permission required. Prerequisite: RAD 103.

RAD 206 Survey Medical Imaging Disease 3.00: Covers basic principles and processes of disease, characteristics of neoplasms and systems with related disease as it applies to the radiological science imaging. Department permission required.

RAD 209 Advanced Radiological Procedures 2.00: Covers contrast media, fluoroscopic exams and special procedures involving the following systems: biliary, mammary, lymph, female reproductive, respiratory, pancreatic and salivary. Also covers techniques and equipment used to catheterize the vascular system, indications for various vascular procedures, contrast agents used for specific procedures and selective vascular anatomy. Department permission required. Prerequisite: RAD 105.

RAD 210 Radiographic Clinic V 6.00: Provides clinical education experience in an affiliated hospital radiology department under the supervision of a registered radiographer and radiologist. Includes application of equipment manipulation and operation, radiological imaging procedures, radiation protection, medicolegal and ethical protocol, recordkeeping and patient care. Requires clinical competencies, objectives, performance assessment and attendance. Department permission required. Prerequisite: RAD 140.

RAD 211 Advanced Imaging Modalities 4.00: Builds on information from previous radiation physics courses in the series. Introduces computed tomography, magnetic resonance, nuclear medicine, sonography and radiation therapy. Department permission required. Prerequisite: RAD 107.

RAD 215 Principles of Exposure II 3.00: Introduces theory and application of inverse square law, distortion, radiographic quality, technique conversion factors, formulation of technique charts, and quality assurance. Lab includes use of energized equipment and test tools. Department permission required. Prerequisite: RAD 132.

RAD 216 Radiography Registry Review 2.00: Provides review of the major content areas appearing in the national certification examination. Requires class participation, review of radiation protection, equipment operation and maintenance, image production and evaluation, radiographic procedures and patient care. Students must demonstrate an understanding of these subjects by successful completion of unit examinations and at least one mock registry examination.

RAD 220 Radiographic Clinic VI 6.00: Provides clinical education experience in an affiliated hospital radiology department under the supervision of a registered radiographer and radiologist. Includes application of equipment manipulation and operation, radiological imaging procedures, radiation protection, medicolegal and ethical protocol, record keeping and patient care. Requires clinical competencies, objectives, performance assessment and attendance. Department permission required. Prerequisite: RAD 210.

RAD 230 Radiographic Clinic VII 10.00: Provides clinical education experience in an affiliated hospital radiology department under the supervision of registered radiographer and radiologist. Includes application of equipment manipulation and operation, radiological imaging procedures, radiation protection, medicolegal and ethical protocol, recordkeeping, and patient care. Requires clinical competencies, objectives, performance assessment and attendance. Department permission required. Prerequisite: RAD 220.

RAD 240 Radiographic Clinic VIII 8.00: Provides

clinical education experience in affiliated hospital radiology department under supervision of registered radiographer and radiologist. Includes application of equipment manipulation and operation, imaging radiological procedures, radiation protection and patient care. Requires clinical competencies, completion of clinical objectives, clinical assessments, attendance and terminal clinical competencies in radiological imaging. Department permission required. Prerequisite: RAD 230.

RAD 251 Sectional Anatomy-Neck/Thorax 1.00: Introduces the normal appearance of anatomical structures in multiple planes. Enables student to differentiate between normal anatomical structures and abnormalities. Designed for graduate technologists or senior radiography students. ARRT certification or department permission required.

RAD 252 Sectional Anatomy-Abd/Pelvis 1.00: Introduces the normal appearance of anatomical structures in normal planes. Enables student to differentiate between normal anatomical structures and abnormalities. Designed for graduate technologists or senior radiography students. ARRT certification or department permission required.

RAD 253 Sectional Anatomy-Head/Spine 1.00: Introduces the normal appearance of anatomical structures in multiple planes. Enables student to differentiate between normal anatomical structures and abnormalities. Designed for graduate technologists or senior radiography students. ARRT certification or department permission required.

RAD 281C Computed Tomography 1.00: Emphasizes imaging procedures, physics, and instrumentation, radiation safety, contrast agents, artifacts, data acquisition and processing. A.R.R.T.(R) certification or department permission required.

RAD 281D Magnetic Resonance 1.00: Emphasizes imaging procedures, physical principles of image formation, data acquisition and processing, safety precautions, contrast agents, biological effects, patient assessment and monitoring. A.R.R.T.(R) certification or department permission required.

RAD 285 Imaging for Pathology 1.00: Compares the appearance of pathology using various imaging modalities such as CT, MRI, diagnostic radiography, and others. Covers variables of imaging exam selection according to pathology. All classes are designed for graduate technologists and senior medical imaging students. ARRT certification or department permission required.

RAD 290 Mammography I 4.00: Provides the means for a certified radiographer (A.R.R.T.) to learn the necessary knowledge and skills to become certified as an A.R.R.T. mammographer. This will enable the radiographer to understand the requirements and procedures for the new regulations in mammography.

Reading

RD 80 Reading 80 3.00: Instruction in vocabulary, dictionary use, motor skills, comprehension, some study skills. Prerequisite: Placement into RD 80.

RD 80A Reading 80A 3.00: Topics include vocabulary, dictionary use, motor skills, comprehension, reading rate improvement, and study skills. Prerequisite: Placement into RD 80.

RD 80C Reading 80C 3.00: Topic include vocabulary, dictionary use, motor skills, comprehension, reading rate improvement, and study skills. Prerequisite: Reading placement test score above 31 or successful completion of RD 70.

RD 81A Reading 81A 1.00: Focuses on instruction in vocabulary, study skills, and dictionary use. Prerequisite: Placement into RD 80.

RD 82A Reading 82A 2.00: Focuses on instruction in vocabulary, comprehension, study skills, and dictionary use. Prerequisite: Placement into RD 80.

RD 90 Reading 90 3.00: Instruction in reading improvement through work on vocabulary development, motor skills, comprehension and some reading rate improvement. Prerequisite: Placement into RD 90 or successful completion of RD 80.

RD 90A Reading 90A 3.00: Reading improvement through work on vocabulary development, motor skills, comprehension and reading rate. Prerequisite: Placement into RD 90 or successful completion of RD 80 with a "C" or better.

RD 91A Reading 91A 1.00: Focuses on reading effectiveness. Comprehension strategies, vocabulary development, and reading rate are emphasized.

RD 92A Reading 92A 2.00: Focuses on reading effectiveness. Comprehension strategies, vocabulary development, and reading rate are emphasized. Prerequisite: Placement into RD 90 or successful completion of RD 80.

RD 95 Reading for Enjoyment 3.00: Instruction in developing abilities to read, understand, and enjoy literature. Discussion topics include vocabulary, story line, character development, and major themes. Prerequisites: Placement into RD 90 or successful completion of RD 80.

RD 115 College Reading 3.00: Improve reading rate, vocabulary and comprehension. Includes formation of efficient reading habits, vocabulary development, inferential and critical reading, and adapting reading rate to different reading tasks. Prerequisite: Placement into RD 115 or successful completion of RD 90 (C or better), or successful completion of ESOL 260.

RD 116 College Vocabulary Development 3.00: Adds significantly to students' reading, writing, and speaking vocabularies, fosters interest in words, and offers strategies for continuous vocabulary development throughout life. Prerequisite: Placement into RD 115 or successful completion of RD 90.

RD 117 Advanced College Reading 3.00: Further exploration of topics covered in RD 115, emphasizing inferential, critical, and technical reading. Prerequisite: Successful completion of RD 115.

Real Estate

RE 100 Introduction to Real Estate 3.00: Real estate brokerage, appraisal, escrow, and management. Focuses on these aspects of the real estate industry and provides basic information for choosing real estate as a career.

RE 110 Real Estate Practices 3.00: Introduces the real estate business in general, real estate licensing laws, listing agreements, sales agreements, and fair housing. Satisfies Oregon Real Estate Broker pre-licensing requirements.

RE 112 Real Estate Law 3.00: Introduces the laws affecting real estate ownership and the transfer of real estate ownership. Satisfies Oregon Real Estate Broker pre-licensing requirements.

RE 114 Real Estate Agency Law 2.00: Topics covered are common law and statutory law aspects of agency. Satisfies Oregon Real Estate Broker pre-licensing requirements.

RE 116 Real Estate Finance 3.00: Methods for financing the acquisition and transfer of real property. Emphasizes the mortgage market, lending instruments, foreclosures and remedies, governmental loan programs, private loan programs, loan applications, appraisals and closings. Satisfies Oregon Real Estate pre-licensing requirements.

RE 118 Real Estate Brokerage 2.00: Topics include advertising, financial records, regulatory requirements for real estate offices, escrow, office manuals, and other topics. Satisfies Oregon Real Estate Broker pre-licensing

RE 126 Real Estate Contracts 2.00: Topics include basic contract law, listing agreements, earnest money agreements, options, first rights of refusal, leases and escrow agreements. Satisfies Oregon Real Estate Broker pre-licensing requirements.

RE 130 Real Estate Advanced Practices 3.00: Satisfies the Oregon Real Estate Agency post-license requirement to complete an advanced course related to the practice of real estate prior to their first renewal of their license.

RE 140 Real Estate Broker Property Management 1.00: Topics include Oregon real estate license and administrative rules, Oregon Residential Landlord and Tenant Act, record keeping, and anti-discrimination statutes. Satisfies Oregon Real Estate Broker pre-licensing requirements.

RE 210 Real Estate Appraisal-Foundations 3.00: Basic principles, methods and techniques of determining the value of real estate in connection with transfer of ownership, financing and credit, just compensation in condemnation, and as a basis for taxation. Meets State of Oregon requirements for licensing/certification.

RE 211 Real Estate Appraisal-Single Family Residences 3.00: Introduces more sophisticated methods and techniques of valuation related to the appraisal of single family residential properties. Satisfies Oregon State Qualifying Education requirements for licensing/certification.

RE 212 Real Estate Appraisal - USPAP 2.00:

Focuses on requirements for ethical behavior and competent performance by appraisers which are set forth in the Uniform Standards of Professional Appraisal Practice. Satisfies Oregon State Qualifying Education requirements for licensing/certification.

RE 226 Real Estate Investments - Advanced 3.00: Introduces more sophisticated and complex real estate finance and investments concepts.

RE 241 Real Estate Brokerage Administration and Sales Supervision 4.00: Management theory, characteristics and functions of successful management organizational formats. Includes corporate, partnerships and proprietorships, management related problems and license types and requirements. Required prior to taking the Oregon Real Estate Broker's exam.

RE 250 Real Estate Investments I 3.00: Introduces various aspects of personal real estate investments. Discusses basic strategies of real estate investment, including the relationship between risk and return. Introduces important considerations for potential investors when purchasing, holding and selling investment property.

RE 252 Real Estate Property Management 6.00: Emphasizes functions and responsibilities of managers of real property. Includes applications of contract and agency law, and statutory materials concerning landlord and tenant, anti-discrimination, and fair credit reporting. Satisfies Oregon State property management license pre-licensing requirements.

Russian

RUS 101 First Year Russian 4.00: Emphasizes active communication in beginning Russian. Includes listening, speaking, reading, writing, pronunciation, structure, vocabulary and culture. For beginners.

RUS 102 First Year Russian 4.00: Continues the work of RUS 101. Emphasizes active communication in Russian. Includes listening, speaking, reading, writing, pronunciation, structure, vocabulary, and culture. Recommended: Completion of RUS 101 or instructor permission.

RUS 103 First Year Russian 4.00: Continues the work of RUS 102. Emphasizes active communication in Russian. Includes listening, speaking, reading, writing, pronunciation, structure, vocabulary and culture. Recommended: Completion of RUS 102 or instructor permission.

RUS 111A First Year Russian Conversation 3.00: Continues to practice structures and vocabulary presented in RUS 101 in a conversational format.

RUS 111B First Year Russian Conversation 2.00: Continues to practice structures and vocabulary presented in RUS 101 in a conversational format.

RUS 111C First Year Russian Conversation 1.00: Continues to practice structures and vocabulary presented in RUS 150 in a conversational format. Recommended: Enrollment in RUS 150.

RUS 112A First Year Russian Conversation 3.00: Continues to practice structures and vocabulary presented in RUS 102 in a conversational format.

RUS 112B First Year Russian Conversation 2.00: Continues to practice structures and vocabulary presented in RUS 102 in a conversational format.

RUS 112C First Year Russian Conversation 1.00: Continues to practice structures and vocabulary presented in RUS 151 in a conversational format. Recommended: Enrollment in RUS 151.

RUS 113A First Year Russian Conversation 3.00: Reviews structures and vocabulary presented in first year Russian. Special emphasis on conversational skills. Recommended: Completion of RUS 103, 151, or instructor permission.

RUS 113B First Year Russian Conversation 2.00: Continues to practice structures and vocabulary presented in first year Russian in a conversational format. Recommended: Completion of RUS 103, 151 or instructor permission. RUS 113C First Yr Russian Conversation First Year Russian Conversation Continues to practice structures and vocabulary presented in RUS 103 in a conversational format.

RUS 150 First Year Russian 6.00: For beginners. Emphasizes active communication in beginning Russian. Includes listening, speaking, reading, writing, pronunciation, structure, vocabulary and culture. Recommended: Enrollment in RUS 111C when offered.

RUS 151 First Year Russian 6.00: Continues the work of RUS 150. Emphasizes active communication in Russian. Includes listening, speaking, reading, writing, pronunciation, structure, vocabulary and culture. Recommended: Completion of RUS 150 or instructor permission.Recommended: Enrollment in RUS 111C when offered.

RUS 201 Second Year Russian 5.00: Continues the work of first year Russian, reviewing, expanding, and perfecting pronunciation, structure, and vocabulary for the purpose of active communication. Includes practice in reading and writing. Recommended: Completion of first year Russian at college level or instructor permission.

RUS 202 Second Year Russian 5.00: Continuation of RUS 201. Continues to expand structure and vocabulary for the purpose of active communication. Includes practice in reading and writing. Recommended: Completion of RUS 201 or instructor permission.

RUS 203 Second Year Russian 5.00: Continuation of RUS 202. Continues to expand structure and vocabulary for the purpose of active communication. Includes practice in reading and writing. Recommended: Completion of RUS 202 or instructor permission.

RUS 211A Intermediate Russian Conversation 3.00: Emphasizes conversational skills and listening comprehension at the second-year level. Recommended: completion of first year Russian at college level or instructor permission. RUS 211B Inter Russian Conversation Intermediate Russian Conversation Emphasizes conversational skills and listening comprehension at the second-year level. Recommended: Completion of first year Russian at college level or instructor permission.

RUS 211C Intermediate Russian Conversation 1.00: Emphasizes conversational skills and listening comprehension at the second year level. Recommended: Completion of first year Russian at college level or instructor permission. RUS 212A Inter Russian Conversation Intermediate Russian Conversation Emphasizes conversational skills and listening comprehension at the second-year level. Recommended: Completion of RUS 201 RUS 211B or instructor permission.

RUS 212B Intermediate Russian Conversation 2.00: Emphasizes conversational skills and listening comprehension at the second-year level. Recommended: Completion of RUS 201, 211B or instructor permission.

RUS 212C Intermediate Russian Conversation 1.00: Emphasizes conversational skills and listening comprehension at the second-year level. Recommended: Completion of RUS 201, 211B or instructor permission.

RUS 213A Intermediate Russian Conversation 3.00: Emphasizes conversational skills and listening comprehension at the second-year level. Recommended: Completion of RUS 202 or instructor permission.

RUS 213B Intermediate Russian Conversation 2.00: Emphasizes conversational skills and listening comprehension at the second-year level. Recommended: Completion of RUS 202 or instructor permission.

RUS 213C Intermediate Russian Conversation 1.00: Emphasizes conversational skills and listening comprehension at the second-year level. Recommended: Completion of of RUS 202 or instructor permission.

RUS 241 Great Russian Writers 4.00: Introduction to Russian literature's gretes writers including Pushkin, Lermontov, Gogol, Dostoevsky, Tolstoy, Zoschenko, Olesha and Bulgakov. Explores themes, genres, style, historical context, social, and cultural issues. Course conducted in English and all readings in English. No knowledge of Russian needed. Prerequisite: Placement into WR 121.

RUS 260B Russian Culture 2.00: Russian culture through film. Enhances understanding of Russian culture and contemporary society through analysis of cultural and social issues presented in five Russian films. May explore issues including, but not limited to, Russian women, female gender roles, Russian families, the communist past, ethnic conflict, views of the west, and Russia's self identity. Course conducted in English and all films with English subtitles. Course can be taken out of sequence.

RUS 261B Russian Culture 2.00: Russian culture through film. Enhances understanding of Russian culture and contemporary society through analysis of cultural and social issues presented in five Russian films. May explore issues including but not limited to Russian men, male gender roles, marriage and divorce, friendship, Russian youth, organized crime, poverty and wealth. Course conducted in English and all films with English subtitles. Course can be taken

out of sequence.

RUS 262B Russian Culture 2.00: Russian culture through film. Enhances understanding of Russian culture an dcontemporary society through analysis of cultural and social issues presented in five Russian films. May explore issues including but not limited the legacy of Stalinism, collectivism, national pride and heroism, idealization of past, World War II, death, fatalism, holiday traditions, love of nature. Course conducted in English and all films with English subtitles. Course can be taken out of sequence.

RUS 262R Russian Culture in Russia 1.00: Studies and discusses Russian culture and history. Facilitates excursions which parallel topics in class. Designed for students participating in approved Russian study abroad programs. Recommended: completion of RUS 103 or RUS 203.

RUS 270A Readings in Russian 3.00: Read and discuss accessible works of Russian prose and poetry. Emphasizes skills for reading in Russian. Recommended: Completion of or concurrent enrollment in RUS 203 or instructor permission.

RUS 270B Readings in Russian 2.00: Read and discuss accessible works of Russian prose and poetry. Emphasizes skills for reading in Russian. Recommended: Completion of or concurrent enrollment in RUS 203 or instructor permission.

RUS 270C Readings in Russian 1.00: Read and discuss accessible works of Russian prose and poetry. Emphasizes skills for reading in Russian. Recommended: Completion of or concurrent enrollment in RUS 203 or instructor permission.

RUS 271A Readings in Russian 3.00: Read and discuss accessible works of Russian prose and poetry. Emphasizes skills for reading in Russian. Recommended: Completion of or concurrent enrollment in RUS 203 or instructor permission.

RUS 271B Readings in Russian 2.00: Read and discuss accessible works of Russian prose and poetry. Emphasizes skills for reading in Russian. Recommended: Completion of or concurrent enrollment in RUS 203 or instructor permission.

RUS 271C Readings in Russian 1.00: Read and discuss accessible works of Russian prose and poetry. Emphasizes skills for reading in Russian. Recommended: Completion of or concurrent enrollment in RUS 203 or instructor permission.

RUS 272A Readings in Russian 3.00: Read and discuss accessible works of Russian prose and poetry. Emphasizes skills for reading in Russian. Recommended: Completion of or concurrent enrollment in RUS 203 or instructor permission.

RUS 272B Readings in Russian 2.00: Read and discuss accessible works of Russian prose and poetry. Emphasizes skills for reading in Russian. Recommended: Completion of or concurrent enrollment in RUS 203 or instructor permission.

RUS 272C Readings in Russian 1.00: Read and discuss accessible works of Russian prose and poetry. Emphasizes skills for reading in Russian. Recommended: Completion of or concurrent enrollment in RUS 203 or instructor permission.

Sociology

SOC 181 Gerontology Career Exploration 1.00: Includes introductory workshop and followup online assign- ments, meetings with instructor and fieldwork to explore careers and to identify appropriate internships in the field Fieldwork includes shadow mentorships, informational interviews, career research, and other activities to prepare students for careers in gerontology.

SOC 204 General Sociology — Sociology in Everyday Life 4.00: Introduces the sociological perspective and sociology as a scientific discipline. Focuses on individuals and groups and how they are shaped by their social locations (status, roles, race, class, sex, age, etc.), society's structures, stratification, institutions, groups and organizations and by such cultural processes as socialization and group interaction. Prerequisite: WR 115, RD 115, and MTH 20 or equivalent placement test scores.

SOC 205 General Sociology — Social Change & Social Institutions 4.00: Explores various social institutions (family, economy, polity, and religion) from a social change perspective. Various theories of social organization and social change are compared and contrasted. Prerequisites: WR 115, RD 115, and MTH 20 or equivalent placement test scores.

SOC 206 General Sociology — Social Problems 4.00: Applies the sociological frame of reference to the study of social problems, their identification, analysis of causes and possible solutions. Problems explored may include mental disorders, drug and alcohol addiction, crime and delinquency, group discrimination, inequality, poverty, alienation, domestic and international violence, environment and energy. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

SOC 211 Peace and Conflict 4.00: Explores causes and manifestations of violence in actions involving oneself, society, one's nation, and the global community. Alternatives to oppressive behavior, undemocratic institutions, and the violent resolution of conflict are considered. Prerequisite: WR 115, RD 115, and MTH 20 or equivalent placement test scores.

SOC 213 General Sociology — Diversity in the United States 4.00: Examines a variety of topics such as race and ethnicity, gender, age, sexual orientation, social class, and related issues and concepts from a number of sociological perspectives. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

SOC 214A Illumination Project — Tools for Creative Social Activism 1 4.00: This is the first of a three-term sequence designed to addresss issues of institutional oppression through classroom and community presentations utilizing interactive theater. Provides skills in the area of social analysis, group facilitation, social change interventions, creative production and basic acting. This course requires Instructor permission. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

SOC 214B Illumination Project — Tools for Creative Social Activism 2 4.00: This is the second of a three-term sequence designed to address issues of institutional oppression through classroom and community presentations utilizing interactive theater. Provides skills in the area of social analysis, group facilitationm social change interventions, creative production and basic acting. Prerequisites: SOC 214A and its prerequisite requirements and instructor permission.

SOC 214C Illumination Project — Tools for Creative Social Activism 3 4.00: This is the third of a three-term sequence designed to address issues of institutional oppression through classroom and community presentations utilizing interactive theater. Provides skills in the area of social analysis, group facilitation, social change interventions, creative production and basic acting. Prerequisites: SOC 214A and SOC 214B and their prerequisite requirements and instructor permission.

SOC 215 Global Studies — Social Issues and Movements 4.00: Explores social issues and movements from a global perspective. Examines the impact of social change and cultural contact on individuals and social structure and focuses on organized social responses to social problems, utilizing a multicultural, multidisciplinary approach. Prerequisites: WR 115, RD 115 and MTH or equivalent placement test scores.

SOC 218 Sociology of Gender 4.00: Focuses on how socialization is affected by gender. Topics include how gender is reflected in culture through values, norms, language, media, power, violence, various theoretical approaches, significant social institutions, social movements and issues. Recommended: SOC 204 or SOC 205 or instructor permission. Prerequisite: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

SOC 219 Religion & Culture: Social Dimensions 3.00: Explores the relationship between culture, social structure, and religion, through a comparative and cross-cultural examination of religious beliefs, practices, and organization.

SOC 223 Social Gerontology/Sociology of Aging 4.00: Explores the impact of social and sociocultural conditions on the process of aging and the social consequences of this process. Also explores the aging process through a life-course perspective and adopts a social problems approach to aging and related issues. Recommend: SOC 204 or 205, or instructor permission. Prerequisite: WR 115, RD 115, and MTH 20 or equivalent placement test scores.

SOC 228 Introduction Environmental Sociology 4.00: Examines the relationship between society and the environment. The industrialization of society and our increasing demand for natural resources has significantly impacted the earth's ability to meet the needs of humanity and other species. Explores the causes and consequences of such topics as population, consumption, development, pollution, public policy, and environmental justice. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

SOC 230 Introduction to Gerontology 4.00: In-

troduces the current theories, policies, and practices in gerontology and professional opportunities in the field. Addresses the concerns of practitioners and focuses on service delivery and policy directions. Recommended: SOC 204 or 205, or instructor permission. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

SOC 231 Sociology of Health & Aging 4.00: Provides an introduction to age related health issues in social and cultural context. Topics include the social structuring of age, health and illness; demographics and patterns of health and illness of older adults; issues related to medical and healthcare services; health and long-term care policy and programs. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

SOC 232 Death and Dying — Culture and Issues 4.00: Introduces the student to the institution of death in the United States. From a sociological frame of reference, the student will study death as a system for dealing with the social processes of dying, death, and bereavement. Recommend: SOC 204, 205, or instructor permission. Prerequisite: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

SOC 234 Death — Crosscultural Perspectives 4.00: An interdisciplinary study of the crosscultural variations regarding human responses to death and the differing cosmological implications these suggest. Death, a cultural universal, is addressed in its diversity from both anthropological and sociological perspective. The topic of death as experienced by several major regions and cultures of the world is explored including Asia, India, Bali, Middle East, Melanesia and Native Americans; historical trends in Western Europe and the Americas are assessed regarding the evolution of contemporary perspectives on mortality. ATH 234 and SOC 234 cannot both be taken for credit. Recommend: A prior course in Anthropology or Sociology.

SOC 252 Introduction to Sociological Theory 4.00: Provides foundation in classical and contemporary sociological theory for sociology and social science majors, or those who are interested in this area of study. Prerequisite: SOC 204, 205, as well as, WR 115, RD 115 MTH 20 or equivalent placement test scores.

SOC 280A CE / Sociology1.00–3.00: Extend knowledge of sociology through work and/or volunteer time spent in settings that provide learning experiences. Instructor permission required.

SOC 280B CE / Community Service & Action Seminar 2.00: This interdisciplinary seminar provides an integrative framework for students engaged in community service and cooperative education work. Focuses on social interaction, group and organizational processes, and public policies related to service, advocacy, and social change placements.

SOC 280M CE / Mentoring 1.00: Provides a forum for students engaged in cooperative education worksite placements in sociology with a focus on a mentoring partnership. Can be taken in conjunction with any sociology offering.

SOC 282 Gerontology Professional Seminar 1.00: This professional seminar, offered in a hybrid workshop/ online/field-based format, provide gerontology students close to graduation the opportunity to participate in a job club, prepare portfolios and resumes appropriate for geron- tological careers, receive career coaching from gerontology career specialists, and participate in other activities to prepare for entry into an identified career path in the field.

SOC 298 Independent Study — Sociology 1.00–3.00: Advanced, individualized study of areas of sociology not considered in other courses to meet special interests or program requirements. Includes a term project and readings approved by the instructor. Instructor permission required. Recommended: prior study of sociology.

Speech

SP 100 Introduction to Speech Communication 4.00: Covers complexities of the communication process. Includes insights into the causes and effects of general communication behaviors, involvement in active exploration of basic communication theories and concepts, and opportunities to develop communication strengths. Prerequisite: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

SP 101 Oral Communication Skills 3.00: Improve listening and speaking skills. Includes oral reports, conference procedures and everyday conversation.

SP 105 Listening 4.00: Emphasizes understanding and appreciation of listening as an integral part of the communication process. Investigates and applies current research in listening theory. Analyzes and provides practice in the appropriateness and application of the major types of listening in academic, business, media and interpersonal contexts. Prerequisite: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

SP 110 Voice and Articulation 3.00: Present prepared and impromptu assignments with emphasis on understanding the vocal mechanism for production of Standard American speech while learning the International Phonetic Alphabet. In class group and individual work designed to improve articulation, breathing, projection, expressiveness, and pronunciation.

SP 111 Public Speaking 4.00: Introduction to speechmaking based primarily on a traditional public speaking approach. Aids students in developing theoretical understanding and practical application of oral communication skills. Also includes techniques in controlling speech anxiety, how to structure and organize information to present to a variety of audiences, and physical and vocal delivery skills. Prerequisite: MTH 20 or equivalent placement test score, and WR 121.

SP 112 Persuasion, Argumentation and Debate 4.00: Explores theories of persuasion. Develops skills of inquiry and advocacy through oral discourse, including critical analysis and rules of evidence. Practice in using, planning, delivering and refuting persuasive arguments in a variety of extemporaneous formats. Through this course, students will learn how to more effectively influence others as well as how others are trying to influence them. Prerequisite: SP 111 and its prerequisite requirements.

SP 130 Business and Professional Speech Communication 4.00: Communication as it relates to business and professional settings. Readings and discussions focus on the climates, settings, philosophies, and practices of organizational communication, including effective business presentations. Prerequisite: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

SP 140 Introduction to Intercultural Communication 4.00: Explores the nature and impact of different cultures on communication. Includes interactive relationship forms as the basis for global understanding in the classroom, business or travel. Focus on processing messages with accelerating changes in political, economic and immigration patterns through individual cultural perceptions. Understand and communicate with people who are "different." Prerequisite: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

SP 212 Voice & Diction 4.00: Voice production and articulation of speech sound, with attention to elementary speech physiology and phonetics. Develops more effective speech for teachers, radio and television speakers, public speakers and others who require special competence in speaking. Prerequisite: SP 111 and its prerequisite requirements.

SP 214 Interpersonal Communication — Process & Theory 4.00: Study of interpersonal communication in different contexts; focuses on message exchange in person-to-person interactions, emphasizing theoretical principles and their application. Concentration is in the development of various communication skills in interpersonal contexts. Prerequisite: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

SP 215 Small Group Communication — Process and Theory 4.00: Problem solving aspects of small group activities. Includes process and task, leadership, verbal and non-verbal messages in the small group, norms and roles, conflict reduction, and decision making. Focuses on theory and practice. SP 100 recommended. Prerequisite: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

SP 227 Nonverbal Communication 4.00: Studies the nonverbal aspect of communication as related to verbal communication. Emphasis is on the theories and types of nonverbal behavior. Consideration is given to the influence of such factors as voice, body movement, eye behavior, touch, space, time, smell, and physical and social environments. Prerequisite: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

SP 228 Mass Communication 4.00: Explores the symbiotic relationship of the mass media and society from a rhetorical perspective. Investigation into the technological advancements in mass communications and their subsequent affect on public discourse and the individual in society will be examined. Prerequisite: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

SP 229 Oral Interpretation 3.00: Oral interpretation of literature from the areas of prose, poetry and drama. Analyze specific literary works and communicate that understanding through performance. Prerequisite: WR 115, RD 115 and MTH 20 or equivalent placement

test scores.

SP 237 Gender and Communication 4.00: Examines the similarities and differences in male and female communication styles and patterns. Particular attention given to the implications of gender as social construct upon perception, values, stereotypes, language use, nonverbal communication, and power and conflict in human relationships. Discusses influence of mass communication upon shaping and constructing male and female sex roles. Course fulfills block transfer and cultural diversity requirements and is transferable to state four-year colleges and universities. Prerequisite: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

SP 270 Forensics — Speech & Debate 3.00: Development of public communication skills by representing the college in intercollegiate competition. Designed to improve skills in reasoning and public communication.

SP 270B Projects in Public Speaking 2.00: Intercollegiate forensics and non-competitive speaking. Represent the college through participating in the forensics team. Requires one hr/wk meetings with instructor and four hr/wk outside sessions and speech tournaments. SP 111 recommended.

Spanish

SPA 101 First Year Spanish-First Term 4.00: Beginning communication in Spanish. Includes listening, speaking, reading, writing, pronunciation, structure, vocabulary and culture. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

SPA 102 First Year Spanish-Second Term 4.00: Active communication in Spanish. Includes listening, speaking, reading, writing, pronunciation, structure, vocabulary and culture. Recommended: Simultaneous enrollment in SPA 112C. Successful completion of SPA 101 or instructor permission. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

SPA 103 First Year Spanish-Third Term 4.00: Active communication in Spanish. Includes listening, speaking, reading, writing, pronunciation, structure, vocabulary and culture. Recommended: Simultaneous enrollment in SPA 113C. Successful completion of SPA 102 or instructor permission. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

SPA 111A First Year Spanish Conversation 3.00: Practice of structures and vocabulary of first year Spanish in a conversational format. Recommended: First year Spanish at the college level or instructor permission.

SPA 111B First Year Spanish Conversation 2.00: Practice of structures and vocabulary of first year Spanish in a conversational format. Recommended: First year Spanish at the college level or instructor permission.

SPA 111C First Year Spanish Conversation 1.00: Practice of structures and vocabulary of first year Spanish in a conversational format. Recommended: Simultaneous enrollment in SPA 101 or instructor permission.

SPA 112A First Year Spanish Conversation 3.00: Practice of structures and vocabulary of first year Spanish in a conversational format. Recommended: First year Spanish at the college level or instructor permission.

SPA 112B First Year Spanish Conversation 2.00: Practice of structures and vocabulary of first year Spanish in a conversational format. Recommended: First year Spanish at the college level or instructor permission.

SPA 112C First Year Spanish Conversation 1.00: Practice of structures and vocabulary of first year Spanish in a conversational format. Recommended: Simultaneous enrollment in SPA 102 or instructor permission.

SPA 113A First Year Spanish Conversation 3.00: Continuation of SPA 112A. Recommended: First year Spanish at the college level or instructor permission.

SPA 113B First Year Spanish Conversation 2.00: Continuation of SPA 112B. Recommended: First year Spanish at the college level or instructor permission.

SPA 113C First Year Spanish Conversation 1.00: Continuation of SPA 112C. Recommended: Simultaneous enrollment in SPA 103 or instructor permission.

SPA 150 First Year Spanish First Year Spanish 6.00: Emphasizes active communication in Spanish. Includes listening, speaking, reading, writing, pronunciation, structure, vocabulary and culture. For beginners. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

SPA 151 First Year Spanish 6.00: Increases vocabulary and proficiency in the present, past and future tenses, and the command of verb forms. Engage in and initiate Spanish dialogue. Recommended: SPA 150 or completion of at least two years of recent high school Spanish. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

SPA 201 Second Year Spanish-1st Term 4.00: Reviews and expands the use of basic vocabulary, structural patterns, indicative tenses and commands from first-year college Spanish. Listen, speak, write and read in Spanish. Recommended: Simultaneous enrollment in SPA 211. SPA 151, 103, or instructor permission required. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

SPA 202 Second Year Spanish-2nd Term 4.00: Practice and expand vocabulary and structures. Emphasizes subjunctive tenses to express personal feelings, doubts and opinions in Spanish. Recommended: Simultaneous enrollment in SPA 212. Successful completion of SPA 201 or instructor permission. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

SPA 203 Second Year Spanish-3rd Term 4.00: Practice and expand vocabulary and subjunctive patterns. Listen, speak, read, write and begin to sense the culture in the idiom. Recommended: Simultaneous enrollment in SPA 213. Successful completion of SPA 202 or instructor permission. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

SPA 211A Intermediate Spanish Conversation 3.00: Stresses conversational skills at the second year level. Recommended: Completion of or simultaneous enrollment in SPA 201 or instructor permission.

SPA 211B Intermediate Spanish Conversation 2.00: Stresses conversational skills at the second year level. Recommended: Completion of or simultaneous enrollment in SPA 201 or instructor permission.

SPA 211C Intermediate Spanish Conversation 1.00: Stresses conversational skills at the second year level. Recommended: Completion of or simultaneous enrollment in SPA 201 or instructor permission.

SPA 212A Intermediate Spanish Conversation 3.00: Continuation of SPA 211. Recommended: Completion of or simultaneous enrollment in SPA 202 or instructor permission. SPA 212B Inter Spanish Conversation Intermediate Spanish Conversation Continuation of SPA 211B. Recommended: Completion of or simultaneous enrollment in SPA 202 or instructor permission.

SPA 212C Intermediate Spanish Conversation 1.00: Continuation of SPA 211C. Recommended: Simultaneous enrollment in SPA 202. Completion of SPA 201 or equivalent also recommended.

SPA 213A Intermediate Spanish Conversation 3.00: Continuation of SPA 212. Recommended: Completion of or simultaneous enrollment in SPA 203 or instructor permission. SPA 213B Inter Spanish Conversation Intermediate Spanish Conversation Continuation of SPA 212B. Recommended: Completion of or simultaneous enrollment in SPA 203 or instructor permission.

SPA 213C Intermediate Spanish Conversation 1.00: Continuation of SPA 212C. Recommended: Simultaneous enrollment in SPA 203 or instructor permission.

SPA 217 Reading & Writing for Experienced Speakers of Spanish 3.00: Part of a three-course sequence to be taken in any order. Improve experienced speaker of Spanish skills in spelling, grammar, reading, composition and translation. Recommended: Experienced speaker of Spanish who can read and write.

SPA 218 Reading & Writing for Experienced Speakers of Spanish 3.00: Part of a three-course sequence to be taken in any order. Improve experienced speaker of Spanish skills in spelling, grammar, reading, composition and translation. Recommended: Experienced speaker of Spanish who can read and write.

SPA 219 Reading & Writing for Experienced Speakers of Spanish 3.00: Part of a three-course sequence to be taken in any order. Improve experienced speaker of Spanish skill in spelling, grammar, reading, composition and translation. Recommended: Experienced speaker of Spanish who can read and write.

SPA 250 Second Year Spanish 6.00: Develop and practice language competence and proficiency by reinforcing all basic structures and expanding vocabulary of first year Spanish. Emphasizes understanding, speaking, reading and writing. Recommended: Completion of first year college Spanish or three or more years of recent high school Spanish, or instructor permission. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

SPA 251 Second Year Spanish 6.00: Develop and practice communicative competence and proficiency.

Emphasizes proper use of the subjunctive to understand and express personal feelings and thoughts. Focuses on various dimensions of Hispanic culture. Recommended: Completion of SPA 250 or four or more years of recent high school Spanish or instructor permission. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

SPA 260A Spanish Culture 3.00: Hispanic culture through reading, conversation, and writing. Conducted in Spanish. Specific regional and topical focus is subtitled in the schedule when offered. Recommended: Completion of SPA 203, 251 or instructor permission. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

SPA 260B Spanish Culture 2.00: Hispanic culture through reading, conversation, and writing. Conducted in Spanish. Specific regional and topical focus is subtitled in the schedule when offered. Recommended: Completion of SPA 203, 251 or instructor permission.

SPA 260C Spanish Culture 1.00: Hispanic culture through reading, conversation, and writing. Conducted in Spanish. Specific regional and topical focus is subtitled in the schedule when offered. Recommended: Completion of SPA 203, 251 or instructor permission.

SPA 261A Spanish Culture 3.00: Hispanic culture through reading, conversation, and writing. Conducted in Spanish. Specific regional and topical focus is subtitled in the schedule when offered. Recommended: Completion of SPA 203, 251 or instructor permission. Prerequisites: WR 115, RD115 and MTH 20 or equivalent placement test scores.

SPA 261B Spanish Culture 2.00: Hispanic culture through reading, conversation, and writing. Conducted in Spanish. Specific regional and topical focus is subtitled in the schedule when offered. Recommended: Completion of SPA 203, 251 or instructor permission.

SPA 261C Spanish Culture 1.00: Hispanic culture through reading, conversation, and writing. Conducted in Spanish. Specific regional and topical focus is subtitled in the schedule when offered. Recommended: Completion of SPA 203, 251 or instructor permission.

SPA 262A Spanish Culture 3.00: Spanish culture through reading, conversation, and writing. Conducted in Spanish. Specific regional and topical focus is subtitled in the schedule when offered. Recommended: Completion of SPA 203, 251 or instructor permission. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

SPA 262B Spanish Culture 2.00: Spanish culture through reading, conversation, and writing. Conducted in Spanish. Specific regional and topical focus is subtitled in the schedule when offered. Recommended: Completion of SPA 203, 251 or instructor permission.

SPA 262C Spanish Culture 1.00: Spanish culture through reading, conversation, and writing. Conducted in Spanish. Specific regional and topical focus is subtitled in the schedule when offered. Recommended: Completion of SPA 203, 251 or instructor permission.

SPA 270A Readings in Spanish Literature (Hispanic) 3.00: Reading and discussion of Hispanic people and culture through essays, poetry, short story, novels and theater. Focuses on the Hispanic region, period and genre subtitled in the schedule. Conducted in Spanish. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

SPA 270B Readings in Spanish Literature (Hispanic) 2.00: Reading and discussion of Hispanic people and culture through essays, poetry, short story, novels and theater. Focuses on the Hispanic region, period and genre subtitled in the schedule. Conducted in Spanish.

SPA 270C Readings in Spanish Literature (Hispanic) 1.00: Reading and discussion of Hispanic people and culture through essays, poetry, short story, novels and theater. Focuses on the Hispanic region, period and genre subtitled in the schedule. Conducted in Spanish.

SPA 271A Readings in Spanish Literature (Women Writers) 3.00: Literature written by women in Spanish. Read literary essays, poetry, short stories, novels and/or theater by Spanish and Latin American women. Conducted in Spanish. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

SPA 271B Readings in Spanish Literature (Women Writers) 2.00: Literature written by women in Spanish. Read literary essays, poetry, short stories, novels and/or theater by Spanish and Latin American women. Conducted in Spanish.

SPA 271C Readings in Spanish Literature (Women Writers) 1.00: Literature written by women in Spanish. Read literary essays, poetry, short stories, novels and/or theater by Spanish and Latin American women. Conducted in Spanish.

SPA 272A Readings in Spanish Literature (Spain) 3.00: Reading and discussion of Spanish people and culture through essays, poetry, short story, novels and/or theater. Focuses on peninsular literature, period and genre subtitled in the schedule. Conducted in Spanish. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

SPA 272B Readings in Spanish Literature (Spain) 2.00: Reading and discussion of Spanish people and culture through essays, poetry, short story, novels and/or theater. Focuses on peninsular literature, period and genre subtitled in the schedule. Conducted in Spanish.

SPA 272C Readings in Spanish Literature (Spain) 1.00: Reading and discussion of Spanish people and culture through essays, poetry, short story, novels and/or theater. Focuses on peninsular literature, period and genre subtitled in the schedule. Conducted in Spanish.

SPA 290A Spanish Composition 3.00: Reviews and practices basic grammatical concepts to increase confidence and fluency in writing correctly. Recommended: Completion of SPA 203, 251 or instructor permission. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

SPA 290B Spanish Composition 2.00: Reviews and practices basic grammatical concepts to increase confidence and fluency in writing correctly. Recommended: Completion of SPA 203, 251 or instructor permission.

SPA 290C Spanish Composition 1.00: Reviews and practices basic grammatical concepts to increase confidence and fluency in writing correctly. Recommended: Completion of SPA 203, 251 or instructor permission.

SPA 291A Spanish Composition 3.00: Reviews and practices basic grammatical concepts to increase confidence and fluency in writing correctly. Recommended: Completion of SPA 203, 251 or instructor permission.

SPA 291B Spanish Composition 2.00: Reviews and practices basic grammatical concepts to increase confidence and fluency in writing correctly. Recommended: Completion of SPA 203, 251 or instructor permission.

SPA 291C Spanish Composition 1.00: Reviews and practices basic grammatical concepts to increase confidence and fluency in writing correctly. Recommended: Completion of SPA 203, 251 or instructor permission.

SPA 292A Spanish Composition 3.00: Reviews and practices basic grammatical concepts to increase confidence and fluency in writing correctly. Recommended: Completion of SPA 203, 251 or instructor permission. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

SPA 292B Spanish Composition 2.00: Reviews and practices basic grammatical concepts to increase confidence and fluency in writing correctly. Recommended: Completion of SPA 203, 251 or instructor permission.

SPA 292C Spanish Composition 1.00: Reviews and practices basic grammatical concepts to increase confidence and fluency in writing correctly. Recommended: Completion of SPA 203, 251 or instructor permission.

Theatre Arts

TA 101 Theatre Appreciation 4.00: This course exposes students to several live theatrical productions in the Portland area with the purpose of enriching the understanding and appreciation of the theatrical event. Students will attend productions, write critiques and learn to appreciate the production from the viewpoints of the actors, directors, playwrights, designers and audience. Also, a brief history of the theatre is covered. Prerequisites: WR 115 and RD 115 or equivalent placement test scores.

TA 111 Fundamentals of Technical Theatre 4.00: Covers basic principles and techniques of technical theatre such as stage design, lighting, properties and stage management. Explores the role of the technician in the theatre organization. Lecture and lab allows flexible scheduling.

TA 112 Introduction to Set Design 4.00: Covers

elements of technical theater including practical hands-on experience in designing a stage set, construction, the set design and stage rigging. Lecture/lab format provides time for individualized projects.

TA 113 Introduction to Stage Lighting 4.00: Explores theater and studio lighting. Focuses on elements of electricity, optics, stage lighting design, color in light, stage lighting instruments and intensity controls. Participate in stage lab activities.

TA 141 Fundamentals of Acting Techniques 4.00: Explores the actor's resources to develop physical and vocal expressiveness providing insight to the process of dramatic characterization and "believability" in a role. Includes two hours of group activity and two hours of lab time. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

TA 142 Fundamentals of Acting Techniques 4.00: Acquire concentration and relaxation in approaching a role. Improve performance skills with focus on vocal and physical control. Scene study is used. Prerequisite: TA 141 and its prerequisite requirements.

TA 143 Fundamentals of Acting Techniques 4.00: Practice skills from TA 141 and TA 142. Stresses further inquiry and use of knowledge and skills in performance. Includes audition techniques. Prerequisite: TA 141 and its prerequisite requirements.

TA 144 Improvisational Theatre 3.00: Become more in touch with the body and senses as used to express yourself and communicate with others. Includes exercise, theatre games and impromptu scenes to tap the creative potential of the human imagination. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

TA 147 Voice & Diction for Theatre 3.00: Introduces vocal production through a series of exercises which will increase muscle awareness, flexibility and freedom. Includes the mechanics of blank verse, auditioning and material selection as well as voice projection, articulation and performance.

TA 148 Movement for the Stage 3.00: Develops awareness and skills in movement as related to acting and communication. Focuses on body awareness, relaxation, energy, creating physical images and character, and communicating through body language. Explores expression through movement. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

TA 180A Theater Rehearsal & Perform 1.00: Credit for performance in theater production, if cast. Gain first-hand experience in performance techniques. Audition required.

TA 180B Theater Rehearsal & Perform 2.00: Performance in theater production. Audition required. TA 180C Theater Rehearsal & Perform Theater Rehearsal and Performance Performance in theater production. Audition required.

TA 180D Theater Rehearsal and Performance 4.00: Performance in theater production. Audition required.

TA 190A Projects in Theatre 1.00: Design an independent project associated with the theatre. Develop a contract with a theatre arts instructor covering the course content. May be repeated.

TA 190B Projects in Theatre 2.00: Develop a study contract emphasizing self-directed research, on an individualized basis allowing for maximum flexibility. May be repeated.

TA 190C Projects in Theatre 3.00: Develop a study contract emphasizing self-directed research, on an individualized basis allowing for maximum flexibility. May be repeated.

TA 227 Stage Make-Up 3.00: Techniques of applying stage make-up including use of tools and products. Focuses on analyzing the character and theater to create the best make-up for various roles on any given stage. Class time is divided into lecture and student make-up projects.

TA 241 Intermediate Acting Technique 4.00: Concentrate on in-depth study of the skills introduced in first year acting. One-act plays will be assigned as projects. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

TA 242 Intermediate Acting Technique 4.00: Comedy characterization as a style of performance. Study and perform a variety of comic literature. Focuses on comedy techniques. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

TA 243 Intermediate Acting Techniques 4.00: Emphasizes vocal and physical techniques as well as stylized and contemporary acting methodology. Projects are approved by the instructor to strengthen all areas of stage performance. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

TA 244 Advanced Improvisation 3.00: This class emphasizes the development of improvisational actings skills for sustained narrative and long-form of improvisational theater. Students are encouraged to trust their intuition and to focus their senses, their body awareness and vocal qualities on the creation of narrative structures. Team work and the development of group cohesion are stressed. Prerequisites: TA 144, WR 115 or placement into WR 121.

TA 253A Theatre Rehearsal and Performance 1.00: Performance in a play. May be repeated. Audition required.

TA 253B Theatre Rehearsal and Performance 2.00: Performance in a play. May be repeated. Prerequisite: Audition.

TA 253C Theatre Rehearsal and Performance 3.00: Performance in a play. May be repeated. Prerequisite: Audition.

TA 261 Introduction to Costuming 4.00: Surveys costume history, design, and basic patterning-to-construction techniques. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

TA 274 Theatre History 4.00: Explores the nature of the theatrical event, its emergence and significance in the lives of the people of the past from ancient Greece to the present. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

TA 290A Projects in Theatre 1.00: Advanced independent study course. Contract with a theatre arts instructor for individual project. Examples of projects could be assistant directing, lighting design, costuming, dramaturge. May be repeated.

TA 290B Projects in Theatre 2.00: Develop a study contract emphasizing self-directed research, on an individualized basis allowing for maximum flexibility. May be repeated.

TA 290C Projects in Theatre 3.00: Develop a study contract emphasizing self-directed research, on an individualized basis allowing for maximum flexibility. May be repeated.

Veterinary Technology

VT 100 Veterinary Medical Terminology 2.00: Covers medical word parts, abbreviations and basic terms along with a basic knowledge of word construction are taught. Program admission or instructor permission required.

VT 101 Introduction to Veterinary Technology 2.00: Covers the job of the veterinary technician. This will illustrate that the course work is both practical and necessary. Program admission required.

VT 102 Animal Nursing & Restraint 3.00: Teaches nursing techniques and principles of restraint of dogs, cats, horses, cattle, sheep, birds and laboratory animals. Emphasizes techniques to maximize the safety aspect of restraint to both the handler and to the animal patient. Program admission required. Prerequisite: VT 101.

VT 103 Animal Health Record Systems 3.00: An introduction to veterinary medical records, admitting procedures, history taking, record maintenance for both in/out patient, and kennel records. Includes follow-up and discharge procedures on filing and record retention. Covers using the computer in veterinary medicine.

VT 105 Comparative Veterinary Anatomy and Physiology I 4.00: Covers the form and function of animal bodies and their anatomical and physiological differences between selected species are studied. Lab includes skeletons and cadaver specimens. Focuses on microscopic anatomy and anatomy and physiology of bones, muscles, and skin. Program admission required. Prerequisites: VT 121; (BI 101 or BI 101B); CH 100.

VT 106 Comparative Veterinary Anatomy and Physiology II 4.00: Covers the form and function of animal bodies and their anatomical and physiological differences between selected species are studied. Lab includes skeletons and cadaver specimens. Focuses on anatomy and physiology of the digestive, nervous, urinary, reproductive, and endocrine system. Includes organs of special sense. Prerequisite: VT 105.

VT 107 Veterinary Parasitology and Pathology 3.00: Introduces life cycles, modes of transmission, geographical distribution, and diseases associated with each parasite. Lab includes identification of parasites using prepared slides and collected specimens. Students will be able to recognize terms and processes

involved in veterinary pathology, means and processes that result in disease, types of cells and tissues, and recognize signs of inflammation. Prerequisites: BI 101, BI 102 or BI 112.

VT 108 Pharmaceutical Mathematics 1 1.00: Introduces mathematics as applied to pharmacology. Includes unit conversions, solutions and percentage calculations, and drug dosage calculations. Program admission required. VT 109 Radiation Safety Radiation Safety Introduces x-radiation and safety principles involved in using of x-ray machines. Program or current employment in a veterinary hospital or clinic doing x-ray work is required.

VT 110 Specimen Collection Laboratory 1.00: Covers collection techniques used on both large and small animals and skills needed to obtain the specimens required for analysis in clinical laboratories. Prerequisites: VT 105; (BI 101 or BI 101B), BI 102; CH 100.

VT 111 Hematology and Urinalysis 5.00: Develops the knowledge and skills necessary to perform hematology and urinalysis. Includes how to perform a complete blood count and to do a urinalysis using current technology. Prerequisites: VT 105; (BI 101 or BI 101B), BI 102; CH 100.

VT 112 Clinical Laboratory Procedures 5.00: Teaches the knowledge and skills necessary to perform the various types of tests that are usually done in the clinical laboratory of a veterinary hospital. Includes learning to perform serum chemistries on various types of machines, knowledge of special commercial test procedures, and examination of cytology specimens. Prerequisites: VT 105, 106, 111; (BI 101 or BI 101B), BI 102; CH 100.

VT 113 Veterinary Microbiology 3.00: Develops the knowledge and skills necessary to perform microbiology functions. Includes learning about the various pathological genus and species of bacteria, fungi, and viruses. Focuses on the various laboratory methods used in the identification of bacterial and fungal organisms. Prerequisites: VT 105, 106, 111; (BI 101 or BI 101B), BI 102; CH 100.

VT 121 Basic Animal Science 4.00: Introduces the livestock industry and the various species of large animal livestock. Includes livestock terminology, breeds, production systems, basic management practices, and animal products and by-products. Lab introduces the livestock production systems and producers.

VT 150 Veterinary Technician National Examination Prep Course 4.00: Designed for veterinary assistants currently working in the field to prepare for the Veterinary Technician National Examination (VTNE). Emphasizes subject areas covered on the exam. Material presented provides foundation knowledge in animal health care principles and practice for those wishing to further their education.

VT 201 Anesthesiology 3.00: Introduces basic anesthetic agents, the use and operation of allied machines, monitoring and care of the anesthetized animal patient, and the pre-operative considerations and duties for both surgery and anesthesia. Second year standing required. Prerequisites: VT 105, 106, 111, 112, 113.

VT 202 Surgical Nursing and Lab Animal Procedures 4.00: Covers surgical preparations of the patient, surgical monitoring, surgical assistance, pre-operative and post-operative animal care, instrument sterilization methods, instrument identification, and the veterinary technicians role in special surgical procedures. Also includes laboratory animal diseases and procedures. Prerequisite: VT 201.

VT 203 Veterinary Procedures Seminar 3.00: Covers the special skill areas of technician training, such as electrocardiography, bandaging, and various diagnostic and therapeutic procedures. Students investigate, research and report (both orally and in writing) on topics of special interest. Prerequisite: VT 202.

VT 204 Applied Radiography 3.00: Teaches the practical application of radiography in the veterinary profession. Includes principles of x-ray production, the operation and uses of x-ray machines, the care and development of films, and radiographic positioning of animals. Prerequisites: VT 105, 106, 109.

VT 205 Veterinary Pharmacology 4.00: Introduces general pharmacological principles, drugs, and classification of agents used in veterinary medicine. Prerequisites: VT 105, 106, 107, 108, 111, 112, 113.

VT 207 Public Health & Sanitation 2.00: Covers the principles of public health and sanitation as they apply to veterinary medicine and the veterinary technician. Emphasizes epidemiology, public health principles and regulations, zoonoses, and meat and food hygiene. Prerequisites: VT 111, 112, 113.

VT 208 Small Animal Diseases 4.00: Covers important diseases and disease processes occurring in small animals are covered. Includes the causes, pathogenesis, clinical signs, treatment and prevention of each disease. Prerequisites: VT 105, 106, 111, 205, 112, 113.

VT 209 Large Animal Diseases and Procedures 3.00: Covers the important disease and disease processes, and obstetrics as they occur in large animals. Includes the causes, pathogenesis, clinical signs, treatment and prevention of each disease. Lab includes large animal treatment procedures. Prerequisites: VT 105, 106, 111, 205, 112, 113.

VT 210 Animal Nutrition 3.00: Introduces various types of nutrients, the basic principles of nutrition as applied to small and large animals, various feeding practices and their economic importance, and important nutritionally caused diseases. Covers care and handling of orphaned animals and special prescription diets. Prerequisites: VT 105, 106, 121; (BI 101 or BI 101B), BI 102; CH 100.

VT 211 Pharmaceutical Mathematics II 1.00: Continues mathematics as applied to pharmacology from Pharmaceutical Mathematics I. Includes a review of drug dosage calculations and solutions and percentages, except problems are more difficult. New topics covered are fluid therapy and cancer chemotherapy problems. Program admission or prerequisite Pharmaceutical Mathematics I required.

VT 280A CE / Clinic I 4.00: Develops career objectives by linking their PCC course work with off-campus learning experiences in business, industry, and/or the public sector. Focuses on office/receptionist skills, animal nursing and restraint, and laboratory procedures. Department permission required.

VT 280B CE / Clinic II 4.00: Develops career objectives by linking their PCC course work with off-campus learning experiences in business, industry, and/or the public sector. Focuses on office/receptionist skills, animal nursing and restraint laboratory procedures, pharmacology, radiography, surgical preparation and assistance and anesthesiology. Students may request to attend a special clinic, such as the Oregon Regional Primate Center, Oregon Health Science University, The College of Veterinary Medicine at Oregon State University, or a large animal or equine practice. Department permission required.

VT 280C CE / Clinic III 4.00: Develops career objectives by linking their PCC course work with off-campus learning experiences in business, industry, and/or the public sector. Focuses on office/receptionist skills, animal nursing and restraint laboratory procedures, pharmacology, radiography, surgical preparation and assistance and anesthesiology. Students may request to attend a special clinic, such as the Oregon Regional Primate Center, Oregon Health Science University, The College of Veterinary Medicine at Oregon State University, or a large animal or equine practice. Department permission required.

Welding Technology

WLD 100 Career Opportunities for Welders 1.00: Explores various career paths open to welders. Introduces exploration resources assisting students in identifying the skills needed to succeed in the field. Covers self-assessment, goal setting and job search skills preparation. Course is self-paced with required attendance. Appropriate for students currently enrolled in welding courses and students on the wait-list for welding courses.

WLD 101 Welding Process & Application 4.00: Covers welding processes, safety, equipment, and essential variables of operation.

WLD 102 Blueprint Reading 4.00: Covers the language of blueprints including lines, views, dimensioning, print organization, welding symbols and structural shapes.

WLD 111 Shielded Metal Arc Welding (E7024) and Oxy-acetylene Cutting 4.00: Covers uses, safety, nomenclature, equipment operation, set-up and shutdown procedures and welding related math and science for S.M.A.W. and O.A.C. Department permission required.

WLD 112 Shielded Metal Arc Welding: Mild Steel I (E7018) 4.00: Develops knowledge and manipulative skills in the use of E7018 mild steel electrodes when performing various welds in the flat and horizontal positions. Welding applied math and science included. Department permission required.

WLD 113 Shielded Metal Arc Welding: Mild Steel

II (E7018) 4.00: Develops knowledge and manipulative skills in the use of E7018 mild steel electrodes when performing various welds in the vertical and overhead positions. Welding applied math and science included. Department permission required.

WLD 114 Shielded Metal Arc Welding: Mild Steel III (E6011) 3.00: Develops knowledge and manipulative skills in the use of E6011 mild steel electrodes when performing various welds in the flat, horizontal and vertical positions. Department permission required.

WLD 115 Shielded Metal Arc Welding: Mild Steel IV (E6011) 3.00: Develops knowledge and manipulative skills in the use of E6011 mild steel electrodes when performing various welds in the vertical and overhead positions. Department permission required.

WLD 131 Gas Metal Arc Welding 3.00: Develops knowledge and manipulative skills welding with solid wire on ferrous and non-ferrous materials using short arc in the flat, horizontal, vertical and overhead positions. Department permission required.

WLD 132 Gas Metal Arc Welding-Pulse 3.00: Develops knowledge and manipulative skills using the Gas Metal Arc Welding - Pulse transfer process on common mild steel and aluminum joints in all positions. Covers safety, users, nomenclature, equipment operation and set up and shut down procedures.

WLD 141 Flux-Cored Arc Welding I (Gas Shielded) 3.00: Develops knowledge and manipulative skills in the shielded flux-cored arc welding process in the flat, vertical, horizontal and overhead positions. Department permission required.

WLD 142 Flux-Cored Arc Welding II (Self Shielding) 3.00: Develops knowledge and manipulative skills in the self-shielding arc welding process in the flat, vertical, horizontal and overhead positions. Department permission required.

WLD 151 SMAW Certification Practice: Unlimited Thickness Mild Steel 3.00: Covers safety, welding technique, and qualification procedures in compliance with AWS D1.1 structural test. Department permission required.

WLD 152 Wire Welding Certification 6.00: Practice Methods and skills to improve and upgrade welding techniques to a qualification level to become certified in the gas metal arc and flux-cored arc welding processes. Department permission required.

WLD 203 Structural Steel Welding Code & Standards 4.00: Develops technical knowledge necessary for the reading and understanding of the AWS Structural Steel Welding Code, D1.1. Purpose of course is to enable student to use a systematic method in the application and understanding of the Structural Steel Welding Code.

WLD 204 Nondestructive Testing I 4.00: Develops technical knowledge and manipulative skills necessary for conducting Visual, Dye Penetrate and Magnetic Particle Inspections on weldments in accordance with AWS D1.1 Structural Steel Welding Code. Training will conform to SNT-TC-1A standards.

WLD 210 Aviation Welding 2.00: Develop knowledge and manipulative skills with oxy-acetylene welding, torch brazing, and gas tungsten arc welding processes on steel and aluminum when performing various welds. Training will conform to current FAA 14CFR Part 147 requirements. Prerequisites: Placement into RD 90 or higher; placement into WR 90 or higher; MTH 60 or higher; AMT 101 with a "C" or higher.

WLD 211 Auto Collision Repair Welding Aluminum 2.00: Develops knowledge and manipulative skills using the Gas Metal Arc Welding- Pulse transfer process on aluminum performing various welds to I-CAR industry standards. Covers safety, uses, nomenclature, equipment operation and set up and shut down procedures.

WLD 216 Miscellaneous Electrodes & Advanced Positions 3.00: Develops knowledge and manipulative skills in the use of a variety of electrodes when welding complex joints and welding positions. Department permission required.

WLD 217 Diesel Welding 3.00: Develops knowledge and skills in welding required of a diesel mechanic. Focuses on maintenance and repair applications using S.M.A.W., O.A.W., and O.A.C. processes. Department permission required.

WLD 221 Gas Tungsten Arc Welding Mild Steel 3.00: Develops knowledge and manipulative skills while welding common joints in all positions on mild steel with the G.T.A.W. process. Department permission required.

WLD 222 Gas Tungsten Arc Welding: Aluminum 3.00: Develops knowledge and manipulative skills while welding common joints in all positions on aluminum with the G.T.A.W. process. Department permission required.

WLD 223 Gas Tungsten Arc Welding: Stainless Steel 3.00: Develops knowledge and manipulative skills while welding common joints in all positions on stainless steel with the G.T.A.W. process. Department permission required.

WLD 224 Gas Tungsten Arc Welding: (Mild Steel) Pipe I 3.00: Develops knowledge and manipulative skills required to weld mild steel pipe in all positions using the G.T.A.W. process. Department permission required.

WLD 225 Gas Tungsten Arc Welding: (Mild Steel) Pipe II 3.00: Develops knowledge and manipulative skills while welding a variety of diameters mild steel pipe in the 6G, (fixed 45 angle) using the G.T.A.W. process. Department permission required.

WLD 253 SMAW Certification Practice 3/8" Mild Steel (E6011) 3.00: Practice for the American Welding Society Mild Steel Welding Certification tests using SMAW mild steel electrodes in the horizontal, vertical and overhead positions. Department permission required.

WLD 254 SMAW Certification Practice 3/8" Mild Steel (E7018) 3.00: Practice for the American Welding Society Mild Steel Welding Certification tests using SMAW low hydrogen electrodes in the vertical, horizontal and overhead positions. Department permission required.

WLD 256 Preparation for Pipe Certification I 3.00: Develops knowledge and skills in the use of melt-through procedures in preparation for pipe welding with the shielded metal arc process. Department permission required.

WLD 257 Preparation for Pipe Certification II 3.00: Practice for pipe certification using the S.M.A.W. process to weld pipes in all positions. Department permission required.

WLD 261 Basic Fabrication I 6.00: Develops fabrication knowledge and skills in selection and use of layout tools and equipment, to assemble a fabrication project from given specifications. Department permission required.

WLD 262 Basic Fabrication II 6.00: Develops knowledge and skills in the proper selection and safe use of hand tools and machinery while working on specific fabrication projects. Department permission required.

WLD 263 Welding Technology-Capstone 6.00: Students will demonstrate readiness for welding employment through the development and performance of a comprehensive hands-on welding related Service Learning Project, and the successful completion of an industry based written assessment. Prerequisite: Completion of One-Year Certificate of Completion in Welding Technology.

WLD 271 Oxy-acetylene Welding Projects 3.00: Practice hand coordination and controlling heat while welding steel with oxy-acetylene equipment using all positions. Department permission required.

WLD 280A CE / Welding1.00–4.00: On-the-job experiences which allow for the application and development of knowledge and skills acquired in the on-campus program. Work experiences are offered for variable credit up to a maximum of four credits. Department permission required.

WLD 280B CE / Welding - Seminar 1.00: Share experiences with other students and the on-campus instructor in order to develop strategies for successful cooperative work experiences and future employment. Department permission required.

WLD 290 Submerged Arc Welding 2.00: Develops knowledge and skills with the submerged arc welding process. Department permission required.

WLD 295 Sculpture Welding II 4.00: Develops the artist's knowledge and skills with Oxyacetylene welding and cutting, SMAW (stick) welding, GMAW (wire) welding and TIG (gas tungsten) arc welding processes. Explores metal sculpture design and construction with supporting demonstrations, slides, lectures and films. Completion of ART 293 strongly recommended. No prior welding experience is required.

WLD 9901 Welding Practice 0.75: Covers personal safety, shop safety, and learning objectives agreed upon by the instructor and the student. Upgrade and

develop welding skills as needed. Department permission required.

WLD 9902 Welding Practice 1.00: Covers personal safety, shop safety and learning objectives agreed upon by the instructor and student. Upgrade and develop welding skills as needed. Department permission required.

WLD 9904 Welding Practice 2.00: Covers personal safety, shop safety, and learning objectives agreed upon by the instructor and the student. Upgrade and develop welding skills as needed. Department permission required.

WLD 9905 Welding Practice 3.00: Covers personal safety, shop safety, and learning objectives agreed upon by the instructor and the student. Upgrade and develop welding skills as needed. Department permission required.

WLD 9910 Shielded Metal Arc Wld (Stick) 3.00: Covers personal safety, shop safety, and learning objectives agreed upon by the instructor and the student. Upgrade and develop welding skills as needed. Department permission required.

WLD 9911 Shielded Metal Arc Wld (Stick) 3.00: Covers personal safety, shop safety, and learning objectives agreed upon by the instructor and the student. Upgrade and develop welding skills as needed. Department permission required.

WLD 9912 Shielded Metal Arc Wld (Stick) 3.00: Covers personal safety, shop safety, and learning objectives agreed upon by the instructor and the student. Upgrade and develop welding skills as needed. Department permission required.

WLD 9913 Shielded Metal Arc Wld (Stick) 3.00: Covers personal safety, shop safety, and learning objectives agreed upon by the instructor and the student. Upgrade and develop welding skills as needed. Department permission required.

WLD 9920 Gas Tung Arc Welding (Heliarc) 3.00: Covers personal safety, shop safety, and learning objectives agreed upon by the instructor and the student. Upgrade and develop welding skills as needed. Department permission required.

WLD 9921 Gas Tung Arc Welding (Heliarc) 3.00: Covers personal safety, shop safety, and learning objectives agreed upon by the instructor and the student. Upgrade and develop welding skills as needed. Department permission required.

WLD 9922 Gas Tung Arc Welding (Heliarc) 3.00: Covers personal safety, shop safety, and learning objectives agreed upon by the instructor and the student. Upgrade and develop welding skills as needed. Department permission required.

WLD 9923 Gas Tung Arc Welding (Heliarc) 3.00: Covers personal safety, shop safety, and learning objectives agreed upon by the instructor and the student. Upgrade and develop welding skills as needed. Department permission required.

WLD 9930 Wire Welding 3.00: Covers personal safety, shop safety, and learning objectives agreed upon by the instructor and the student. Upgrade and develop welding skills as needed. Department permission required.

WLD 9931 Wire Welding 3.00: Covers personal safety, shop safety, and learning objectives agreed upon by the instructor and the student. Upgrade and develop welding skills as needed. Department permission required.

WLD 9932 Wire Welding 3.00: Covers personal safety, shop safety, and learning objectives agreed upon by the instructor and the student. Upgrade and develop welding skills as needed. Department permission required.

WLD 9933 Wire Welding 3.00: Covers personal safety, shop safety, and learning objectives agreed upon by the instructor and the student. Upgrade and develop welding skills as needed. Department permission required.

WLD 9940 Pipe Welding Practice 3.00: Covers personal safety, shop safety, and learning objectives agreed upon by the instructor and the student. Upgrade and develop welding skills as needed. Department permission required.

WLD 9941 Pipe Welding Practice 3.00: Covers personal safety, shop safety, and learning objectives agreed upon by the instructor and the student. Upgrade and develop welding skills as needed. Department permission required.

WLD 9942 Pipe Welding Practice 3.00: Covers personal safety, shop safety, and learning objectives agreed upon by the instructor and the student. Upgrade and develop welding skills as needed. Department permission required.

WLD 9943 Pipe Welding Practice 3.00: Covers personal safety, shop safety, and learning objectives agreed upon by the instructor and the student. Upgrade and develop welding skills as needed. Department permission required.

WLD 9950 Oxy-Acetylene Welding Practice 3.00: Covers personal safety, shop safety, and learning objectives agreed upon by the instructor and the student. Upgrade and develop welding skills as needed. Department permission required.

WLD 9951 Oxy-Acetylene Welding Practice 3.00: Covers personal safety, shop safety, and learning objectives agreed upon by the instructor and the student. Upgrade and develop welding skills as needed. Department permission required.

WLD 9952 Oxy-Acetylene Welding Practice 3.00: Covers personal safety, shop safety, and learning objectives agreed upon by the instructor and the student. Upgrade and develop welding skills as needed. Department permission required.

WLD 9953 Oxy-Acetylene Welding Practice 3.00: Covers personal safety, shop safety, and learning objectives agreed upon by the instructor and the student. Upgrade and develop welding skills as needed. Department permission required.

WLD 9960 Weld Practice Metal Sculpting 3.00: Covers personal safety, shop safety, and learning objectives agreed upon by the instructor and the student. Upgrade and develop welding skills as needed. Department Permission Required.

WLD 9961 Weld Practice Metal Sculpting 3.00: Covers personal safety, shop safety, and learning objectives agreed upon by the instructor and the student. Upgrade and develop welding skills as needed. Department Permission Required.

WLD 9962 Weld Practice Metal Sculpting 3.00: Covers personal safety, shop safety, and learning objectives agreed upon by the instructor and the student. Upgrade and develop welding skills as needed. Department Permission Required.

WLD 9963 Weld Practice Metal Sculpting 3.00: Covers personal safety, shop safety, and learning objectives agreed upon by the instructor and the student. Upgrade and develop welding skills as needed. Department permission required.

WLD 9970 Fabrication Welding Practice 3.00: Covers personal safety, shop safety and learning objectives agreed upon by the instructor and the student. Upgrade and develop welding skills as needed. Department permission required.

WLD 9971 Fabrication Welding Practice 3.00: Covers personal safety, shop safety, and learning objectives agreed upon by the instructor and the student. Upgrade and develop welding skills as needed. Department permission required.

WLD 9972 Fabrication Welding Practice 3.00: Covers personal safety, shop safety, and learning objectvies agreed upon by the instructor and the student. Upgrade and develop welding skills as needed. Department permission required.

WLD 9973 Fabrication Welding Practice 3.00: Covers personal safety, shop safety, and learning objectives agreed upon by the instructor and the student. Upgrade and develop welding skills as needed. Department permission required.

WLD 9980 Certification Welding Practice 3.00: Covers personal safety, shop safety, and learning objectives agreed upon by the instructor and the student. Upgrade and develop welding skills as needed. Department permission required.

WLD 9981 Certification Welding Practice 3.00: Covers personal safety, shop safety, and learning objectives agreed upon by the instructor and the student. Upgrade and develop welding skills as needed. Department permission required.

WLD 9982 Certificate Welding Practice 3.00: Covers personal safety, shop safety, and learning objectives agreed upon by the instructor and the student. Upgrade and develop welding skills as needed. Department permission required.

WLD 9983 Certification Welding Practice 3.00: Covers personal safety, shop safety, and learning objectives agreed upon by the instructor and the student. Upgrade and develop welding skills as needed. Department permission required.

Writing

WR 60 Spelling I 3.00: Basic rules of English spelling and their frequent exceptions. Includes phonics, spelling rules, affixes and roots, misspelled words and apostrophe.

WR 60C Spelling I 1.00: Basic rules of English spelling and their frequent exceptions. Includes phonics, spelling rules, affixes and roots, misspelled words and apostrophe.

WR 65 Spelling II 3.00: Basic rules of English spelling and their frequent exceptions. Includes more advanced work with spelling and vocabulary for students who have completed Spelling I. Prerequisite: WR 60.

WR 80 Writing 80 3.00: Instruction includes basic communication skills, language mechanics, grammar, spelling, sentence structure and paragraph development. Prerequisite: Placement into WR 80 and RD 80.

WR 80C Writing 80C 3.00: Instruction includes basic communication skills, language mechanics, grammar, spelling, sentence structure and paragraph development. Prerequisite: Writing placement test score above 31.

WR 90 Writing 90 3.00: Instruction includes sentence structure, paragraph and essay development, and written expression. Students can expect to increase working vocabulary and improve skills in basic communications. Prerequisite: Placement into WR 90 or completion of WR 80 and placement into RD 90 or completion of RD 80 with a "C" or better.

WR 90C Writing 90C 3.00: Includes instruction in grammar, punctuation, sentence structure, essay development, and critical thinking skills. Improves basic writing skills by learning to use simple and complex sentences in developing a good essay, and by developing critical thinking skills that are used in the writing process. Prerequisites: Placement into WR 90 or completion of WR 80; Placement into RD 90 or completion of RD 80.

WR 91 Basic Grammar 1.00: Overview of some fundamental principles of American English grammar, including parts of speech, sentence types, sentence analysis, simple/compound/complex sentences, and a brief overview of punctuation.

WR 91A Basic Grammar 1.00: Overview of fundamental principles of American English grammar including parts of speech, sentence types, simple/compound/complex sentences, subject-verb agreement, pronoun usage, avoidance of fragments, run-ons,and other errors. Recommended: Ability to read, write and communicate at the RD/WR. 90 level.

WR 92 Basic Grammar 2.00: Overview of some fundamental principles of American English grammar, including parts of speech, sentence types, sentence analysis, simple/compound/complex sentences, a brief overview of punctuation, subject-verb agreement, pronoun usage, and selected homonyms.

WR 92A Basic Grammar 2.00: Overview of fundamental principles of American English grammar including parts of speech, sentence types, sentence analysis, simple/compound/complex sentences, subject-verb agreement, pronoun usage, selected homonyms, punctuation, capitalization, and avoidance of fragments, run-ons, and other errors. Recommended: Ability to read, write and communicate at the RD/WR 90 level.

WR 93 Basic Grammar 3.00: Overview of some fundamental principles of American English grammar including parts of speech, sentence types, sentence analysis, simple/compound/complex sentences, subject-verb agreement, pronoun usage, selected homonyms, punctuation, capitalization, and avoidance of fragments, run-ons, and other errors.

WR 105 Writing for Scholarships 1.00: This course is part of a new learning community designed to help students get scholarship funding for college. (This will help our own students pay for PCC classes as well as pay for funding a transfer to a university.) WR 105 deals specifically with writing essays and other written communication required in the competitive scholarship process. Corequisites: Concurrent enrollment in CG 105.

WR 115 Introduction to Expository Writing 4.00: Introduces college level skills in reading critically, exploring ideas, and writing. Students compose essays which support a thesis through structure appropriate to both thesis and reader and learn to revise for clarity and correctness. Prerequisites: (Placement into WR 115 or completion of WR 90 or ESOL 262) and (placement into RD 115 or completion of RD 90 or ESOL 260).

WR 117 Introduction to Technical Writing 3.00: Focuses on the specific writing needs of career programs: procedures, proposals, letters, memoranda, lab reports, work reports. Prerequisite: WR 115 or placement into WR 121.

WR 121 English Composition 4.00: Develops skills in analytical reading, critical thinking, and expository and persuasive writing. Students compose several essays using a variety of strategies to present evidence in support of a thesis. Prerequisite: Placement into WR 121, or completion of WR 115 and RD 115.

WR 122 English Composition 4.00: Focuses on argument as a means of inquiry, clear and appropriate writing style, and critical reading. Explores ideas and issues through discussion and writing. Students compose analytical, argumentative, and/or expository essays with appropriate documentation. Prerequisite: WR 121.

WR 123 English Composition 3.00: Uses extensive research writing to develop skills in critical analysis and documented argument. Students synthesize their considered response to designated text(s) and/or issues with the reactions of other writers. Includes paraphrasing, summarizing, quoting, and documenting using style appropriate to discipline researched. Prerequisite: WR 122.

WR 180 Composition Conferencing and Tutoring 1.00: Explores the techniques and philosophies involved in tutoring and conferencing one-to-one with writing students. Students practice skills learned in the classroom as they work in the PCC Writing Center.

WR 185 English Language: Theory and Practice 3.00: Explores elements and nuances of Standard English and dialects in both theory and practice. Explores historical, social, and current cultural issues of grammar and language use through reading, discussion, and writing. Prerequisites: Placement into WR 121 or WR 115 with a grade of C or better.

WR 222 Writing Research Papers 4.00: This course uses extensive research writing to develop skills in critical analysis and documented argument. Students synthesize their considered response to designated text(s) and/or issues with the reactions of other writers. Students gain experience locating and using sources via library catalogs, professional databases and other forms of research. Includes paraphrasing, summarizing, quoting, and documenting, using style appropriate to discipline researched. At least two conferences required. Prerequisite: Completion of WR 122 with a grade of "C" or higher.

WR 227 Technical and Professional Writing 1 4.00: Introduces technical and professional communications. Students compose, design, revise, and edit effective letters, memos, reports, descriptions, instructions, and employment documents Emphasizes precise use of language and graphics to communicate complex technical and procedural information safely, legally and ethically. Two instructor conferences required. Prerequisites: Placement into or completion of WR 121, basic computer literacy and intermediate word processing skills.

WR 240 Creative Writing (Nonfiction) 4.00: Focuses on creative nonfiction and the writing of essays which use creative writing techniques, such as nature writing, reviews, satire, personal essays, and literary journalism. Evaluates students' compositions in class discussion. Recommended: WR 122. Prerequisite: WR 121 and MTH 20 or equivalent placement test scores, or instructor permission.

WR 241 Creative Writing (Fiction) 4.00: Focuses on writing and submitting fiction for class discussion and analysis in a workshop setting. Study established writers for techniques, structures, and styles. Prerequisites: WR 115 and RD 115 or equivalent placement test scores.

WR 242 Creative Writing (Poetry) 4.00: Focuses on writing and submitting poetry for class discussion and analysis in a workshop setting. Study established poets for techniques, structures, and styles. Prerequisites: WR 115 and RD 115 or equivalent placement test scores.

WR 243 Creative Wr (Script Wr) 4.00: Focuses on writing and submitting theatre and film scripts for class discussion and analysis. Studies established writers for techniques, structures, and styles. Prerequisites: WR 115 and RD 115 or equivalent placement test scores.

WR 244 Advanced Creative Writing — Fiction 4.00: Focuses on continuing to apply the techniques and structures of fiction writing introduced in WR 241. Write fiction, and have work critiqued by peers and instructor, and critique the work of others in a workshop setting. Students without WR 241 may enter the class with instructor permission. Prerequisite: WR 241 and its prerequisite requirements.

WR 245 Advanced Creative Writing — Poetry 4.00: Extends the introduction to the craft of poetry in WR 242. Write poetry, have work critiqued by peers and the instructor, and critique the work of others in a workshop setting. Students without WR 242 may enter the class with instructor permission. Prerequisite: WR 242 and its prerequisite requirements.

WR 246 Advanced Creative Writing, Editing & Publishing 4.00: Emphasizes development of craft in students' writing while introducing basics of editing others' manuscripts and preparing them for publication in a variety of forms, including an annual student literary magazine. May be repeated twice for credit. Students are required to have instructor permission in addition to or

in place of the listed course prerequisites. Prerequisites: (WR 240 or 241 or 242 or 243) and (WR 244 or 245) and their prerequisite requirements.

WR 247 Advanced Creative Writing — Scriptwriting 4.00: Focuses on writing and submitting both drama and screen scripts for class discussion and analysis, as introduced in WR 243. Continues the study of established writers for techniques, structures, and styles. Includes lecture, small group activities, and conferences. Prerequisite: WR 243 and its prerequisite requirements; or instructor permission.

WR 248 Advanced Creative Writing — Nonfiction 4.00: This course extends the introduction of literary forms of creative nonfiction in WR 240. Presents the works of established writers for forms, techniques and styles as a context for the students production of creative nonfiction for class discussion and analysis. Prerequisite: WR 240 and its prerequisite requirements.

WR 280A CE / Technical Writing 1.00–5.00: Offers technical and professional writing work experience. Is offered for variable credit up to a maximum of five credits. Students receive one credit for every 40 hours of successful work experience. Department permission is required to take this course.

WR 9599 Professional Editing 3.00: Introduces different types of editors and edits. Includes extensive editing practice with a wide variety of projects, individual and team based. Also emphasizes the editor's critical role in the production process. Prerequisite: WR 122 or WR 214.

WR 9600 Technical and Professional Writing II 3.00: Includes document design, researching, organizing, managing and producing complex technical and professional documents. Prerequisites: Grade of "B" or better in GD 120, WR 227, WR 9599 and WR 9601.

WR 9601 Graphics for Technical and Professional Writers 3.00: Applies the graphic art skills learned in GD 120 to technical and professional writing projects. Combines those skills with skills in electronic layout and design. Prerequisite: Grade of "B" or better in GD 120 and WR 227.

Women's Studies

WS 101 Women's Studies 4.00: Surveys and critically analyzes the position of women in society, in terms of present realities and future possibilities. Provides a framework to connect personal experience with contemporary social and political issues. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores.

WS 201 Women of the World 4.00: Examines the position of women in society from a cross-cultural perspective. Topics include the process of gender enculturation, women's lives in foraging, pastoral and agricultural societies and international issues such as female circumcision, infanticide, child brides and honor/dowry deaths. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores, and WS 101.

WS 202 Women Working for Change / History, Theory and Practice 4.00: Examines how women have worked to empower girls and women and improve the conditions of their lives. Explores ways that feminist theories have shaped the goals and strategies of social change efforts. Offers an in-depth look at selected topic areas, connects analysis and personal experience, and prepares students to become effective change agents. Prerequisites: WR 115, RD 115 and MTH 20 or equivalent placement test scores, and WS 101.

Abdi, Ifrah
Spec/Employment/Bilingual

Abushakrah, Janice L
Instr/Sociol&Coord/Gerontology
BA, Theology, Marylhurst Univ., OR, 1967
PHD, Sociology, Univ. Colorado Boulder, CO, 1977

Acosta, Florentina I
Spec/Admissions
BA, Religious Studies, Univ. of CA/ Santa Barbara, CA, 2003

Adams, Edmund L
Instr/Auto Serv Tech
AA, Liberal Arts, Grahm JC, MA, 1970

Adams, Hollis J
Instr/Math
BS, Mathematics, Virginia Poly Inst & St Univ., UV, 1972
MA, Mathematics Education, Ohio Univ., OH, 1975

Adler, Valorie E
Coord/Resource Ctr
AA, General Studies, Clark College, WA, 1980
BS, Applied Design, Portland State Univ., OR, 1985
MS, Educational Policy & Mgmt, Portland State Univ., OR, 2001

Alday-Murray, Amy J
Mgr/Curriculum
AB, Spanish, Rutgers St Univ., Newark, NJ, 1977
MED, Curriculum Theory/Development, Temple Univ., PA, 1991

Aldridge, Lonn R
Mgr/Physical Plant
BS, History, Portland State Univ., OR, 1967
MBA, Management, Bryant C Bus Adm, RI, 1976

Alemu, Yohannes
Mgr/Cashiering Svcs
BS, Business Administration, Univ. of Phoenix, AZ, 2001

Alexander, Marilyn
Instr/Landscape
BS, Horticulture, Washington St Univ., WA, 1976
AAS, Landscape Technology, Portland CC, OR, 1999

Alkezweeny, Jennifer A
Coord/Service Learning
BA, Communication, Univ. of Alaska/Fairbanks, AK, 1998
MS, Communication Studies, Portland State Univ., OR, 2002

Allen, Ray A
Spec/Employment
BA, East Asian Studies, Univ. of Oregon, OR, 1965

Allen, Robert J
Instr/ESOL
BA, Humanities, Michigan State Univ., 1969
MS, Linguistics, Illinois Institute of Tech, IL, 1970

Allen, Sharon J
Coord/Srvcs for the Deaf
BA, Psychology, Bethel College, MN, 1982
MA, Teaching and Learning, Univ. of CA, San Diego (UCSD), CA, 1998
MA, Curriculum Design, Univ. of CA, San Diego (UCSD), CA, 1998

Alonso, Teresa
Dir/Stud Suppt Ser Prog
BA, Social Science, Western Oregon Univ., OR, 2002

Altree, Lawrence E
Instr/Aviation Sci
CERT, Aviation Maintenance Technolgy, Lane CC, OR, 1985
AS, Aviation Maintenance Technolgy, Lane CC, OR, 1985

Alzner, Cathy J
Instr/Hist
BA, History, Portland State Univ., OR, 1993
MA, History, Portland State Univ., OR, 1998

Aman, Richard R
Div Dean
BS, Social Science, Western Oregon Univ., OR, 1974
MBA, Management, Golden Gate Univ., CA, 1983

Anderson, Barry C
Instr/Biology
BS, General Studies, Portland State Univ., OR, 1990
BS, Biology, Portland State Univ., OR, 1990
MS, Biology, Portland State Univ., OR, 1992
PHD, Environmental Science Research, Portland State Univ., OR, 2002

Anderson, Clarice G
Coord/Fin Aid
BS, Elementary Education, Western Oregon Univ., OR, 1964

Anderson, Debra A
Instr/Building Inspection
AS, Building Inspection Tech, Chemeketa CC, OR, 1990
BS, Communication Studies, Portland State Univ., OR, 2003

Andres, Mark S
Instr/Art/Painting
BA, English, Williams C, MA, 1981

Annus, Michael E
Spec/Video Production
BS, Anthropology, Univ. of Oregon, OR, 1986
MA, Cultural Anthropology, Indiana Univ. Bloomington, IN, 1994
MFA, Film & Video, Univ. Iowa, IA, 2000

Antoch, Zdenek V
Instr/Elec Eng
BS, Science, Portland State Univ., OR, 1971
MS, Electrical Engineering, Portland State Univ., OR, 1989

Apodaca, Danny J
Spec/Student Res
AA, General Education, Rio Hondo College, CA, 1997
BA, Psychology, Humboldt State Univ., CA, 2000

Apotheker, Alison M
Instr/Comp & Lit
BA, Communications, Univ. Massachusetts Amherst, MA, 1986
MFA, Creative Writing, Univ. Arkansas Main Camp, AR, 1995

Arbor, Joan
Spec/Mental Health Drug
BSW, Social Work, Univ of Illinois at Chicago, IL, 1995
MSW, Social Work, Univ of Illinois at Chicago, IL, 1996

Argenti, Lynn S
Instr/Nursing
BS, Nursing, Sonoma State Univ., CA, 1989
MS, Nursing, San Jose State Univ., CA, 1999

Armontrout, David E
Instr/Social Science
AA, General Studies, El Camino College, CA, 1975
BA, History, UCLA Los Angeles, CA, 1979
MA, History, Portland State Univ., OR, 1992

Arnett, Adon C
Instr/Dev Ed/Engl
BA, English, Southern Utah Univ., UT, 1996
MA, English, New Mexico St Univ. Main Cam, NM, 1998

Aronson, Jesse
Spec/Employment
BA, Spanish, Portland State Univ., OR, 2003

Arthur, Stephen
Spec/Club and Programs
BS, Environmental Science, Oregon State Univ., OR, 2003

Atkinson, Jean M
Supv/Food Srvcs
BS, Home Economics, CA Polytechnic State U, CA,

Backes, Gabriele R
Instr/Chem
BS, Chemistry, Ruhr Universitat Bochum, 1979
MS, Chemistry, Ruhr Universitat Bochum, 1982
PHD, Chemistry, Ruhr Universitat Bochum, 1985

Bada, Tyrene A
Coord/Records

Bader, Marilyn J
Mgr/Fin Aid Systems
AS, Accounting Clerk, Lane CC, OR, 1975
BS, Public Affairs, Univ. of Oregon, OR, 1979
MS, Public Affairs, Univ. of Oregon, OR, 1987

Badri, Dorothy A
Spec/Acad Advising
BA, Psychology, Seattle Univ., WA, 1989

Baird, Shannon J
Instr/Constr Tech
BARC, Architecture, Univ. of Oregon, OR, 1988
MS, Media Studies, New School Univ., NY, 2001

Bako, Maria M
Spec/Employment

Bales, Laura J
Mgr/Bookstores
CERT, Merchandising, Portland CC, OR, 1993
AS, Marketing, Portland CC, OR, 1998

Banks, Deniel M
Coord/Project SBITC
BA, Social Relations, Univ. of Washington, WA, 1968

Banks, Russell C
Mgr/Mktg Comm
BJ, Journalism, Univ. of Texas Austin, 1974

Barajas-Everson, Sylvia
Spec/Comm Resource
BA, Social Service, Univ. of Portland, OR, 1979

Barman, Farshad
Instr/Math
BS, Electrical Engineer, Ohio Univ., OH, 1973
MS, Electrical Engineer, Univ. of CA/ Santa Barbara, CA, 1976
PHD, Electrical Engineering, Univ. of CA/ Santa Barbara, CA, 1979
MS, Mathematics, Portland State Univ., OR, 1995

Barnes, Terri L
Instr/Hist
AAS, Small Business Management, Mt. Hood CC, OR, 1992
BA, Art History, Portland State Univ., OR, 1999
MA, Art History, Portland State Univ., OR, 2004

Barnes, Timothy C
Instr/Comp & Lit
BA, English, San Jose State Univ., CA, 1970
MA, English, Portland State Univ., OR, 1976

Barrick-Harwood, Glenna J
Spec/Coop Ed/Stdnt Employment
AA, Mental Health, Mt. Hood CC, OR, 1978
BA, English, Univ. of Oregon, OR, 1986
MS, Ed Policy,Foundation & Admin, Portland State Univ., OR, 2000

Barry, Cecelia C
Coord/Comm Ed Program
BA, English, Lewis & Clark College, OR, 1984
MS, Ed Policy,Foundation & Admin, Portland State Univ., OR, 1996

Bastian, Linda A
Instr/Math
BS, Mathematics, CUNY York C, NY, 1972
MS, Mathematics Education, CUNY Queens C, NY, 1977

Baynton, Susan A
Mgr/Comp & Benefits
BS, Business and Admin Studies, Lewis & Clark College, OR, 1977

Beach, Josette L
Dir/Dental Prog
CERT, Dental Assisting, Portland CC, OR, 1975
AS, Dental Hygiene, Portland CC, OR, 1978
BS, General Studies, Eastern Oregon Univ., OR, 1991
MS, Ed Policy,Foundation & Admin, Portland State Univ., OR, 1998

Beck, Esperanza
Spec/Student Res

Bedient, Sonya F
Counselor
BA, Psychology, Western Washington Univ, WA, 1994
MA, Counseling Psychology, Lewis & Clark College, OR, 1998

Bekey, Ronald S
Instr/Comp Application Systems
BS, Biology, Univ. of Southern California, CA, 1977
MS, Entomology, Washington St Univ., WA, 1980
PHD, Horticulture, Oregon State Univ., OR, 1985

Bellinger, Frank R
Instr/Vis Arts
AA, Art, College of DuPage, IL, 1978
BFA, Ceramics, N Illinois U, IL, 1982
MA, Studio Arts, N Illinois U, IL, 1983
MFA, Art, N Illinois U, IL, 1985

Belt, Cheryl A
Human Resource Rep
BA, Public Administration, Univ. of Oregon, OR, 1983

Bene, Michael J
Instr/Alt Prg/Bilingual
BA, Linguistics, Univ. of CA/Santa Cruz, CA, 1991
MA, Linguistics, Univ. of CA/Santa Cruz, CA, 1995

Bennett, Grant T
College Architect
BARC, Architecture, Univ. of Oregon, OR, 1972

Benting, Dianna R
Mgr/Food & Vending Serv

Bentley-Quintero, Sarah C
Instr/Spanish
BA, Spanish, Pitzer College, CA, 2001
MA, Spanish, Portland State Univ., OR, 2006

Berdahl, Angela L
Instr/Comp & Lit
BA, English, Univ. Wyoming, WY, 1987
MA, English, Arizona State Univ. Main, AZ, 1991

Bernunzio, Katherine A
Instr/Dev Ed/Math
BS, Mathematics, Portland State Univ., OR, 1975
MED, Education, Lewis & Clark College, OR, 1976

Berrong, Patricia A
Instr/Health Information Mgt
AA, Business, Hocking Tech C, OH, 1978
BS, Health Care Administration, Concordia Univ., OR, 1996

Bettencourt, Rosa M
Instr/Poli Sci
BA, History, College of Notre Dame, CA, 1981
BA, Social Service, College of Notre Dame, CA, 1981
MA, History, Univ. of Southern California, CA, 1986
MA, Political Science, Univ. of Southern California, CA, 1988
PHD, Political Science, Univ. of Southern California, CA, 1996

Billick, Tamera N
Mgr/Technology Solutions
BA, Elementary Education, Portland State Univ., OR, 1986

Bilyeu, Elizabeth A
Instr/Vis Arts
BA, Art, Wake Forest U, NC, 1990
MA, Womens Studies, Univ. of Leeds, England, 1994
MA, Archaeology, Washington Univ St Louis, MO, 1995
MA, Art History, Washington Univ St Louis, MO, 1995

Bishop, Camilla L
Coord/Stud Ldrshp
BA, Foreign Language, Washington St Univ., WA, 1971
MA, Education, Washington St Univ., WA, 1973
PHD, Educational Policy & Mgmt, Univ. of Oregon, OR, 2001

Blanchette, Linda M
Staff & Org'l Dev Facilitator
BA, French, Univ. New Hampshire, NH, 1983
MA, French, Univ. of Oregon, OR, 1986
CERT, Tesol, Portland State Univ., OR, 1999

Blanco Colmenares, Ana C
Spec/Employment
BBA, Business Administration, Simon Rodriguez Ntl Exp U, VNZ, 1998

Bledsoe, Lisa S
Mgr/Employee/Labor Relations
BS, Political Science, Portland State Univ., OR, 1982
CERT, Human Resource Management, Portland State Univ., OR, 1993

Blumenthal, Pamela S
Mgr/Stud Retent & Suppt
BA, French, Univ. of Oregon, OR, 1989
MA, Counseling Psychology, Lewis & Clark College, OR, 1998

Boehmer, Jennifer
Mgr/Marketing Asst
BA, Mass Media Communication, Linfield College, OR, 1995

Bogart, William C
Instr/Dev Ed
BA, English, Univ. of Minnesota, 1991
MA, English, Portland State Univ., OR, 2001

Boggs, Michael A
Instr/Phys Ed
BS, Exercise and Sport Science, Oregon State Univ., OR, 1990
MBA, Technology Management, Univ. of Phoenix, AZ, 2002

Bonner, Robert W
Instr/Diesel Serv Mech
AS, Diesel Service Technology, Oregon Inst of Technology, OR, 1965

Booker, Tonya S
Dir/Community Ed
BS, Forestry, Univ. of IL at Urbana, Champaign, IL, 1995
MA, Liberal Arts, Stanford Univ., CA, 2003

Bowles, James E
Dir/Skill Ctr
BS, Social Science, Western Oregon Univ., OR, 1981

Boyd, Leslie K
Instr/Dev Ed
BA, English, Univ. of Montana, MT, 1997
MA, Teaching:English, Portland State Univ., OR, 2002

Boyd-Bunch, Merry L
Spec/Learning Skills

Bradach, Kathleen M
Spec/Acad Advising
BS, Elementary Education, Oregon State Univ., OR, 1979

Brask, Gerald
Instr/Paralegal
BA, Social Science, N Illinois U, IL, 1973
JD, Law, Univ North Dakota/Main Camp, ND, 1976

Brayton, Kelley C
Dir/Int'l Ed
BA, International Affairs, Eastern Washington U, WA, 1988
AM, Intercultura/Internationa Mgt, Sch Intrnatl Training, VT, 1997

Brennan, Patsy L
Accountant I
AS, Accounting, Oregon Inst of Technology, OR, 1986

Briggs, Nancy C
Instr/Biology
BS, Biology, Portland State Univ., OR, 1996
MS, Biology, Portland State Univ., OR, 1999

Brown, Sheila G
Instr/Comp & Lit
BA, English, Florida St Univ., FL, 1980
MA, English, Florida St Univ., FL, 1983
PHD, English, Florida St Univ., FL, 1992

Brown, Wendy R
Spec/Employment

Browning, Linda M
Coord/Business Service
BA, Psychology & Sociology, E New Mexico Univ. Main Camp, NM, 1975
MA, Personnel Services Psychology, E New Mexico Univ. Main Camp, NM, 1976

Bruneau, Carol J
Instr/Emerg Mgmt
AS, Criminal Justice Admin, Clackamas CC, OR, 1982

Bruno, William G
Instr/Bus Admin
MBA, Finance/Marketing, Rutgers St Univ. NJ Newark, NJ, 1977

Brunton, Gwendolyn L
Spec/Sr Employment
BA, Humanities, Southern Oregon Univ., OR, 1988
BA, Fine Arts, Southern Oregon Univ., OR, 1988
MS, Counseling, Portland State Univ., OR, 1997

Bruss, Linda M
Instr/Comp Appl/Office Syst
BS, Business Administration, Portland State Univ., OR, 1971
MS, Business Education, Portland State Univ., OR, 1975

Bryant, Kristin L
Instr/Comp & Lit
BA, English, Univ. of Puget Sound, WA, 1990
MA, English, Univ. Colorado Boulder, CO, 1993

Bryant, Susan G
Spec/Employment
BS, Recreation & Park Mgmt, Univ. of Oregon, OR, 1980

Burns, Robert J
Instr/Dev Ed/Engl
BS, Liberal Studies, Oregon State Univ., OR, 1987
MAT, Education, Univ. of Portland, OR, 1996

Burroughs, Christine L S
Coord/RetentTitle III
BA, Social Science, Portland State Univ., OR, 2001

Burwell, Robin A
Spec/Student Res
BS, Sociology, Oregon State Univ., OR, 1981
MS, Industrial Relations, Univ. of Oregon, OR, 1984

Buseman-Carlstrom, Tracy L
Coord/Vol Lit Tutor Prg
BS, Human Development, Oregon State Univ., OR, 1990
CERT, Teaching English to Others, Portland State Univ., OR, 1992
MED, Adult Education, Oregon State Univ., OR, 2000

Buswell, Benjamin J
Instr/Vis Arts
BFA, Visual Arts, Oregon State Univ., OR, 2001
MA, Art, Univ. Wisconsin Madison, WI, 2004
MFA, Art, Univ. Wisconsin Madison, WI, 2005

Byers, Benjamin P
Research Analyst

Bynoe, Gilbert R
Instr/Aviation Maint Tech
AS, General Studies, Three Rivers C Tech, CT, 1983
BS, Vocational Education, S Illinois Univ. Carbondale, IL, 1990

Cain, Diedre C
Instr/ESOL
ACERT1, English as a Second Language, Portland State Univ., OR, 1978
BA, International Studies, Univ. of the Pacific, CA, 1978

Cain, Jill E
Coord/Resource Ctr
BA, Psychology, Westmont College, CA, 1995
MS, Clinical Psychology, California St U, Fullerton, CA, 2000

Campbell, Jean D'arc K
Asst Dir/Int'l Ed
AA, Liberal Arts, Broome CC, NY, 2001
BA, Political Science, SUNY Binghamton, NY, 2002
BA, Sociology, SUNY Binghamton, NY, 2002
MA,, SUNY Binghamton, NY, 2003

Caraher, Colleen C
Facil/Nurs Skills Lab
AA, Nursing, Portland CC, OR, 1974

Carlsmith, Ann L
Coord/Comm Ed Program
BS, Human Services, Univ. of Oregon, OR, 1985

Carman, Hal D
Instr/Auto Body Rep
BS, Industrial Education, Oregon State Univ., OR, 1979

Carney, Katherine E
Instr/ESOL
BA, English, Univ. of CA/ Santa Barbara, CA, 1987
MAT, Tesol, Sch Intrnatl Training, VT, 1999

Carpenter, Lynn M
Spec/Employment

Carrigan, Kathleen E
Instr/Chem
BS, Chemistry, Bridgewater St C, MA, 1979
MS, Chemistry, Univ. Colorado Boulder, CO, 1984

Carter, Karen S
Supv/Mental Health A & D
BA, Social Work, Chapman Univ., CA, 1976
MSW, Social Work, Portland State Univ., OR, 1992

Caruso, Maria C
Instr/Comp & Lit
BA, Humanities, Michigan State Univ., 1987
MFA, English, Univ. of California/Irvine, CA, 1990

Casciato, Nancy A
Instr/Comp & Lit
BA, English, Portland State Univ., OR, 1984
MA, English, Portland State Univ., OR, 1988
PHD, English, Univ. of Oregon, OR, 1996

Casto, Estella K
Instr/Comp & Lit
AB, French, Ohio Univ., OH, 1982
AB, Political Science, Ohio Univ., OH, 1982
MA, English, Ohio Univ., OH, 1985
PHD, English, Ohio St Univ Main Office, OH, 1990

Cawley, Kendra C
Instr/Bio Tech
BA, Biology, Carleton C, MN, 1975
MS, Genetics, Univ. Connecticut, CT, 1978
PHD, Biological Sciences, Washington Univ St Louis, MO, 1983

Chadwick, Laurie A
Coord/Education
BS, Social Science, Portland State Univ., OR, 1998
BS, Sociology, Portland State Univ., OR, 1998

Chairsell, Christine
VP/Academic & Student Affairs
BA, Government, Univ. of NV/Las Vegas, NV, 1983
MA, Government, Univ. of NV/Las Vegas, NV, 1985
EDD, Educational Leadership, Univ. of NV/Las Vegas, NV, 2001

Chambers, Janice H
Instr/Mech Eng
AAS, Mechanical Engineering Tech, Portland CC, OR, 1974

Chapman, Steven C
Spec/Employment
BA, French, Beloit C, WI, 1988
BA, Spanish, Beloit C, WI, 1988

Chatterton, Cole T
Instr/Bus Admin
BS, Management, George Fox Univ., OR, 2000
BS, Business, George Fox Univ., OR, 2000
MBA, Business Administration, George Fox Univ., OR, 2003

Chester, Catherine C
Campus Community Relations Off
BA, International Teaching, Univ. Notre Dame, IN, 1988
BA, Government, Univ. Notre Dame, IN, 1988
MA, Public Relations, Univ. of Southern California, CA, 1990

Chevalier, Cherie D
Associate VP/Finance
BS, Business Administration, California St U, Hayward, CA, 1975
MBA, Business Administration, City Univ. of Seattle, 1991

Christain, Phillip T
Academic Advising Spec
BS, Recreation & Park Mgmt, Univ. of Oregon, OR, 1983
MED, Educational Administration, Univ. Of Phoenix, 2006

Christian, Virginia D
Asst Coord/Women's Resource
BA, Communication, Marylhurst Univ., OR, 1988
MA, Counseling Psychology, Pacifica Graduate Inst, CA, 2005

Christiansen, Janet E
Accountant II

Christopher, Connie S
Instr/Welding

Christopher, Susanne M
Instr/Pers Health
BS, Health Education, Oregon State Univ., OR, 1974
MED, Health Education, Oregon State Univ., OR, 1976
EDD, Adult Leadership & Post Sec Ed, Portland State Univ., OR, 1995

Chung, Wing-Kit D
VP/Finance
BA, Business, Southern Oregon Univ., OR, 1978
MBA, Business Administration, Oregon State Univ., OR, 1980

Clark, Gayle M
Spec/Employment

Clausen, Larry R
Div Dean
BS, Psychology, Pacific Univ., OR, 1969
OD, Optometry, Pacific Univ., OR, 1970
MPH, Medical Care Organization, Univ. of Michigan, 1971
MED, Admin, Plan & Social Policy, Harvard U, MA, 1988
EDD, Higher Education, Harvard U, MA, 1994

Claussen, Daniel L
Instr/ESOL
MA, Tesol, Portland State Univ., OR, 2001

Clay, Charles R
Coord/Employment Spec
BA, Social Science, Univ. of East Anglia, Norwich, UK, 1993
BA, Economics, Univ. of East Anglia, Norwich, UK, 1993

Cleary, Christina M
Instr/World Lang/Spanish
BA, Spanish, Tufts U, MA, 1996
MA, Spanish, California St U, Long Beach, CA, 2002

Cloud, Katrina M
Spec/Apprenticeship & Training
BBA, Business Administration, American Intercontinental U, GA, 2004
MED, Instructional Technology, American Intercontinental U, GA, 2005

Coates, Sharon A
Instr/Math
BS, Elementary Education, Portland State Univ., OR, 1969
MS, Elementary Education, Portland State Univ., OR, 1973

Cochrane, Deborah J
Coord/Port Teacher Prog
BA, English, Univ. of Oregon, OR, 1977

Cohen, Andrew D
Instr/Creative Wr/Comp&Lit
BA, English, Tufts U, MA, 1993
MFA, Creative Writing, Univ. of Michigan, 2003

Cole, Heather
Instr/Dev Ed/Engl
AA, Liberal Arts, Ohlone College, CA, 1992
BA, English Literature, Univ. of California/Berkeley, CA, 1993
MA, English Literature, San Francisco State U, CA, 2000

Coleman, Gerald W
Spec/Coop Ed/Stdnt Employment
BA, Social Work, California St U, Sacramento, CA, 1974

Connelly, Wendy J
Instr/Biology
AA, Oceanography, Fullerton College, CA, 1984
BA, Aquatic Biology, Univ. of CA/ Santa Barbara, CA, 1987
AS, Electronic & Computer Eng Tech, Santa Barbara City College, CA, 1988
MA, Biology, Univ. of CA/ Santa Barbara, CA, 1997

Conover, Lori J
Coord/Employment Spec

Constantino, Matthew W
Instr/Geog
BS, Geography, Univ. Oklahoma Norman Camp, OK, 2000
MA, Geography, Univ. S Carolina Columbia, SC, 2003

Cordle, Alan D
Ref Librarian
BA, English, Virginia Poly Inst & St UU, V, 1992
MLS, Library & Information Science, N Carolina Cntl U, NC, 1996

Cornea-Hasegan, Dorina M
Instr/Microelectronics
MS, Industrial Technology, Purdue Univ., IN, 1994

Corona, Jill A
Spec/Employment
BA, Communication, Columbus State Univ., GA, 1997
MA, Communication, Auburn Univ. Main Camp, AL, 2000

Cottrill, Patricia S
Coord/Acad Advising
BA, Psychology, Univ. Arkansas Main Camp, AR, 1994

Countryman-Jones, Lisa G
Instr/Med Lab Tech
BS, Microbiology, CA Polytechnic State U, CA, 1982

Courtis, Mary M
Instr/Anthropol
BA, Psychology, Rocky Mountain College, MT, 1981
MA, Anthropology, Univ. of Montana, MT, 1984
PHD, Anthropology, Univ. of Oregon, OR, 1991

Cowan, Lutgarda B
Instr/Comp & Lit
BA, English, Portland State Univ., OR, 1995
MA, English, Portland State Univ., OR, 1999

Cowburn, Stuart
Grants Officer
BA, Philosophy, Univ. of Liverpool, UK, 1988
BS, Geology, Portland State Univ., OR, 1996
MS, Geology, Portland State Univ., OR, 2000

Crofts, James H
Mgr/Accounting Services
BS, Accounting, Utah State Univ., UT, 1984

Crumble, Elenorah B
Spec/Employment
BS, Social Science, Portland State Univ., OR, 1994

Curren, Sandra R
Instr/Dental Hyg
AAS, Dental Hygiene, Portland CC, OR, 2002
BS, Dental Hygiene, Oregon Inst of Technology, OR, 2005
MSE, Post Secondary,Adult,& Cont Ed, Capella Univ., MN, 2007

Currey, Louissa M
Mgr/Campus Tech Serv
AAS, Computer Programming, Portland CC, OR, 1986

Cutsforth, Cecelia M
Instr/Graphic Design
BFA, Liberal Arts, Oregon State Univ., OR, 1977

Daly, Joan A
Instr/Radiol Tech
BS, Allied Health Ed, Univ. Texas Hlth Sci Dallas, TX, 1979
MBA, Health Care Administration, City Univ. of Seattle, 1992

Damghani, Heather R
Spec/Employment
BS, Women's Studies, Portland State Univ., OR, 2000

Daugherty, Jana L
Spec/Comm Resource
BA, Literature, New College of Florida,FL, 1999

Davis, Angelina M
Counselor/Rehab Guid
BS, Psychology, Portland State Univ., OR, 1998
MS, Education Counseling, Portland State Univ., OR, 2001

Davis, Dawn H
Coord/Comm Ed Program
BS, Zoology, Ohio St Univ. Main Cam, OH, 1976
MSE, Post Secondary,Adult,& Cont Ed, Portland State Univ., OR, 2007

Davis, Kim A
Spec/Employment
BS,Advertising, Univ. of Oregon, OR, 2003

Davis, Kimberley C
Coord/Employment Spec
BS, Psychology, Oregon State Univ., OR, 1992

Davis, Mary T
Coord/Bus Trng & Ed Dev
BS, Curriculum & Instruction, Univ. of Oregon, OR, 1972

Davis, Prentice D
Coord/Replication Trng
BS, Psychology, Portland State Univ., OR,
AS, Biology, Portland CC, OR, 1998

Davis, Regina G
Spec/Student Res
BS, Speech Communication, Portland State Univ., OR, 1991
BS, Social Science, Portland State Univ., OR, 1991
MPA, Personnel Management, Portland State Univ., OR, 2000

Dawson, James
Spec/Trainer Education
BS, Mathematics, Alabama St U, AL, 1989
MED, Adult Education (ABE or GED), Oregon State Univ., OR, 2003

Degman, Linda M
Mgr/Facilities Project
BS, Social Science, Portland State Univ., OR, 2001
MPA, Public Admin, Portland State Univ., OR, 2004

DeGrauw, Edward A
Instr/Biology
BS, Biology, Portland State Univ., OR, 1990
PHD, Biology, Portland State Univ., OR, 1998
PHD, Environ Sciences & Resources, Portland State Univ., OR, 1998

del Val, Aurora T
Instr/Dev Ed/Reading
BA, English Literature, San Francisco State U, CA, 1989
MA, English Composition, San Francisco State U, CA, 2001

Dembrow, Michael E
Instr/Comp & Lit
BA, English, Univ. Connecticut, CT, 1973
AM, Comparative Literature, Indiana Univ. Bloomington, IN, 1975

Dennis, Doree D
Spec/Learning Skills
BS, Biology, Univ. of Oregon, OR, 1990
MA, Tesol, Sch Intrnatl Training, VT, 2004

Dimant, Tsipora F
Coord/Comm Ed Program
BA, Organizational Communication, Marylhurst Univ., OR,
CERT, Human Resource Management, Portland State Univ., OR, 2000

Diniz, Luciana S
Instr/ESOL
BA, Portugese, Sao Paulo State Univ, BRAZIL, 1997
BA, English, Catholic Univ/Santos, BRAZIL, 1999
MA, Applied Linguistics, Georgia St U, GA, 2003

Dins, Kathryn M
Div Dean
BS, Sociology, Univ. Wisconsin Stevens Pt, WI, 1991
BS, Psychology, Univ. Wisconsin Stevens Pt, WI, 1991
MS, Ed Policy,Foundation & Admin, Portland State Univ., OR, 1995
PHD, Education, Oregon State Univ., OR, 2005

Dionne, Scott S
Instr/Comp & Lit
BA, Political Science, Gonzaga Univ., WA, 1983
MA, English, Eastern Washington U, WA, 1985
MA, Rhetoric and Composition, Eastern Washington U, WA, 1985

Dittrich, William A
Instr/Physics
BS, Physics, Western Washington Univ, WA, 1968
MS, Physics, Univ. Colorado Boulder, CO, 1972
MS, Aeronautical Engineering, Univ. of Washington, WA, 1982

Dobson, Michael J
Spec/Employment
BA, Resource Studies, Lincoln Univ, NZ, 2000
DES, Teaching and Learning, Christchurch Col/Educ, NZ, 2002
MED, Teaching, Christchurch Col/Educ, NZ, 2002

Dodge, Kenneth E
Mgr/Workforce Dev
BA, Political Science, Univ. of Oregon, OR, 2000
MS, Ed Policy,Foundation & Admin, Portland State Univ., OR, 2004

Donnelly, Gerald T
Dir/Human Resources
BS, Political Science, Oregon State Univ., OR, 1981
BS, American Studies, Oregon State Univ., OR, 1981
MS, Industrial Relations, Univ. of Oregon, OR, 1993

Donohue, May L
Spec/Acad Advising
AA, Liberal Arts, Univ. Hawaii Kapiolani CC, HI, 2001
BA, Communication Studies, Portland State Univ., OR, 2004

Dougherty, Daniel J
Instr/Comp Info Sys
BS, Mathematics, SUNY Stony Brook, NY, 1975
MS, Operations Research, Univ. of California/Berkeley, CA, 1977

Dow, Jo Lynn
Spec/Student Res
BA, Science, Marylhurst Univ., OR, 1996
BA, Humanities, Marylhurst Univ., OR, 1996
MS, Ed Policy,Foundation & Admin, Portland State Univ., OR, 2005

Dowd, Tammy L
Counselor
BA, Communicative Disorders, San Diego State Univ., CA, 1997
MS, Rehabilitation Counseling, San Diego State Univ., CA, 2000

Dukehart, Laurel A
Dir/GtC Natl Network
BA, Business Administration, Univ. of Puget Sound, WA, 1981
BA, English, Univ. of Puget Sound, WA, 1981

Dulaney, Marjorie L
Instr/Nursing
MS, Nursing, Univ. of Portland, OR, 1995
BS, Nursing, Univ. of Portland, OR, 1995

Dumas, Leah M
Spec/Employment
MPA, Public Admin, Portland State Univ., OR, 1996

Duncan, Colleen M
Instr/Nursing
BS, Nursing, Oregon Health Science U, OR, 1980
MS, Nursing, Oregon Health Science U, OR, 1990

Duncan, Thomas L
Instr/Trade Extension
AS, Thermal Engergy Technology, Clackamas CC, OR, 1984
AAS, Vocational Teacher Education, Portland CC, OR, 1988

Dundorf, Christyn
Instr/Child Dev/EEFS
BA, Psychology, Carleton C, MN, 1989
MS, Human Development, Univ. of Rochester, 1995
PHD, Human Development, Univ. of Rochester, 1999

Dunnington, Russell J
Instr/Diesel Serv Mech
AS, Diesel Power Technology, Lower Columbia C, WA, 1984
BS, Diesel Power Technology, Oregon Inst of Technology, OR, 1987

Dwyer, DaNene K
Mgr/Workforce Dev

Easton, Kari A
Instr/World Lang/Spanish
BA, Community Health Education, Univ. of Oregon, OR, 1983
BA, Spanish, Univ. of Oregon, OR, 1983
MA, Spanish, Univ. of Oregon, OR, 1988

Eaton, Gary R
Mgr/Campus Tech Serv
BS, Business Administration, Oregon State Univ., OR, 1974
AS, Computer Field Servicing, Portland CC, OR, 1991

Eby, Linda L
Instr/Nursing
BS, Nursing, Oregon Health Science U, OR, 1975
MS, Nursing, Oregon Health Science U, OR, 1981

Eden, James W
Instr/Econ
BS, Economics, Univ. of Hull England, 1972
MS, Economics, Portland State Univ., OR, 1985

Eden, Linda J
Dir/Aux Services
BS, Institutional Mgmt & Dietetics, Oregon State Univ., OR, 1978

Edwards, Christopher N
Instr/Speech
BA, Psychology, Washington St Univ., WA, 1994
BA, Speech Communication, Washington St Univ., WA, 1994
MS, Communication, Purdue Univ., IN, 1996

Edwards, Jeff A
Instr/Bus Admin
BS, Business, Univ. of Oregon, OR, 1969
BS, Finance, Univ. of Oregon, OR, 1969
MBA, Business Administration, Portland State Univ., OR, 1977

Ehlis, Jacqueline M
Instr/Art
AA, Undeclared, Portland CC, OR, 1986
BA, Fine & Applied Arts, Univ. of Oregon, OR, 1988
BFA, Painting, Pacific NW College of Art, OR, 1991
MFA, Art, Univ. of NV/Las Vegas, NV, 2000

Eid, Marlene
Instr/Psych
MA, Psychology, Portland State Univ., OR, 1986

Ellertson, Amanda T
Coord/Stud Ldrshp
BA, Communication Arts, Pacific Lutheran U, WA, 1983
MA, History, Portland State Univ., OR, 2003

Elliott, Candia P
Spec/Admissions
BS, Psychology, Western Oregon Univ., OR, 1988
MA, Communication, Univ. of New Mexico, 2007

Elliott, Jacqueline M
Counselor
BS, Secondary Education, Univ. Wisconsin Milwaukee, WI, 1992
MS, Counseling, Portland State Univ., OR, 1999

Ellis, Diana L
Instr/Business Administration
BS, Education, Henderson St U, AR, 1978
MS, Education, Henderson St U, AR, 1982

Eng, Russell B
Instr/Mech Eng
BS, Mechanical Engineering, Portland State Univ., OR, 1973
MS, Mechanical Engineering, Univ. of Portland, OR, 1987

England, Eileen L
Accountant II

Erickson, Sammuel D
Instr/Comp & Lit
BA, English Literature, Kansas State Univ., 1998
MA, English, Kansas State Univ., 2000

Esary, Kendi R
Coord/Stud Ldrshp
BA, Recreation, Eastern Washington U, WA, 1992
AA, General Studies, Columbia Basin College, WA, 1993
MED, Student Personnel Admin, Western Washington Univ, WA, 1995

Eshleman, Lucinda L
Coord/Academic Advising
BS, Sociology, Portland State Univ., OR, 1986
MED, Education, Portland State Univ., OR, 1995
MLS, Library Science, EmporiaState Univ., KS, 2003

Espinosa, Jorge E
Instr/Speech
BS, Music, Lewis & Clark College, OR, 1979
MA, Speech Communication, Oregon State Univ., OR, 1982

Evans, Katharine S
Instr/Comp & Lit
BA, Anthropology, Univ. of Washington, WA, 1965
MA, English, Univ. of Oregon, OR, 1967
DA, English, Univ. of Oregon, OR, 1973

Evind, Deborah
Coord/Women's Resource
AA, Psychology, Santa Rosa Junior College, CA, 1983
BA, Psychology, Sonoma State Univ., CA, 1985

Fan, Lee S
Coord/Train Prg for Stud w/Dis
BS, Management, Univ. Wisconsin Superior, WI, 1975
BS, Marketing, Univ. Wisconsin Superior, WI, 1975
MS, Education, Portland State Univ., OR, 1989
CERT, Urban Special Education, Harvard U, MA, 1997

Farnum, John C
Instr/Philosophy
BS, Philosophy, Univ. of Oregon, OR, 1990
MA, Philosophy, San Diego State Univ., CA, 1995
PHD, Philosophy, Florida St U, FL, 2001

Fasulo, James A
Spec/Acad Advising
BA, English, Villanova U, PA, 1987

Fedorkova-Felty, Larisa
Mgr/Workforce Dev
MA, International Relations, Moscow State Univ., 1995
BA, International Relations, Moscow State Univ., 1995
MPA, International Management, Monterey Inst Int'l Studies, CA, 1997

Fellman, Laura S
Instr/Physics
BS, Physics, Portland State Univ., OR, 1991
MS, Physics, Portland State Univ., OR, 1996

Fennell, Mark L
Mgr/Safety & Risk
BA, Economics, UCLA Los Angeles, CA, 1980
BA, Psychology, UCLA Los Angeles, CA, 1980

Ferguson, Sandra K
Spec/Employment
BA, History, Weber State Univ., UT, 1973
BA, English, Weber State Univ., UT, 1973

Fergusson-Kolmes, Linda A
Instr/Biology
BS, Biology, Simon Fraser U, CN, 1987
MS, Entomology, Cornell Univ. Endowed C, NY, 1993

Ferroggiaro, Amanda D
Instr/Interior Design
BFA, Studio Arts, Univ. Colorado Boulder, CO, 1993

Fiddler, Stacey L
Instr/Chem
BA, Chemistry, Huntingdon C, AL, 1988
MS, Chemistry, Univ. of Oregon, OR, 1992

Findley, Daniel E
Div Dean
BA, English, Willamette Univ., OR, 1982
MBA, Business Administration, Portland State Univ., OR, 1992

Fischer, Joseph M
Associate Dean/Student Develop
BFA, Communication Arts, Pacific Lutheran U, WA, 1977
MED, College Student Servcs Admin, Oregon State Univ., OR, 1980
PHD, Education, Oregon State Univ., OR, 1990

Fitzgerald, Elizabeth P
Instr/Multimedia
CERT, Video Production Internship, Portland CC, OR, 1997

Flint, Karen M
Spec/Employment
AB, English, Univ. of California/Berkeley, CA, 1974
MS, Ed Policy,Foundation & Admin, Portland State Univ., OR, 1999

Floren, Janet M
System Analyst

Flores, Gene
Instr/Art
BFA, Painting & Printmaking, Univ. of Texas El Paso, 1992
MA, Painting & Printmaking, Univ. Iowa, IA, 1995
MFA, Art, Univ. Iowa, IA, 1996

Floyd, Megan E
Spec/Employment
BA, Family and Human Services, Univ. of Oregon, OR, 2005

Flynn, Robert J
Instr/Hist
BA, Economics, Univ. Massachusetts Amherst, MA, 1987
MA, History, Univ. Kentucky Main Camp, KY, 1997
PHD, Philosophy, Univ. Kentucky Main Camp, KY, 2001

Folberg, Lisa M
Instr/Math
BS, Accounting, Div of Tech/Montana Tech, MT, 1990
BS, Mathematics, Portland State Univ., OR, 1999
MST, Mathematics, Portland State Univ., OR, 2002

Folberg, Ross
Instr/Math
BS, Mathematics, Portland State Univ., OR, 1999
MS, Mathematics, Portland State Univ., OR, 2007

Fong, April A
Instr/Biology
BA, Psychology, Univ. of California/Berkeley, CA, 1984
BA, Biology, Univ. of California/Berkeley, CA, 1984
MS, Entomology, Univ. of California/Davis, CA, 1992

Forshee, Andrew S
Instr/Early Educ & Fam Studies
BA, Philosophy, The Evergreen St College, WA, 1997
MA, Human Development, Pacific Oaks College, CA, 2001
PHD, Human Services, Walden Univ., MN, 2006

Foty, Terrell V
Instr/Comp Info Sys
BS, Medical Laboratory Technology, Univ. Illinois Med Ctr Chgo, IL, 1973
MS, Computer Science, N Illinois U, IL, 1982

Frank, Roger A
Counselor
BS, Psychology, Portland State Univ., OR, 1979
MA, Counseling Psychology, Lewis & Clark College, OR, 1982
PHD, Counseling, Oregon State Univ., OR, 1992

Frank, Simone J
Counselor
BA, Psychology, Univ. of New Mexico, 1988
MA, Counseling Psychology, Lewis & Clark College, OR, 1990

Freeman, Will B
Instr/Math
BS, Biochemistry, Western Washington Univ, WA, 2002
MS, Mathematics, Western Washington Univ, WA, 2005

Friedman, Miriam I
Dir/Grant Development
BA, Psychology, Univ. Massachusetts Amherst, MA, 1992
MS, Ed Policy,Foundation & Admin, Portland State Univ., OR, 2005

Friedrich, Kenneth L
Instr/Chemistry
BS, Biochemistry, Seattle Pacific Univ., WA, 1997
PHD, Biochemistry, Univ. of Arizona, AZ, 2003
ZDC, Computer Appl/Office Systems, Portland CC, OR, 2006

Fu, Shelton
Instr/Microelectronics
BA, Mathematics, Hamilton C, NY, 1991
PHD, Materials Science and Engr, Univ. Pennsylvania, PA, 1998

Funk, Matthew W
Instr/Math
BS, Mathematics, Univ. of Portland, OR, 1993
MS, Mathematics, Portland State Univ., OR, 1996

Fyfield, Margaret S
Div Dean
BA, Physics, Portland State Univ., OR, 1991
PHD, Physics, Portland State Univ., OR, 1996

Galizio, Lawrence A
Instr/Speech
BA, Psychology, Univ. of California/Berkeley, CA, 1986
MA, Speech Communication, San Francisco State U, CA, 1994

Garber, Susan M
Instr/Alcohol & Drug Counsel
BA, Psychology, Portland State Univ., OR, 1974
MED, Counseling, Lewis & Clark College, OR, 1978

Garcia, Michelle A
Spec/Employment/Bilingual
AA, Business Administration, Taylor Bus Inst, NY,
BA, Liberal Arts, Portland State Univ., OR, 2007

Garcia, Veronica R
Dean/Enroll Srvs
BS, Business Administration, Univ. of Arizona, AZ, 2000
MED, Educational Leadership, Northern Arizona Univ., AZ, 2004

Garcia-Chitwood, Jean L
Dir/Stud Suppt Ser Prog
BS, Speech Pathology, Portland State Univ., OR, 1994
MS, Post Secondary,Adult,& Cont Ed, Portland State Univ., OR, 1999

Garner, John W
Mgr/Pkg/Trans Srvcs

Garnica, Eduardo
Spec/Employment
BA, Spanish, Univ. Kansas, KS, 1994
BA, History, Univ. Kansas, KS, 1994
BA, Latin American Studies, Univ. Kansas, KS, 1994

Garreton, Toni R
Instr/ESOL
BA, Sociology, Iowa State Univ., IA, 1976
BA, English, Iowa State Univ., IA, 1976
MA, Tesol, Iowa State Univ., IA, 1984
MA, English, Iowa State Univ., IA, 1984

Garrison, Kirk A
Instr/Bldg Trades
BA, History, Brigham Young Univ., UT, 1993
BA, English, Brigham Young Univ., UT, 1993
MA, History, Portland State Univ., OR, 1997

Gatewood, Algie C
Campus President/Cascade
BA, History, Livingstone C, NC, 1973
BA, Social Science, Livingstone C, NC, 1973
MED, Higher Education, Appalachian State Univ, NC, 1977
EDD, Adult & Community College Educ, N Carolina St Univ. Raleigh, NC, 1994

George, Anthony L
Mgr/Print Center

Gerber, Linda A
Campus Pres/Sylvania
BA, English, Portland State Univ., OR, 1976
MS, Education, Portland State Univ., OR, 1988
EDD, Leadership in Postsecondary Ed, Portland State Univ., OR, 1994

Gerstner, Gregory J
Instr/Mech Eng
BS, Mechanical Engineering, Univ. of Michigan, 1997
MS, Environmental Engineering, Michigan Technological Univ, MI, 2001

Gettmann, Linda M
Associate Dean/Student Develop
BA, History, Portland State Univ., OR, 1976
AAS, Medical Record Technology, Portland CC, OR, 1989
MS, Management, Marylhurst Univ., OR, 1998

Gieber, Jon S
Instr/Alcohol & Drug Counsel
BS, Psychology, Univ. of Oregon, OR, 1981
MS, Counseling, Univ. of Oregon, OR, 1987

Gillette, Susan D
System Analyst
AS, Human Services, Blue Mountain CC, OR, 1976
AAS, Applications Computer Program, Portland CC, OR, 1982

Gilmore, Barbara
Instr/Phys Ed
BS, Microbiology, Oregon State Univ., OR, 1976
MS, Exercise Physiology, Univ. of Oregon, OR, 1983

Giustini, Irene
Dir/Inst Health Care
BS, Microbiology & Immunology, McGill Univ., CN, 1978
MHA, Health Care Administration, Univ. Ottawa, CN, 1980

Goble, Colin E
Instr/Comp Sci
MA, Computer Science, Univ. of California/Berkeley, CA, 1971

Gohde, Maureen S
Instr/Nursing
BSN, Nursing, Michigan State Univ., 1975

Goldy, Loretta A
Instr/Hist
AA, Secretarial Science, Fullerton College, CA, 1977
BA, History, California St U, Fullerton, CA, 1986
MA, History, California St U, Fullerton, CA, 1988

Golledge, Cynthia P
Instr/Psych
BS, Psychology, Missouri S St C, MO, 1985
PHD, Psychology, Univ. Tennessee/Knoxville, TN, 1991

Gondara, Brookney C
Div Dean
BA, Sociology/Native Amer Studies, Montana State Univ., Bozeman, MT, 1995
MED, Curriculum & Instruction, Montana State U/Bozeman, MT, 1996

Goodwin, Kenneth D
Dir/Public Safety
BA, Criminal Justice, California St U, Sacramento, CA, 1982

Googins, John L
Mgr/Workforce Dev
BA, Anthropology, Univ. of Montana, MT, 1973

Gottfried, Corbett S
Dir/Financial Aid
BA, History, Southern Oregon Univ., OR, 1973
MS, College Student Servcs Admin, Oregon State Univ., OR, 1978
EDD, Educational Leadership, Portland State Univ., OR, 1990
MA, History, Portland State Univ., OR, 1995

Goulard, Frank
Instr/Math
BS, Statistics, Colorado State Univ., CO, 1974
BA, Physical Education, Purdue Univ., IN, 1978
MS, Education, Oregon State Univ., OR, 1981

Granshaw, Frank D
Instr/Geology
BA, Physics, Linfield College, OR, 1975
MAT, Liberal Studies, Lewis & Clark College, OR, 1990
MS, Geology, Portland State Univ., OR, 2002

Gray, Sylvia H
Instr/Hist
AS, Business Administration, Portland CC, OR, 1986
BA, History, Portland State Univ., OR, 1988
MA, History, Portland State Univ., OR, 1991

Gregory, Keith A
Mgr/Maintenance & Grounds
BS, Aeronautics, St Louis Univ. Main Camp, MO, 1973
MA, Technology, Arizona State Univ. Main, AZ, 1983

Gregory, Sally
Accountant III
BA, Accounting, Western Washington Univ, WA,

Greiner, Anthony E
Ref Librarian
BA, Music Education, James Madison U, VA, 1978
MA, Music, Univ. Iowa, IA, 1981
MLS, Library Science, EmporiaState Univ., KS, 2004

Gruber, Linnea N
Instr/Graphic Design
AA, Art, Cabrillo College, CA, 1976
BS, Graphic Design, San Jose State Univ., CA, 1978

Guinee, Cecelia E
Instr/Dev Ed/Engl
BA, Linguistics, Univ. of California/Berkeley, CA, 1978
MAT, French, Portland State Univ., OR, 1996

Guthrie, Michael E
Instr/Phys Ed
BA, Business Administration, Univ. Hawaii Manoa, HI, 1985
MST, Physical Education, Portland State Univ., OR, 1991

Haberman, Peter R
Instr/Math
BA, English, Univ. of Oregon, OR, 1996
BA, Mathematics, Univ. of Oregon, OR, 1996
MA, Mathematics, Univ. of Montana, MT, 2000

Hagen, Mark A
Instr/Ind Draft/Illus
BA, English, Iowa State Univ., IA, 1980
AAS, Engineering Technology, Clark College, WA, 1985

Hall, Allen L
Spec/Learning Skills
BA, English, Univ. S Carolina Columbia, SC, 1995
MA, Counseling Psychology, Lewis & Clark College, OR, 2006

Hall, David G
Instr/Math
BS, Corrections, Western Oregon Univ., OR, 1980
BS, Psychology, Western Oregon Univ., OR, 1980
MST, Mathematics, Portland State Univ., OR, 1998

Halloran, Paul L
Spec/Sr Comm Resource
AB, Sociology, Regis Univ., CO, 1972

Hamilton, Vivian M
Instr/Psych
BA, Political Science, CA Polytechnic State U, CA, 1989
MA, Social Ecology, Univ. of California/Irvine, CA, 1995

Hanken, Kari L
Counselor
BA, Elementary Education, Univ. N Iowa, IA, 1990
MSE, Special Educ, Transitional Needs, Univ. Wisconsin Whitewater, WI, 1995

Hanna, Evelyn D
Spec/Student Loan

Hanna, Taylor D
Instr/Comp Info Sys
BS, Oceanography/Zoology, Univ. of Washington, WA, 1973
AAS, Data Processing, Portland CC, OR, 1978

Hanson, Dale M
Mgr/Physical Plant

Hardy, DeAnne
Spec/Coop Ed/Stdnt/Employment
BA, Interdisciplinary Studies, Marylhurst Univ., OR, 1996

Hargrave, Sara M
Occup Cluster Trainer

Harmon, Linda F
Spec/Instructional Comp
MS, Ed Policy,Foundation & Admin, Portland State Univ., OR, 1996

Harris, Frank D
Mgr/Facilities Project

Harris, Joanne M
Instr/Opthal Med Tech

Harrison, James S
Instr/Hist
AB, History, CUNY Hunter C, NY, 1967
MA, History, CUNY City C, NY, 1973
MA, Adminstration/Curriculum, Gonzaga Univ., WA, 1987
MA, Pastoral Ministry, Univ. of Portland, OR, 2003

Haynes, Dana
Public Affairs Manager
BA, Political Science, Lewis & Clark College, OR, 1986

Hays, Daniel J
Coord/Theater
BS, Secondary Education, Univ. of Portland, OR, 1986
MFA, Drama, Univ. of Portland, OR, 1992

Hecht, Gary W
Instr/Elec Eng
BS, Electrical Engineering, Univ. of Texas/Arlington, TX, 1971

Hefty, Cheryl A
Coord/Admissions
BA, Psychology, Western Oregon Univ., OR, 1996
MS, Ed Policy,Foundation & Admin, Portland State Univ., OR, 2007

Hennessy, Sharon G
Instr/ABE/ESL
BA, General Studies, Portland State Univ., OR, 1986
BA, Arts & Letters, Portland State Univ., OR, 1986
MED, Adult Education, Oregon State Univ., OR, 1998
MED, Adult Education (ABE or GED), Oregon State Univ., OR, 1998

Henning, Martha L
Instr/Comp & Lit
AB, English, Stanford Univ., CA, 1970
MA, Humanities, SUNY C Buffalo, NY, 1972
PHD, Rhetoric and Composition, Univ. Louisville, KY, 1993

Henry, Karen E
Spec/Employment
BS, Psychology, Univ. of Oregon, OR, 1982
MED, Counseling & Guidance, Univ. of Idaho, ID, 1984

Hernandez, Maria M
Spec/Student Res/Bilingual

Hernandez, Vanessa M
Spec/Employment
BBA, Business Administration, Univ. del Valle, COLOMBIA, 1994

Hess, Philip W
Coord/Fin Aid
BA, Counseling Education, Columbia Christian C, OR, 1976
MS, School Psychology, Lewis & Clark College, OR, 1984

Heuer, Michael J
Mgr/TSS Customer Suppt
BA, Information Systems, DePaul U, IL, 1992

Heumann, Judy R
Instr/ABE/GED
BA, Education, San Diego State Univ., CA, 1973
MS, Education, Portland State Univ., OR, 1991

Hickok, Damon A
Spec/Student Res
BS, Social Science, Portland State Univ., OR, 1997
MED, Counseling & Guidance, City Univ. of Seattle, 2007

Hicks, James H
Instr/Art Hist
BA, English, Univ. of Oregon, OR, 1969
MA, Art History, Univ. of Oregon, OR, 1973

Hill, Roxanne W
Instr/ESOL
BA, Linguistics, Univ. of Minnesota, 1983
MA, Teaching ESL, Univ. of Minnesota, 1990

Hinkle, Spencer W
Instr/Bldg Trades
BA, Geography, Univ. S Florida, FL, 1974
ACERT1, Building Construction Tech, Portland CC, OR, 1980

Ho, Katy W
Associate Dean/Student Develop
BS, Public Relations, Univ. of Oregon, OR, 2000
MED, College Student Servcs Admin, Oregon State Univ., OR, 2002

Ho, Ty T
Advisor/Fin Aid

Holloway, Kathleen L
Coord/Sr Vol Lit Tutor Prg
BA, Psychology, Pacific Lutheran U, WA, 1977
BA, Religion, Pacific Lutheran U, WA, 1977
MAT, Teaching ESL, Sch Intrnatl Training, VT, 1990

Holman, Jane E
Instr/Comp & Lit
BS, Sociology, Univ. of Oregon, OR, 1977
MA, English, Portland State Univ., OR, 1988

Holmberg, Lawrence A
Mgr/Information Tech

Holt, Michael E
Advisor/Fin Aid
BS, Business Administration, Oregon State Univ., OR, 1983

Hooke, Wayne D
Instr/Psych
AB, Philosophy, Univ. Georgia, GA, 1982
MA, Education, Univ. Georgia, GA, 1986

Hopf, Steven J
Mgr/Purchasing
BA, Interdisciplinary Studies, Eastern Washington U, WA, 2000
MPA, Public Admin, Portland State Univ., OR, 2006

Horani, Laura A
Instr/ESOL
BA, Speech Communication, Portland State Univ., OR, 1988
CERT, Tesol, Portland State Univ., OR, 1988
MA, Tesol, Portland State Univ., OR, 1995

Horner, Shane M
Instr/Math
BS, Mathematics, Western Oregon Univ., OR, 1998
MS, Mathematics, Univ. of Washington, WA, 2000

Hornshuh, Mark W
Spec/EMS Prog
BS, Business Administration, Portland State Univ., OR, 1984

Howard, Genevieve
Program Manager I
AAS, Communication, CC Air Force, AL, 2000
BA, Anthropology, California St U, Bkrsfield, CA, 2003
MA, Anthropology, California St U, Bkrsfield, CA, 2005

Huddle, Linda J
Dir/Alt Programs
BA, Foreign Language, Univ. of Oregon, OR, 1964
MA, Industrial/Labor Relations, Univ. of Oregon, OR, 1975

Huddleston, Joseph C
Instr/Mfg Tech
AAS, Machine Manufacturing Tech, Portland CC, OR, 1989
BS, Manufacturing Engineer Tech, Oregon Inst of Technology, OR, 1997
MS, Manufacturing Engineer Tech, Oregon Inst of Technology, OR, 2007

Hudson, Patricia F
Counselor/Rehab Guid
BS, Criminology, Florida St U, FL, 1978
MS, Counselor Education, Portland State Univ., OR, 2007

Huff, E Scott
Dean/Instruction
BS, Civil Engineering, Univ. Maine, ME, 1972
MS, Civil Engineering, Oregon State Univ., OR, 1975

Hughes, Christopher M
Instr/Math
MS, Mathematics, Univ. of Reading, UK, 2001
PHD, Mathematics, Univ. of Reading, UK, 2005

Hull, Bryan G
Instr/Comp & Lit
BA, English, Boston U, MA, 1983
MA, English, Univ. of California/Irvine, CA, 1987

Hull, Janeen R
Instr/Phys Ed
BED, Sport Fitness, Univ. Alabama, AL, 1992
MSK, Applied Sport Science, Indiana Univ. Cntl Off, IN, 1996

Huminski, Thomas M
Instr/Comp & Lit
BA, Communication, Univ. Michigan Ann Arbor, MI, 1994
MA, English, Portland State Univ., OR, 1999

Hunt, Teri L
Mgr/Payroll

Hunter-Bernstein, Gabriel J
Mgr/REAP Program
BS, Elementary Education, Boston U, MA, 1977
MA, Education, California St U, Dmngz Hlls, CA, 1983

Hutson, Melinda L
Instr/Geology
BS, Geophysics, Univ. of Minnesota, 1982
MS, Earth Science, SUNY Stony Brook, NY, 1988
PHD, Planetary Science, Univ. of Arizona, AZ, 1996

Hutt, Nancy L
Instr/Nursing
BS, Nursing, Univ. Wyoming, WY, 1981
MS, Nursing, Univ. Colorado Health Sci CtrCtr, 1992

Icenogle, Gretchen C
Instr/Theater Arts
BA, English & American Literature, Brown U, RI, 1990
MA, Drama, Univ. of CA/ Santa Barbara, CA, 1999
PHD, Dramatic Art, Univ. of CA/ Santa Barbara, CA, 2003

Iversen, Susan M
Instr/Dev Ed Read &Writ
BA, Spanish, Oregon State Univ., OR, 1985
BA, Home Economics, Oregon State Univ., OR, 1985
MA, Curriculum & Instruction, Portland State Univ., OR, 1993

Iyer, Gayathridevi S
Instr/Comp Sci
BS, Electrical and Electronics Eng, Annamalai Univ, INDIA, 1991
MS, Electrical Engineering, Kansas State Univ., 1994

Jackson, Suanne
Coord/Jobs to Careers

Jacobsen, David W
Instr/Dev Ed/Engl
BA, General Literature, Univ. of Oregon, OR, 1978
MA, English, Univ. of Oregon, OR, 1980

Jantze, Diane M
Spec/Employment
BS, Nutrition, Oregon State Univ., OR, 1992

Jeffery, James D
Instr/Auto Body Rep
AAS, Auto Collision Repair, Portland CC, OR, 1974

Jensen, Deborah M
Coord/Education
BS, Rehabilitation Education, Pennsylvania State Univ., 1990

Jensen, John C
Instr/Comp & Lit
BS, English, Univ. of California/Davis, CA, 1987
MA, Journalism, American Univ., 1990
MA, Public Affairs, American Univ., 1990
MDIV, Theology, Princeton Theol Sem, NJ, 1998

Jernigan, Eric
Mgr/Information Security
BA, Information Systems, Weber State Univ., UT, 2003

Johnson, David B
Grants Officer
BA, English, Univ. Nebraska Omaha, NE, 2004

Johnson, Julianne R
Instr/Music
ZDC, Music, Portland CC, OR, 2006

Johnson, Maniza A
Spec/Student Res
MA, English, Univ. of Dhaka, 1961
MED, Education, Northern Col St Univ Proj, 1966
PHD, Business Education, Univ North Dakota/Main Camp, ND, 1972

Jones, Allen R
Instr/Prof Music
AAS, Vocational Music, Portland CC, OR, 1985
BA, Human Resource Management, George Fox Univ., OR, 1993

Jones, Clifford
Instr/Comp Sci
BA, Mathematics, Reed College, OR, 1979
MBA, General Business, Univ. of Oregon, OR, 1999
CERT, Computer Model & Sim Cert, Portland State Univ., OR, 2002
MS, Systems Science, Portland State Univ., OR, 2003

Jones, Dianne L
Spec/Employment
BA, Elementary Education, Western Oregon Univ., OR.
CERT, Lifetime Teaching Credential, San Francisco State U, CA.
CERT, Head Start, W Michigan U, MI,

Jones, Karen J
Coord/Tech Prep
BS, Housing Design, Oregon State Univ., OR, 1996

Jones, Linda
Instr/Early Educ & Fam Studies
BA, History, Loyola Marymount Univ., CA, 1968
MS, Curriculum & Instruction, Portland State Univ., OR, 1994

Jones, Russell S
Instr/Auto Serv Tech
DIP, Automotive Technology, Arizona Automotive Inst, AZ, 1980
AS, Management/Supervisory Develop, Portland CC, OR, 1999

Jordan, Micah F
Instr/Biology
BS, Biology, Univ. of Oregon, OR, 1991
MS, Biology, Univ. of Oregon, OR, 1995

Jorgensen, Virginia A
Instr/Dental Asst
AAS, Prof/Tech Teacher Train, Portland CC, OR, 1994
ZDC, Dental Assisting, Portland CC, OR, 2007

Josifek, Jeffrey S
Instr/Med Lab Tech
AS, Biology, Umpqua CC, OR, 1992
AAS, Medical Lab Technology, Portland CC, OR, 1996
BS, Science, Portland State Univ., OR, 1998
MS, Ed Policy,Foundation & Admin, Portland State Univ., OR, 2002

Joy, Juanita M
Instr/Nursing
BS, Nursing, California St U, Fresno, CA, 1976
MS, Nursing, Univ. of CA/ San Francisco, CA, 1985

Judge-Morris, Maureen A
Mgr/Employment Srvcs
AB, Sociology, Univ of Illinois atChicago, IL, 1973

Judy, Robert S
Instr/Welding
AAS, Welding Technology, Portland CC, OR, 1981
AAS, Auto Collision Repair Tech, Portland CC, OR, 1985
CERT, Auto Body Painting, Portland CC, OR, 1986

Kadoun, Linda L
Spec/Employment
CERT, Human Services, Marylhurst Univ., OR, 1980

Kamali, Diane B
Instr/ESOL/Comp & Lit
AB, English, San Diego State Univ., CA, 1973
MA, Education, San Diego State Univ., CA, 1975
ACERT1, English as a Second Language, Portland State Univ., OR, 1983

Kaminski, Gregory W
Instr/Comp Facilitator
BA, Biology, Central Washington U, WA, 1977
MAT, English, Univ. of Washington, WA, 1980

Kao-Young, Cara L
Instr/Dental Hyg
AAS, Dental Hygiene, Portland CC, OR, 1990
BS, Dental Hygiene, Eastern Washington U, WA, 2001

Katz, Jessica G
Spec/Sr Comm Resource
BA, Semiotics, Clark U, MA, 1992
MS, Social Work, Columbia Univ, City of N Y, NY, 2002

Kaufman, Barbara A
Instr/Comp Appl/Office Syst
BS, Education, Southern Oregon Univ., OR, 1979
MST, Business Education, Portland State Univ., OR, 1984

Kelley, Mary S
Spec/Student Res
AA, Social Services, Lansing CC, MI, 1973
BA, Social Science, Michigan State Univ., 1975
BA, Law, Michigan State Univ., 1975
MED, Counseling & Guidance, Univ. of Arizona, AZ, 1985

Kelly, Danielle S
Spec/Employment

Kelsay, Lynda D
Instr/EMT
AS, Pre, RN, S Plains C, TX, 1973

Kelsey, Shannon E
Instr/Biology
BS, Psychology, Univ. Wisconsin Eau Claire, WI, 1991
BS, Biology, Univ. Wisconsin Eau Claire, WI, 1991
MED, General Science, Auburn Univ. Main Camp, AL, 1999

Kendall, Katherine L
Spec/Instructional Comp
BA, Anthropology, Portland State Univ., OR, 1985

Kennedy, Georgia C
Spec/Employment

Kennedy, Tammy I
Occup Cluster Trainer
LIC, Cosmetology, Academy of Hair Design, OR, 1991

Kercher, David C
Instr/Aviation Maint Tech
AGEN, Aviation Maintenance Tech, Portland CC, OR, 1996
ZDC, Aviation Maintenance Tech, Portland CC, OR, 2004

Kerr, Gregory
Instr/Comp Appl/Office Syst
BS, History, Northern Arizona Univ., AZ, 1997
MS, Writing, Portland State Univ., OR, 2006

Kessinger, Pamela C
Ref Librarian
AA, General Studies, Highline CC, WA, 1979
BA, English, Univ. of Washington, WA, 1981
MLS, Library Science, Univ. of Washington, WA, 1985

Khodaparast, Youssef
Instr/Econ
BS, Business, Rasht Business CollegeIran, 1977
MA, Economics, New Sch Soc Research, NY, 1980
PHD, Urban Studies, Portland State Univ., OR, 1986

Kidney, Daniel J
Instr/Auto Serv Tech
BA, History, Portland State Univ., OR, 1987
AAS, Vocational Teacher Education, Portland CC, OR, 1993

Kidoguchi, Kenneth Y
Instr/Math
BS, Physics, Univ. Hawaii Manoa, HI, 1979
MS, Physics, Univ. of Washington, WA, 1984

Kies, Michael
Instr/Civil Eng
BS, Civil Engineer, Oregon State Univ., OR, 1985

Killingsworth, Cynthia
Instr/Bus Admin
BA, Accounting, Univ. of Puget Sound, WA, 1984
MS, Accounting, The Univ. Of Maryland Sys, 2003

Kimball, Cynthia A
Instr/Comp & Lit
BA, English, Univ. of Puget Sound, WA, 1985
MA, English, SUNY Buffalo Main Camp, NY, 1993
PHD, English, SUNY Buffalo Main Camp, NY, 1997

Kimberly, Elizabeth S
Counselor
BA, Psychology, Univ. Nebraska Lincoln, NE, 1993
MA, Clinical Psychology, Minnesota St U, Mankato, MN, 2005

Kinder, Sarah
Mgr/Workforce Dev
BA, International Studies, Univ. of Oregon, OR, 2000

King, Holly W
Instr/Speech
BA, Speech Communication, San Francisco State U, CA, 1986
MA, Speech Communication, San Francisco State U, CA, 1989

King, Marta L
Instr/Nursing
BSN, Nursing, Univ. Missouri Kansas City, MO, 1995
MN, Nursing, Univ. Missouri Kansas City, MO, 1998

Kingstad, Ronda J
Instr/Math
BS, Mathematics, Montana State U/Bozeman, MT, 1989
MS, Mathematics, Montana State U/Bozeman, MT, 1990

Kinney, Julie B
Mgr/HR Systems Dev
CERT, Human Resource Management, Portland State Univ., OR, 1996
BS, Management/Communication, Concordia Univ., OR, 1999

Kirchner, Eric J
Instr/Microelectronics
BS, Physics, Rensselaer Poly Inst, NY, 1987
MS, Material Science Engineer, Rensselaer Poly Inst, NY, 1991
PHD, Material Science Engineer, Rensselaer Poly Inst, NY, 1996

Kissick, Jerry R
Instr/Math
BA, Mathematics, UCLA Los Angeles, CA, 1965
MS, Mathematics, Univ. Wisconsin Madison, WI, 1967

Kittinger, Kimberly L
Instr/Auto Serv Tech

Kling, Kandace A
Instr/Math
BS, Mathematics, Portland State Univ., OR, 1990
MS, Mathematics, Portland State Univ., OR, 1992

Knight, Elizabeth L
Instr/Comp & Lit
BA, English, Univ. New Hampshire, NH, 1979
MFA, English, Univ. Massachusetts Amherst, MA, 1989

Knox, George D
Coord/Coop Ed/Plcmt
BA, Psychology, Oregon State Univ., OR, 1987
MA, English, Oregon State Univ., OR, 1996

Kolins, Craig
Dean/Instruction/Stud Dev
BA, Journalism, N Illinois U, IL, 1985
MSE, Counseling, N Illinois U, IL, 1989
PHD, Higher Education, Univ. Toledo, OH, 1999

Kono, Kim M
Major Gifts Officer
BA, Political Science, Univ. of California/Davis, CA, 1987
MPA, Public Administration, Lewis & Clark College, OR, 1996

Kopet, Julie G
Dir/WorkforceDevProg
BA, Social Work, Eastern Washington U, WA, 1977
MS, Adult Education, Portland State Univ., OR, 1997

Koshevoy, Irena N
Spec/Student Res
BS, Data Processing, Moscow St.Inst.Communication, 1962

Kouzes, Ross T
Instr/Math
BA, Mathematics, Univ. of CA/Santa Cruz, CA, 2003
MS, Mathematics, Portland State Univ., OR, 2007

Kraft, Patrick J
Instr/Mfg Tech
CERT, Machine Technology, Perry Technical Institute, WA, 1983
AAS, Machine Manufacturing Tech, Portland CC, OR, 2004
BS, Manufacturing Engineer Tech, Oregon Inst of Technology, OR, 2006

Krauter, Erin D
Instr/Med Lab Tech
BS, Medical Technology, Oregon Health Science U, OR, 1998

Krohn, Brad E
Instr/Vet Tech
BS, Biology, Univ. of IL at Urbana, Champaign, IL, 1992
DVM, Veterinary Medicine, Mississippi St U, MS, 1999

Krug, Kathy A
Spec/Employment
AA, Business, Southwestern Illinois Coll, IL, 1978
BS, Psychology, Portland State Univ., OR, 1999

Kruse, Dean H
Instr/Biology
BS, Foreign Language, Iowa State Univ., IA, 1969
MS, Biology, San Diego State Univ., CA, 1975
PHD, Environmental Science Research, Portland State Univ., OR, 1999

Kuba, Kathleen S
Spec/CoopEd/StdntEmploy
BA, Communications, Lewis & Clark College, OR, 1973
MBA, Business Administration, Portland State Univ., OR, 1989
CERT, Tesl, Portland State Univ., OR, 1999

Kuhn, Lauren L
Instr/Social Science
BA, Anthropology, Univ. of CA, San Diego (UCSD), CA, 1974
MS, Social Work, San Diego State Univ., CA, 1977

Kurzet, Reuel
Instr/ESOL
BA, English, Washington Univ St Louis, MO, 1975
MA, English, Univ. of Minnesota, 1978
PHD, Educational Policy & Mgmt, Univ. of Oregon, OR, 1997

Laakso, Marta A
Spec/Acad Advising

Laff, Jeff R
Mgr/Alt Prog&Compliance
BA, English, Lewis & Clark College, OR, 1991
MAT, Language Arts, Lewis & Clark College, OR, 1993
MPA, Public Administration, Portland State Univ., OR, 2004

LaFrance, Jeannie E
Coord/Illumin Proj
BA, English, Lewis & Clark College, OR, 1988

Lang, Heather J
Associate Dean/Student Develop
BA, Hispanic Studies, Lewis & Clark College, OR, 1991
MED, Adult Education, Oregon State Univ., OR, 2002

Lankes, Virginia M
Spec/Employment
BS, Education, SUNY C Buffalo, NY, 1969
BS, Counseling Education, Canisius C, NY, 1969
MA, English, SUNY C Buffalo, NY, 1975

Larkin, Michael T
Instr/Math
BS, Mathematics Education, Utah State Univ., UT, 1998
MS, Mathematics, Montana State U/Bozeman, MT, 2003

Larsen, Lynn A
Instr/Biology
BS, Biology, Portland State Univ., OR, 1978
MS, Biology, Portland State Univ., OR, 1981

Larson, Lisa
Spec/Student Res
BA, Social Science, Portland State Univ., OR, 1998

Larson, Mary J
Supv/Food Srvcs

Lasselle, Jerome T
Instr/Bus Admin
BA, Business, Claremont Mens CollegeCA, 1970
BA, Accounting, Claremont Mens CollegeCA, 1970
MBA, Business, Univ. of Portland, OR, 1976
JD, Law Enforcement, Lewis & Clark College, OR, 1982

Lave, Barbara R
Instr/Comp Appl/Office Syst
BS, Business Education, Oregon State Univ., OR, 1978
MED, Business Education, Oregon State Univ., OR, 1985

Lawrence, Michael D
Instr/Bus Admin
AA, Business, Clark College, WA, 1972
BA, Finance, Univ. of Oregon, OR, 1975
MBA, Business, Univ. of Oregon, OR, 1976

Le Guin, Caroline D
Instr/Comp & Lit
BA, English Literature, Univ. of York,UK, 1982
MA, English, Indiana Univ. Bloomington, IN, 1988

Le, Benjamin B
Sr Systems Admin
AAS, Computer Operator, Portland CC, OR, 1984

Leavitt, Scot M
Instr/Math
BA, Mathematics, Macalester C, MN, 1999
MS, Mathematics, Univ. of Oregon, OR, 2003

Lee, Hal
Counselor
BS, Arts & Letters, Portland State Univ., OR, 1978
BA, Music, Marylhurst Univ., OR, 2001
MA, Counseling Psychology, Lewis & Clark College, OR, 2005

Lee, Lorie
Spec/Acad Advising
BS, Business Management, Portland State Univ., OR, 1993

Lee, Mathilda T
Spec/Student Res
BA, Psychology, Univ. of Washington, WA, 1975
MSW, Social Work, Univ. of Washington, WA, 1977

Lee, Yen N
Accountant I
BS, Finance, Portland State Univ., OR, 1995
BS, Accounting, Portland State Univ., OR, 1995

Leidy, William A
Accountant III
BA, Music, Washington St Univ., WA, 1972
BM, Music, Washington St Univ., WA, 1972
MA, Music, Washington St Univ., WA, 1974
BA, Business Administration, Washington St Univ., WA, 1978

Leighton, Dana
Instr/Psych
AA, Liberal Arts, Sierra College, CA, 1998
BA, Psychology, Whitman College, WA, 2001
MA, Social Psychology, Univ. British Columbia, CN, 2004

LeMieux, Darcie Y
Instr/Interp Trng
BA, Sociology, Gallaudet U, DC, 1982
MED, Special Ed: Hearing Impaired, Lewis & Clark College, OR, 1986

Lemos, Marcio A
Spec/Int'l Ed Program
JD, Law, Catholic Univ. Pernambuco, BRAZII, 1999

Leonard, Katie E
Instr/Aviation Science
ZDC, Aviation Science, Portland CC, OR, 2005

Levine, Jennifer B
Spec/Learning Skills
MS, Adult Education, Portland State Univ., OR, 2005

Liang, Li
Instr/Comp Sci/CIS
MS, Computer Science, Portland State Univ., OR, 2001

Lien, Kevin J
Instr/Biology
BS, Biology, Stanford Univ., CA, 1979
MS, Biology, Portland State Univ., OR, 1982
MA, Education, Univ. of Portland, OR, 1990

Lincoln, Eddie R
Coord/Business Service
BBA, Marketing, Univ. of Portland, OR, 1992

Lindahl, Eva J
Instr/Opthal Med Tech
CERT, Ophthalmic Medical Tech, Univ. of Minnesota, 1979

Lindsey, Edward D
Instr/Fire Protection Tech
BS, Speech Communication, Portland State Univ., OR, 1989
AAS, Fire Protection Technology, Portland CC, OR, 1992
MPA, Public Admin, Portland State Univ., OR, 1998

Lipman, Meryl D
Spec/Employment
BA, International Studies, American Univ., 1991

Lippert, David E
Coord/Digital Services
BS, English, Willamette Univ., OR, 1995

Littrell, Tanya R
Instr/Phys Ed
BS, Physical Education, Univ. of Oregon, OR, 1991
MS, Human Performance, Oregon State Univ., OR, 2000
PHD, Exercise and Sport Science, Oregon State Univ., OR, 2004

Liu, Diana F
Accountant II

Loanzon, Maria Esther V
Instr/ABE/GED
BA, Child Development, Maryknoll College, Phillipines, 1976
MA, Psychology, Ateneo de Manila, Phillipines, 1987

Loanzon, Priscilla V
Instr/Nursing
MA, Teaching Of Nursing, Columbia Univ. Teachers C, NY, 1979
MED, Curriculum & Instruction, Columbia Univ. Teachers C, NY, 1980
EDD, Health Education, Columbia Univ. Teachers C, NY, 1987

Loepker, Sarah M
Coord/Fin Aid
BA, Liberal Studies, Univ. of Montana, MT, 1998

Londraville, Craig E
Mgr/Campus Tech Serv

Longueil, Kevin M
Instr/Welding
BFA, Sculpture, Pacific NW College of Art, OR, 1997

Love, Theresa M
Instr/Dev Ed
BA, Drama, Humboldt State Univ., CA, 1984
MFA, Drama, Univ. of California/Davis, CA, 1989
MA, English, Univ. of California/Davis, CA, 1989

Lowgren, Andrea
Instr/Hist
BA, Music, Linfield College, OR, 1999
BA, History, Linfield College, OR, 1999
MA, Music History, Univ. of Oregon, OR, 2001
MA, History, Univ. of CA/Santa Cruz, CA, 2003
PHD, History, Univ. of CA/Santa Cruz, CA, 2007

Lowles, Thomas E
Dir/SBITP & Small Bus Dev
BS, Economics, Purdue Univ., IN, 1965
MBA, Business Administration, Univ. of Southern California, CA, 1975

Maazouz, Patricia L
Instr/Chem
BS, Chemistry, Univ. of Saint Mary, KS, 1996
BS, Mathematics, Univ. of Saint Mary, KS, 1996
PHD, Chemistry, Univ. Notre Dame, IN, 2004

Macaulay, Leslie A
Instr/Auto Serv Tech
AS, Radio, Blue Mountain CC, OR, 1974
BS, Speech, Oregon State Univ., OR, 1977
AAS, Automotive Technology, Portland CC, OR, 1985

Maclise, James D
Mgr/Wrkfrc Dev Oper
AA, Business Administration, Portland CC, OR, 1986

Madrigal, Gerardo L
Spec/Employment

Maginn, Dana J
Spec/Learning Skills
BA, English, Univ. of Oregon, OR, 1977
CERT, Linguistics, San Diego State Univ., CA, 1982

Magnuson, Joel C
Instr/Econ
BS, Economics, Portland State Univ., OR, 1983
PHD, Economics, Univ. of Utah, UT, 1994

Magruder, Richard C
Supv/PE Facil/Sports Athletics
AAS, General Studies, Edmonds CC, WA, 1980
BS, Physical Education, Lewis, Clark State College, ID, 1987
MED, Educational Administration, Univ. of Idaho, ID, 1994

Mahon-Decker, Marie T
International Stdnt Advisor
BA, Social Work, Univ. of Montana, MT, 1985

Mahoney-Watson, Kimm A
Instr/Dance
BS, Dance, Univ. of Oregon, OR, 1985
MS, Dance, Univ. of Oregon, OR, 1988

Mainville, Stephen J
Instr/Comp & Lit
BA, English, SUNY C Oswego, NY, 1974
MA, English, SUNY C Oswego, NY, 1976
PHD, English, Univ. Oklahoma Norman Camp, OK, 1982

Majidi, Abdelmajid
Mgr/Workforce Dev
BBA, International Business, Washington St Univ., WA, 1999

Maldonado, Brenda I
Coord/Rete Multicultural/Bilingual
BA, English, Washington St Univ., WA, 2002
MA, Higher Ed Administration, Washington St Univ., WA, 2004

Maldonado, Tanya
Spec/Student Employment
BA, Psychology, Univ. of CA/Santa Cruz, CA, 1986
MA, College Student Personnel, San Jose State Univ., CA, 1991
MA, Education Counseling, San Jose State Univ., CA, 1991

Malone, Gregory S
Mgr/Tech Services
BS, Business Administration, Eastern Oregon Univ., OR, 1983
MBA, Business Administration, Oregon State Univ., OR, 1988

Manchester, Kimberly A
Instr/Vis Arts
BA, Studio Arts, Mills College, CA, 1998
MFA, Visual Arts, Univ. of CA, San Diego (UCSD), CA, 2004

Mancini, Ainulmutara
Spec/Learning Skills
BA, History, Univ. of Rochester, 1999
BA, Psychology, Univ. of Rochester, 1999
MS, Educational Policy & Mgmt, Portland State Univ., OR, 2004

Manley, William D
Coord/PAVTEC, Regional
BA, Physics, Northwest Nazarene College, ID, 1964
MS, General Science, Oregon State Univ., OR, 1965

Manolas, Melissa
Instr/Comp & Lit
BA, English, Loyola U, LA, 1994
MA, Comparative Literature, Louisiana State Univ. Sys, 2002

Marciniak, Michael
Instr/Math
BA, Biological Sciences, Indiana Univ. Bloomington, IN, 1972
MS, Statistical Science, George Mason U, VA, 1995
MST, Teaching, Virginia Commonwealth U, VA, 1999

Marks, Kelly L
Coord/Campus Operations
BS, Psychology, Portland State Univ., OR, 1993
MS, Ed Policy,Foundation & Admin, Portland State Univ., OR, 2005

Marquez, Tammy E
Coord/Bus Trng & Ed Dev
BS, Human Devl & Family Studies, Warner Pacific College, OR, 2001
MBA, Business Administration, George Fox Univ., OR, 2004

Marsh, Frances
PAC Rental/Tech Coord
BFA, Theater, Tarleton St U, TX, 1998
MFA, Theater Arts, Humboldt State Univ., CA, 2001

Marshall, Bonnie L
Instr/Dental Asst
ACERT1, Dental Assistant, Portland CC, OR, 1985
AAS, Vocational Teacher Education, Portland CC, OR, 1989
ZDC, Dental Assisting, Portland CC, OR, 2007

Marshall, Marilyn F
Instr/Altern Lrng Ctr
BS, Psychology, Willamette Univ., OR, 1973
MS, Education, Portland State Univ., OR, 1982

Martin, Anne-Marie
Instr/World Lang//Spanish
BA, Economics, Univ. of Puget Sound, WA, 1988
BA, Spanish, Univ. of Puget Sound, WA, 1988
MA, Romance Languages, Univ. of Washington, WA, 1991

Martinez Zapata, Eduardo
Dir/Stud Suppt Ser Prog
BS, Business Administration, Oregon State Univ., OR, 1993

Martinez, Carmen I
Instr/Chem
BS, Chemistry, Portland State Univ., OR, 1987
MS, Chemistry, Portland State Univ., OR, 1989

Massey, Laura A
Dir/Instit Effectiveness
BBA, General Business, Univ. of North Texas, TX, 1987
MBA, Managment Science, Univ. of North Texas, TX, 1990

Mathern, Nickolas J
GtoC Program Developer
BA, Sociology, Drake U, IA, 1996

Mathern, Rebecca A
Dir/Enroll Srvs/Registrar
BA, Political Science, Univ. of Minnesota, 1998
MA, Liberal Studies, Univ. of Minnesota, 2000

Matthews, John H
Spec/Student Res
AA, Social Service, Foothill College, CA, 1972
BA, Sociology, San Jose State Univ., CA, 1976

Maurice, John H
Mgr/Server Administration

Maxwell, Michele L
Spec/Student Res
AB, Linguistics, Univ. Michigan Ann Arbor, MI, 1987
MBA, Management, Boston C, MA, 1992

McCoy, Patricia A
Spec/Student Res
BS, Political Science, Portland State Univ., OR, 1999
MS, Education, Portland State Univ., OR, 2004

McDowell, Michael J
Instr/Comp & Lit
AB, English, Stanford Univ., CA, 1973
MA, English, Univ. of Virginia, 1975
PHD, English, Univ. of Oregon, OR, 1992

McEwen, Randall J
District Vice President
BS, Electrical Engineering, Stanford Univ., CA, 1970
MS, Electrical Engineering, Stanford Univ., CA, 1970

McKee, John V
Div Dean
BA, Social Science, Alaska Pacific Univ., AK, 1982
MA, Teaching, Alaska Pacific Univ., AK, 1985
EDD, Community College Leadership, Oregon State Univ., OR, 2001

McKenna, Ruth
Counselor
BA, Social & Behavior Studies, Univ. S Florida, FL, 1984
MA, Counseling Psychology, Lewis & Clark College, OR, 2002

McLaughlin, J C
Spec/Student Res
BA, Liberal Arts, Christian Heritage College, CA, 1996

McMillen, Rachel E
Coord/Resource Ctr
BA, English, Univ. of CA/ Santa Barbara, CA, 1992
MS, Career Counseling, California St U, Northridge, CA, 2002

McMurry, Melody L
Instr/Sociol
BS, Sociology, Portland State Univ., OR, 1975
MST, Sociology, Portland State Univ., OR, 1983
EDD, Educational Leadership, Portland State Univ., OR, 1996

McNerthney, Alexie M
Instr/Biology
BS, Zoology, Univ. of Washington, WA, 1986
MS, Zoology, Colorado State Univ., CO, 1991

McRobert, Bradley A
Spec/Instructional Comp
BS, Psychology, Univ. of Oregon, OR, 1981

Mead, Tanya G
Instr/Education
BA, Russian, Colby C, ME, 1988
BA, English, Colby C, ME, 1988
MA, Intercultural Relations, Antioch Univ. McGregor, OH, 2003

Memmott, Tracie D
Spec/Student Res
BS, Psychology, Eastern Oregon Univ., OR, 1996

Menchu, Luis A
Web Services Manager
BS, Aeronautical Engineering, Texas A & M Univ., 1985
MBA, Marketing, City Univ. of Seattle, 1997

Merrick, Danny R
Instr/Welding
ACERT, Welding, Tulsa Welding School, 1973
ACERT2, Welding, Portland CC, OR, 1998
ZDC, Welding, Portland CC, OR, 2004

Mery, John C
Instr/Music
BM, Music, Univ. of Arizona, AZ, 1993
MM, Music, Univ. of Arizona, AZ, 1996

Mesa, Henry A
Instr/Math
BS, Mathematics, CA Polytechnic State U, CA, 1993
MS, Mathematics, Northern Arizona Univ., AZ, 1995

Metcalf, Elizabeth A
Instr/Arch Drafting
BARC, Architecture, Washington St Univ., WA, 1981
BS, Architecture, Washington St Univ., WA, 1981
MA, Architecture, Univ. of Idaho, ID, 1988

Meyer, Marshall J
Instr/Pers Health
BS, Health Education, Univ. of Oregon, OR, 1976
MS, Health Education, Portland State Univ., OR, 1983

Michalczyk, Catherine M
Coord/Bus Trng & Ed Dev
AS, Nursing, Univ. Guam, OT, 1978
BS, Science, Portland State Univ., OR, 1985
MA, Anthropology, Portland State Univ., OR, 1989

Michel, Claudia
Dir/Nursing
BS, Nursing, Loma Linda Univ., CA, 1975
MN, Nursing, Oregon Health Science U, OR, 1983

Michelson, Brooke M
Spec/Acad Advising

Mickel, Rebecca A
Instr Nursing
MS, Nursing, Univ. of Phoenix, AZ.
AGS, Nursing, Linn Benton CC, OR, 1988
BSN, Nursing, Oregon Health Science U, OR, 2001

Mikhailov, Slava
Spec/Student Res
BA, Russian, Univ. of Oregon, OR, 1992

Millard, Dominique R
Instr/ESOL
BA, French, Univ. of Minnesota, 1991
CERT, Teaching ESL, Hamline U, MN, 1992
MA, English as a Second Language, Univ. of Arizona, AZ, 1996

Miller, Fred C
Instr/Psych
BS, Psychology, Pacific Univ., OR, 1973
MS, Education, Portland State Univ., OR, 1981

Miller, Hadiyah K
Instr/Early Educ & Fam Studies
BA, Psychology, Mills College, CA, 1979
MA, Human Development, Pacific Oaks College, CA, 2000

Miller, Tatro, Pamela
Counselor
BS, Psychology, Portland State Univ., OR, 1984
MA, Counseling Psychology, Lewis & Clark College, OR, 1986

Mills, Teri A
Instr/Nursing
AA, Nursing, College of San Mateo, CA, 1973
BS, Nursing, Sonoma State Univ., CA, 1976
MS, Nursing, Univ. of Portland, OR, 1980

Minkin, Leonid M
Instr/Physics
BS, Physics, Saratov State Univ, 1961
MS, Physics, Saratov State Univ, 1962
PHD, Physics, Saratov State Univ, 1968
MS, Environmental Science, Oregon Graduate Institute, OR, 1992

Minor, Gratia E
Spec/Student Res
ZDC, ENNL, Portland CC, OR, 2005

Mintz, Mario
Mgr/Tech Solutions Services

Miranda, Marcos K
Coord/Employment Spec
AA, Humanities, Co C Morris, NJ, 1989
BA, Political Science, Montclair St C, NJ, 1992
MA, Political Science, Rutgers St Univ. NJ Newark, NJ, 1995

Mitchell, Libardo
Instr/World Lang/Spanish
BA, Spanish, Washington St Univ., WA, 1992
MA, Spanish, Washington St Univ., WA, 1994

Montoya, Lynn
Dir/Stud Suppt Ser Prog
BA, Community Serv Public Affairs, Seattle Univ., WA, 1975
MED, Curriculum & Instruction, Chapman Univ., CA, 1997

Moore, Diane E
Instr/Comp Appl/Office Syst
BS, Business Administration, Portland State Univ., OR, 1972
MST, Business Education, Portland State Univ., OR, 1975

Moore, J Kenneth
Instr/Crim Justice
BS, Education, Univ. of Texas El Paso, 1968
MED, Education, Univ. of Texas El Paso, 1970

Moore, Julie S
Instr/Interp Trng
AB, Latin, Oberlin C, OH, 1969
MA, Interdisciplinary Studies, Antioch C Main Camp, OH, 2002

Moore, Mary B
Human Resource Rep
BS, Business Administration, City Univ. of Seattle, 1989

Morales, Walter T
Instr/Comp Sci
BA, Computer Science, Western Oregon Univ., OR, 1987
MS, Interdisciplinary Studies, Western Oregon Univ., OR, 1989

Morfin, Jessica M
Spec/Acad Advising
BS, Psychology, Oregon State Univ., OR, 1994
MS, Ed Policy,Foundation & Admin, Portland State Univ., OR, 2000

Morgan, Clifford J
Admissions Specialist
BS, Communication, Montana State U/Bozeman, MT, 1975

Morgan, Samuel W
Instr/Vis Arts
BFA, Studio Arts, Univ. Colorado Boulder, CO, 1993
MFA, Ceramics, Alfred U, NY, 1996

Morgan, Scott A
Instr/Auto Serv Tech
AA, Oregon Transfer, Portland CC, OR, 1999

Morrow, Michael W
Coord/Child Care Srvcs
BA, Political Science, California St U, L.A., CA, 1969
MA, Education, Concordia C St Paul, MN, 2000

Mostafavi, Seyed A
Instr/Comp Info Sys
MS, Business Education, Portland State Univ., OR, 1981

Mulligan, Diane L
Dean/Student Dev
BS, Community Serv Public Affairs, Univ. of Oregon, OR, 1974
MS, Curriculum & Instruction, Univ. of Oregon, OR, 1979
PHD, Educational Policy & Mgmt, Univ. of Oregon, OR, 1994

Murphy, V A
Spec/Learning Skills
BA, History, Lewis & Clark College, OR, 1980

Murray, Pamela K
Div Dean
BS, Management, Univ. of Oregon, OR, 1984
BS, Marketing, Univ. of Oregon, OR, 1984
MPA, Public Administration, Univ. of San Francisco, CA, 1991

Muzos, Janet R
Instr/Math
BS, Education: Math, Univ. of IL atUrbana, Champaign, IL, 1967
MA, Education, Chapman Univ., CA, 1971
MS, Mathematics, Portland State Univ., OR, 1983

Neal, Miron W
Instr/Comp Info Sys
BS, Business Administration, San Francisco State U, CA, 1990
MBA, Business Administration, Portland State Univ., OR, 1992

Neill, Sara M
Spec/Student Res
BS, Psychology, Lewis & Clark College, OR, 1990
MA, Counseling Psychology, Lewis & Clark College, OR, 1995

Nelson, Kenneth A
Mgr/Central Dist Srvcs

Nelson, Sara R
Spec/Employment
BA, Studio Arts, Univ. of Puget Sound, WA, 1994
BA, Politics & Government, Univ. of Puget Sound, WA, 1999
BA, Art, Univ. of Puget Sound, WA, 1999
BA, Government, Univ. of Puget Sound, WA, 1999
MBA, Business Administration, Willamette Univ., OR, 2004

Neps, Alexandra J
Instr/Biology
BS, Biology, Univ. St Francis, IL, 1996
BA, Psychology, Univ. St Francis, IL, 1996
MST, Biology, Portland State Univ., OR, 2001

Neuburger, Kimberly A
Instr/Math
BS, Mathematics, Portland State Univ., OR, 1992
MST, Mathematics, Portland State Univ., OR, 1994

Newby, Jennifer L
Mgr/ABS Program
BA, Spanish, Whitman College, WA, 1992
BA, Foreign Language, Whitman College, WA, 1992
MA, Foreign Language, Washington St Univ., WA, 1995
MA, Literature, Washington St Univ., WA, 1995

Nhun, Cheryl
Spec/Employment
BS, Psychology, Lewis & Clark College, OR, 1995

Nicholson, Jill P
Instr/Alt Prg/Bilingual
BA, French, Univ. of California/Berkeley, CA, 1986
MAT, Tesol, Sch Intrnatl Training, VT, 1995
MAT, French, Sch Intrnatl Training, VT, 1995

Nickerson, Robert E
Spec/Employment
BA, Political Science, Howard Univeristy, DC, 1972
MED, Education, Oregon State Univ., OR, 1974

Nording, April A
Spec/Student Res
BA, Foreign Language, Univ. of Oregon, OR, 1984

Norris, Susan G
Instr/Comp Info Sys
BS, Business Administration, Portland State Univ., OR, 1976
MBA, Business Administration, DePaul U, IL, 1978

Norton, Sharlene K
Supv/Telecommunications Srvcs
BA, Interdisciplinary Studies, Marylhurst Univ., OR, 1988

Nunez, Ellen E
Instr/ABE/GED
BS, Liberal Studies, Oregon State Univ., OR, 1990
MED, Adult Education, Oregon State Univ., OR, 2001

O'Connor, Maureen E
Instr/Phys Ed
BS, Physical Education, Bradley U, IL, 1974
MST, Physical Education, Portland State Univ., OR, 1979

O'Rielly, Lily S
Instr/Dev Ed/Math
BS, Mathematics, SUNY C Fredonia, NY, 1971
MS, Mathematics, SUNY C Fredonia, NY, 1976

O'Shaughnessy, Kathleen K
Instr/Comp & Lit
BA, English, Tufts U, MA, 1973
MA, English, Univ. New Hampshire, NH, 1974
MFA, Creative Writing, Univ. N Carolina Greensboro, NC, 1986

Obradovich, Anthony F
Instr/Psych
BA, Psychology, Gonzaga Univ., WA, 1976
MA, Psychology, Ohio St Univ Main Office, OH, 1982
PHD, Psychology, Ohio St Univ Main Office, OH, 1990

Oliveros, D Claire
Coord/Rete Multicultural
BA, Speech Communication, Western Oregon Univ., OR, 1995
ZDC, Education, Portland CC, OR, 1998
MS, Ed Policy,Foundation & Admin, Portland State Univ., OR, 1998
ZDC, Womens Studies, Portland CC, OR, 1998

Olson, Brian
Dir/Bus & Industry Center
BS, Biology, Washington St Univ., WA, 1978
MBA, Business Administration, City Univ. of Seattle, 1995

Olson, Margaret L
Spec/Employment
BS, Human Resource Management, George Fox Univ., OR.
MS, Education Counseling, Portland State Univ., OR, 1993

Ottwell, Kenneth
Instr/Diesel Serv Mech
AA, Diesel Mechanics, Bailey Tech Inst, MO,

Ouchida, Bart D
Instr/Auto Serv Tech

Pace, Gayle
Instr/Comp Appl/Office Syst
BA, Education, Pacific Lutheran U, WA, 1965
MA, Business, Western Washington Univ, WA, 1970

Page, Dwight M
Instr/Trade Extension
AS, Electronic Engineering Tech, Oregon Inst of Technology, OR, 1975
AS, Vocational Education, Portland CC, OR, 1986
AAS, Industrial Technology, Portland CC, OR, 1986

Palmer, Gary D
Program Manager II
BA, English, SUNY C Buffalo, NY, 1973
MA, Education, Univ. of Michigan, 1977

Palmer, Wendy M
Coord/Access Resources
AA, General Studies, Portland CC, OR, 1980
BA, Social Science, Portland State Univ., OR, 1984
MS, Special Education, Portland State Univ., OR, 1991

Pangburn, Wendy C
Spec/Employment

Parks, James R
Instr/Crim Justice
BS, Admin of Justice, American Univ., 1976
JD, Law, Lewis & Clark College, OR, 1990

Parr, Michelle R
Spec/Employment

Passalacqua, Michael
Instr/Comp Appl/Office Sys
BS, Information Systems, San Diego State Univ., CA, 1982

Paull, Christine L
Coord/Women's Resource
AA, Humanities, Portland CC, OR, 1990
BA, English, Portland State Univ., OR, 1993
MSW, Social Work, Portland State Univ., OR, 1995

Peden, Kelly J
Instr/Comp Appl/Office Syst
BS, Business Education, Oregon State Univ., OR, 1982
MED, Business Education, Oregon State Univ., OR, 1988

Pelinka, David L
System Analyst

Perry, Jeffrey S
Instr/Math
BA, Mathematics, California St U, Long Beach, CA, 1975
MA, Mathematics, California St U, Long Beach, CA, 1978

Persen, John A
Coord/MWESB Procurement
BS, Business Administration, Warner Pacific College, OR, 1994

Persson, Katherine B
Campus President/Rock Creek
BS, Biology, Texas State Univ, TX, 1973
MS, Biology, Texas Womans U, TX, 1982
PHD, Educational Administration, Univ. of Texas Austin, 2002

Peterson, Carolyn K
Instr/Education
BA, Spanish, Syracuse Univ. Main Camp, NY, 1971
MA, Education, Library/Media Assist, Portland State Univ., OR, 1994

Pfund, Nerva O
Spec/Student Res
BA, Management, George Fox Univ., OR, 1998
MA, Ed Policy,Foundation & Admin, Portland State Univ., OR, 2001

Phillips, Steven H
Instr/Aviation Maint Tech
AAS, Aviation Maintenance Tech, Lane CC, OR, 1980
AAS, Aviation Science, Lane CC, OR, 1980
AAS, Aviation Maintenance Technolgy, Portland CC, OR, 2001

Pilgrim, Nancy C
Instr/Dental Hyg
BA, Chemistry, Bemidji State Univ., MN, 1978
DDS, Dentistry, Univ. of Minnesota, 1982

Pilkington, Roxanne L
International Stdnt Advisor
AA, General Studies, Portland CC, OR, 1999
BS, Social Science, Portland State Univ., OR, 2005

Pinkal, Jason J
Spec/Acad Advising
BS, Psychology, Willamette Univ., OR, 1997

Pinyas, Maribel
Instr/World Lang/Spanish
BA, Romance Languages, Univ. of Oregon, OR, 1987
MA, Romance Languages, Univ. of Oregon, OR, 1989

Piper, Jennifer
Supv/PE Facil/Sports Athletics
BS, Recreation, Tourism, Mgmt, Des, Univ. of Oregon, OR, 1995
MED, Curriculum & Teacher Leadershi, Miami Univ. Oxford Camp, OH, 2001

Pitzer, Nancy A
Spec/Coop Ed/Stdnt/Employment
CERT, Advanced Mgmt/Supervisory Dev, Portland CC, OR, 2001
BA, Behavioral Science, George Fox Univ., OR, 2005
BA, Social Science, George Fox Univ., OR, 2005

Polson, Dorothy M
Instr/Dev Ed/Math
BA, Elementary Education, Univ. of IL at Urbana, Champaign, IL, 1980
BA, French, Univ. of IL at Urbana, Champaign, IL, 1980
MED, Reading Specialist, Univ. of IL at Urbana, Champaign, IL, 1985
MA, Mathematics Education, Fresno Pacific College, CA, 2001

Pontius, Amy D
Spec/Employment
BS, Communications, Southern Oregon Univ., OR.

Poppe, Nancy E
Campus President/Extend Learn
BA, Psychology, San Diego State Univ., CA, 1974
BA, Social Work, San Diego State Univ., CA, 1974
MSW, Social Work, California St U, Fresno, CA, 1978
EDD, Education, Oregon State Univ., OR, 1995

Potter, Amy J
Spec/Sr Comm Res/Bilingual
BA, Sociology, Carleton C, MN, 1996
BA, Anthropology, Carleton C, MN, 1996

Proctor, Abraham
Campus Community Relations Off
BS, English, Willamette Univ., OR, 1995

Pryor, Marshall V
Instr/Aviation Maint Tech
AAS, Aviation Maintenance Technolgy, Portland CC, OR, 1973

Pryor, Robert H
Instr/Speech/Theater
BA, Speech Communication, Purdue Univ., IN, 1973
MA, Speech Communication, Purdue Univ., IN, 1978

Pulliams, Preston
District President
AS, Science, Muskegon Co CC, MI, 1966
BS, Social Science, Michigan State Univ., 1968
MA, Counseling and Personnel, W Michigan U, MI, 1973
EDD, Education, Univ. Michigan Ann Arbor, MI, 1976

Puris, Eriks M
Instr/Phys Sci
BS, Geology, Univ. of Puget Sound, WA, 1985
PHD, Geophysical Sciences, Univ. Chicago, IL, 1994

Pursell, Juliet A
Instr/ABE/GED
BA, History, Oberlin C, OH, 1993
MA, Tesol, Portland State Univ., OR, 1999

Quast, Sue A
Mgr/Dist Ed Production
BFA, Advertising Design, Boise State Univ., ID, 1985

Quay, Gretchen M
Spec/Learning Skills
BS, Elementary Education, Portland State Univ., OR, 1976

Query, Lovina M
Instr/Phys Ed
BA, Mathematics, Willamette Univ., OR, 1967
MST, Physical Education, Portland State Univ., OR, 1984

Quinn, Scott P
Instr/Comp Info Sys
BA, General Studies, The Evergreen St College, WA, 1975
MS, Telecommunications, Univ. Denver, CO, 1997

Quirk, Anne K
Spec/Employment
BS, Physical Education, Univ. of Oregon, OR, 1973

Radakovich, Karen M
Instr/Chem
BS, Chemistry, Oregon State Univ., OR, 1996
PHD, Chemistry, Oregon State Univ., OR, 2005

Radford, Loren E
Instr/Landscape
BS, Agriculture, Cornell Univ. Cntl Off, NY, 1977
MPS, Agriculture, Cornell Univ. Cntl Off, NY, 1982

Ramanujam, Usha R
Instr/Bus Admin
MS, Accounting, SUNY Albany, NY, 1989

Ramirez, Davina N
Instr/ESOL
BA, Linguistics, Univ. of CA/Santa Cruz, CA, 1995
MA, Linguistics, Univ. of CA/Santa Cruz, CA, 1999

Randall, Vernell K
Spec/Employment
BS, Industrial Technology, S Illinois Univ. Carbondale, IL, 1992
MS, Workforce Education, S Illinois Univ. Carbondale, IL, 1995

Rank, Janice L
Instr/Psych
BA, Psychology, Northwest Nazarene College, ID, 1973
MA, Education, California St U, Hayward, CA, 1977
MS, Psychology, California St U, San Brndno, CA, 1991

Raper, Porter G
Instr/Comp & Lit
BA, Philosophy, C William & Mary, VA, 1984
MFA, Creative Writing, Virginia Commonwealth U, VA, 1990

Rapp, Gregory J
Instr/Bus Admin
BA, Economics, Pacific Lutheran U, WA, 1985
MBA, Business Administration, Portland State Univ., OR, 1991

Reardon, Verna D
Instr/Comp Appl/Office Syst
ZATA, Secretarial Science, Lower Columbia C, WA, 1967
ZATA, Technical Arts, Lower Columbia C, WA, 1967
BED, Business Education, Western Washington Univ, WA, 1971
MBA, Business Administration, George Fox Univ., OR, 1995

Redd, Tina
Instr/Comp & Lit
BA, Drama, Univ. Missouri Cntl Adm Off, MO, 1989
MA, English & American Literature, S Illinois Univ. Edwardsville, IL, 1993
MA, English, S Illinois Univ. Edwardsville, IL, 1993
PHD, Drama, Univ. of Washington, WA, 1996

Redifer, Lee Ann
Instr/Dental Asst
AGEN, Cosmetology, Mt. Hood CC, OR, 1999
ZDC, Dental Assisting, Portland CC, OR, 2007

Reed, Donna L
Dir/Library Srvcs
BA, French, Duke U, NC, 1975
MLS, Library & Information Science, EmporiaState Univ., KS, 1996

Reisinger, Julia L
Advisor/Fin Aid
BS, Communication, Cornell Univ. Cntl Off, NY, 1989
MS, Physical Education, Univ. of Oregon, OR, 1991
MS, College Student Personnel, Univ. of Portland, OR, 1995

Reisser, Linda
Dean/Student Dev
BA, English, Univ. of CA/ Santa Barbara, CA, 1968
MED, Counseling & Guidance, Univ. of CA/ Santa Barbara, CA, 1970
EDD, Higher Education, Univ. Massachusetts Amherst, MA, 1973

Rendar, Byron M
Spec/Instructional Comp
AB, Mathematics, Cornell Univ. Cntl Off, NY, 1967
MS, Computer Science, Univ. Wisconsin Madison, WI, 1969

Reyes, Nery I
Spec/Comm Resource

Reynolds, Dennis L
Instr/Math
BS, Mathematics, Univer of Texas San Antonio, 1994
MS, Mathematics, Univer of Texas San Antonio, 1997

Rice, Stephen M
GtoC Program Developer
BA, Communication, Univ. Missouri Cntl Adm Off, MO, 1992

Richardson, Kathleen
Instr/Biology
BA, Bacteriology, UCLA Los Angeles, CA, 1972
MS, Microbiology, San Diego State Univ., CA, 1976
PHD, Microbiology, UCLA Los Angeles, CA, 1981

Riches, Susan A
Coord/Stud Ldrshp
BS, Child Developt & Family Life, Oregon State Univ., OR, 1974
BS, Economics with Communication, Oregon State Univ., OR, 1974
MS, Ed Policy,Foundation & Admin, Portland State Univ., OR, 2002

Ridgley, Raymond E
Instr/Dental Tech
AAS, Dental Technology, Portland CC, OR, 1981

Riester, Leslie C
Associate VP/Technology
AB, Journalism, Univ. Michigan Ann Arbor, MI, 1974
MA, Journalism, Univ. Colorado Boulder, CO, 1978
MLS, Information Systems, Univ. Michigan Ann Arbor, MI, 1989

Rigsbee, Denise A
Instr/Medical Assisting
ACERT2, Practical Nursing, Cabrillo College, CA, 1978

Ring, Jeffery R
Mgr/Library Tech
BA, French, Calvin C, MI, 1989

Rink, Doris G
Instr/Nursing
MS, Nursing, Gonzaga Univ., WA, 2000

Rinker, Suellen L
Spec/Acad Advising
BA, Psychology, Central Washington U, WA, 1972
MA, Counseling & Guidance, Univ. of Sarasota, FL, 2002

Ritchie, Donald N
Spec/Acad Advising
BS, Technical Journalism, Oregon State Univ., OR, 1978
MS, Counseling, Portland State Univ., OR, 2003

Rivas, Ishmael D
Instr/CAT Dealer Svc Tech Trg

Roberts, Prudence F
Instr/Art Hist & Studio Art
BA, Liberal Arts, Sarah Lawrence C, NY, 1971
MA, Liberal Studies, Reed College, OR, 1998

Robertson, Kal J
Dir/Emergency Services Progs
BS, Home Economics Education, Alcorn St U, MS, 1973
MS, Education, Portland State Univ., OR, 1982

Robertson, Thomas E
Instr/Biology
BS, Natural Resources Management, Ohio St Univ. Main Cam, OH, 1974
MS, Biology, Univ. Minnesota Duluth, MN, 1980
PHD, Animal Ecology, Iowa State Univ., IA, 1987

Rochelle, Shari L
Instr/Pers Health
BA, French, Oregon State Univ., OR, 1988
BS, Physical Education, Oregon State Univ., OR, 1988
MPH, Health Education, Portland State Univ., OR, 1997

Rodriguez, Adrian J
Counselor
BA, Spanish, Southern Oregon Univ., OR,
MED, Counseling, Northern Arizona Univ., AZ, 1995

Rodriguez, Jaime P
Spec/Employment
AA, Liberal Studies, Fresno City College, CA, 1985
BA, Public Aid, California St U, Fresno, CA, 1988

Rodriguez, Luis E
Spec/Employment
BA, International Studies, Portland State Univ., OR, 1999

Rodriguez, Narcedalia
Dean/Student Dev
BA, Sociology, Oregon State Univ., OR, 1988
MA, Interdisciplinary Studies, Oregon State Univ., OR, 1994

Rodriguez-Garcia, Luis E
Coord/Academic Advising
BA, Anthropology, Oregon State Univ., OR, 1997
BA, Spanish, Oregon State Univ., OR, 1997

Roe, Christopher R
Accountant I
BS, Business Administration, Southern Oregon Univ., OR, 1987

Roessler, Andrew J
Coord/Education
BA, International Studies, Univ. of Oregon, OR, 1994
BA, Spanish, Univ. of Oregon, OR, 1994
CERT, Tesol, Oregon State Univ., OR, 2006
MED, Adult Education, Oregon State Univ., OR, 2007

Rognlie, Jane E
Ref Librarian
BED, Elementary Education, Univ. of New Mexico, 1975
MA, Librarian, Univ. Denver, CO, 1976

Romanski, Consuelo B
Instr/Comp & Lit
BA, Psychology, SUNY Buffalo Main Camp, NY, 1972
MA, Humanities, SUNY Buffalo Main Camp, NY, 1974
PHD, Education, UCLA Los Angeles, CA, 1987

Roper, Nancy L
Instr/Math
BS, Mathematics Education, Western Oregon Univ., OR, 1972
MS, Mathematics, Portland State Univ., OR, 1990

Rose, Darin J
Supv/Food Srvcs

Ross, Ronald E
Instr/Comp & Lit
BA, English Literature, Univ. of Arizona, AZ, 1986
MA, English Literature, Northern Arizona Univ., AZ, 1993

Roy, Denise A
Instr/Arch Drafting
BS, Family Economics & Management, S Illinois Univ. Carbondale, IL, 1974
MUP, Urban and Regional Planning, Univ. of Oregon, OR, 1978
MAR, Architecture, Univ. of Oregon, OR, 1979

Rue, Melissa K
Instr/Comp & Lit
BA, English Literature, Miami Univ. Cntl Off, OH, 1993
MA, English, Portland State Univ., OR, 1997

Russ, Velvet S
Spec/Employment
AA, Medical Assisting, IntelliTec College, 1998

Sackman, Paul D
Instr/Auto Serv Tech
ACERT2, Automotive Service Tech, Portland CC, OR, 1986

Sacramento, Ana P
Instr/Med Lab Tech
BS, Environmental Science, New Univ of Lisbon, PORTUGAL, 1986
MS, Environmental Engineering, New Univ of Lisbon, PORTUGAL, 1991
MS, Environmental Engineering, Univ. of Leeds, England, 1991
AAS, Medical Laboratory Technology, Portland CC, OR, 2001

Sahim, Daud M
Spec/Employment
BS, Business Education, Brigham Young Univ. Hawaii, UT, 1966
MED, Educational Psychology, Univ. Hawaii Sys Off, HI, 1972

Saito, John S
Div Dean
BS, Biology, Univ. Hawaii Manoa, HI, 1975
MPH, Environmental & Int'l Health, Univ. Hawaii Manoa, HI, 1982

Salinas, Teresa
Coord/Stud Outreach Orient
BS, Business Administration, Portland State Univ., OR, 1991

Sammler, Steven W
Spec/Employment
BA, Speech Communication, Univ. of Oregon, OR, 1974

Sanders, Karen M
Div Dean
BA, History, Concordia C Moorhead, MN, 1988
BA, Political Science, Concordia C Moorhead, MN, 1988
MAT, Adult Education, Alaska Pacific Univ., AK, 1995

Sanders, Larry L
Instr/Biology
BS, Biology, Portland State Univ., OR, 1971
MS, Biology, Portland State Univ., OR, 1976

Sanders, Todd M
Instr/Mech Eng
BS, Civil Engineering, Michigan State Univ., 1989
MS,, Univ. Delaware, DE, 1994
PHD, Oceanography, Univ. Delaware, DE, 1999

Sandquist, Jackie L
Dir/WorkforceDevProg
BA, History, La Sierra Univ., CA, 1991
BA, Political Science, La Sierra Univ., CA, 1991
MED, Secondary Education, Western Oregon Univ., OR, 1995

Sarmiento, Rodolfo D
Mgr/Budget
BS, Accounting, Univ. of Santo Tomas, 1967

Sartin, Cynthia D
Spec/Club and Programs
BS, Psychology, Portland State Univ., OR, 2004

Schleinkofer, Gary F
Spec/Instructional Comp

Schmitt, Robert F
Mgr/Media Services

Schneider, Alisa L
Instr/Nursing
MN, Nursing Administration, George Mason U, VA, 2005

Schneider, Arthur
Div Dean
AA, General Education, Diablo Valley College, CA, 1973
BS, Business Administration, California St U, Chico, CA, 1976
BA, Business Education, California St U, Chico, CA, 1981
MS, Counseling, California St U, Hayward, CA, 1990

Schneider, James P
Instr/Chem
BS, Physics, Univ. Wisconsin Eau Claire, WI, 1986
MS, Materials Science and Engr, Univ. Wisconsin Madison, WI, 1991
MS, Chemistry, Univ. Wisconsin Madison, WI, 1998

Schneider-Anthony, Monica H
Instr/Psych
BS, Occupational Therapy, W Michigan U, MI, 1972
MA, Counseling, Ball St U, IN, 1975
PHD, Industrial Psychology, U.S. International U, CA, 1999

Schramm, Sandra A
Dir/Occupational Programs
BS, Home Economics Education, Texas Tech U, TX, 1969
MA, Rehabilitation Counseling, California St U, Fresno, CA, 1977

Schroeder, Vicki
Instr/Physics
PHD, Geophysics, Univ. of Washington, WA, 2000

Schroetke, Samuel S
Spec/Student Res
BA, Arts & Letters, Portland State Univ., OR, 2006

Schwartz, Gail B
Grants Officer
BA, General Studies, Portland State Univ., OR, 1984
MA, Ethnomusicology, UCLA Los Angeles, CA, 1992

Scott, Cheryl L
Div Dean
BS, Sociology, Univ. of Oregon, OR, 1982
MBA, Management, Augusta State Univ., GA, 1985
PHD, Education, Oregon State Univ., OR, 2005

Scott, Matthew J
Instr/Welding
AAS, Welding Technology, Univ. Alaska Anchorage CC, AK, 1986
BS, Education, Northern Arizona Univ., AZ, 1989

Scott, Victoria L
Ref Librarian
BA, Liberal Arts, The Evergreen St College, WA, 1980
MA, English, Univ. of Washington, WA, 1988
MLS, Library Science, Univ. of Washington, WA, 1996

Seaman, Peter
Online Development Facilitator
BS, Government, US Coast Guard Acad, CT, 1986
MS, Instructional Systems Tech., Indiana Univ. Bloomington, IN, 2001

Seder, Phillip A
Instr/Bus Admin
BS, Transportation and Logistics, Univ. of Oregon, OR, 1981
MBA, Business, Columbia Univ, City of N Y, NY, 1990

Selander, Judith A
Instr/Dev Ed/Engl
BS, Elementary Education, Univ. of Minnesota, 1971
MS, Counseling, California St U, Long Beach, CA, 1979

Semura, Patricia M
Instr/Speech
BED, Speech, Univ. Hawaii Manoa, HI, 1964
MA, Speech, Univ. Hawaii Manoa, HI, 1996

Sengdeng, Kristin D
Spec/Student Res
BS, Social Science, Boise State Univ., ID, 2000
MS, Ed Policy,Foundation & Admin, Portland State Univ., OR, 2004

Severson, Mary J
Mgr/Registration Svcs
BA, Religion, Augustana C, SD, 1977
BA, German, Augustana C, SD, 1977
MA, Systematics, Luther Theol Sem, MN, 1985

Shannon, Kelly P
Occup Cluster Trainer

Shapiro, Robin
Ref Librarian
AA, Liberal Arts, St Petersburg JC, FL, 1983
BA, English, Univ. S Florida, FL, 1993
MLS, Library Science, Univ. N Carolina Chapel Hill, NC, 1997

Shaw, John C
Instr/Telecommunications
AGEN, General Studies, Yakima Valley CC, WA, 1993
BBA, Management, American Intercontinental U, GA, 2005
MED, Instructional Technology, American Intercontinental U, GA, 2006

Shaw, John M
Instr/Hist
BA, History, Thomas Edison C, NJ, 1995
MA, American Indian Studies, Univ. of Arizona, AZ, 1997
PHD, US History, Univ. of Arizona, AZ, 2004

Shea-Ruddell, Mary E
Instr/Dev Ed/ABE
BS, Elementary Education, S Illinois Univ. Carbondale, IL, 1976
MS, Rehabilitation Counseling, S Illinois Univ. Carbondale, IL, 1978

Sheehey, Lucy L
Spec/Learning Skills
AB, Journalism, Humboldt State Univ., CA, 1973
MFA, Creative Writing, Univ. of Oregon, OR, 1979

Shelden, Wendy A
Instr/Nursing
BS, Nursing, E Michigan U, MI, 1977
MN, Family Nurse Practitioner, Oregon Health Science U, OR, 1997

Shelley, Christopher W
Instr/Hist
BS, History, Portland State Univ., OR, 1994
MA, History, Portland State Univ., OR, 2002

Sherer, Margaret
Instr/Nursing
BA, Biology, Wittenberg U, OH, 1976
BSN, Nursing, Northwestern U, IL, 1980
MS, Nursing, Oregon Health Science U, OR, 1995

Shingledecker, Diane G
Instr/Comp Appl/Office Syst
BA, Psychology, Lafayette C, PA, 1984
MAT, Education, Monmouth C, NJ, 1989

Shmakov, Kristine L
Instr/World Lang/Russian
BA, Russian, Univ. of Oregon, OR, 1990
MA, Russian, Univ. of Washington, WA, 1993

Siebold, Stefanie
Mgr/Workforce Dev
BS, Management, Bellevue College, 2006

Sien, Louis
Spec/Employment

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Instr/Comp & Lit
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AA, General Studies, El Camino College, CA, 1968
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BS, Art, Western Oregon Univ., OR, 1982
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AB, Political Science, Whitman College, WA, 1971
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MS, Applied Information Mgmt, Univ. of Oregon, OR, 1998

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BBA, Marketing, Univ. Florida, FL, 1975
MST, Mathematics, Portland State Univ., OR, 1982

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BA, English, S Connecticut St C, CT, 1974
MA, English, Ohio Univ., OH, 1976

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BA, History, Univ. Hawaii Honolulu CC, HI, 1972

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MS, Management, Marylhurst Univ., OR.
BS, Management, Marylhurst Univ., OR, 1985
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BA, Liberal Studies, Spring Hill C, AL, 1992
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Instr/Bldg Trades
BS, Physical Education, CA St Polytechnic U, Pomona, CA, 1970

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BA, Biology, Yale U, CT, 1994
MA, Individualized Program, Univ. of Oregon, OR, 1996
MD, Medicine, Oregon Health Science U, OR, 2001

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AS, General Studies, Portland CC, OR, 2000
BS, Social Science, Portland State Univ., OR, 2004

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AA,Oregon Transfer, Portland CC, OR, 1993

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BA, English Literature, Reed College, OR, 1995
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MA, Applied Behavioral Science, Bastyr College, WA, 1999

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MS, Psychology, Portland State Univ., OR, 1976

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Coord/Admissions
BA, Philosophy, Fordham U, NY, 1992

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MA, Comparative Literature, Univ. Wisconsin Madison, WI, 1994
MA, African Languages & Literature, Univ. Wisconsin Madison, WI, 1996
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MA, Counseling, Univ. N Carolina Charlotte, NC, 1995

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BA, Education, Arizona State Univ. Main, AZ, 1969

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BA, Mgmt Of Human Resources, George Fox Univ., OR, 1994
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AA, Accounting, Mission College, CA,

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BA, Human Services, Western Washington Univ, WA, 1999

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BA, Humanities, Univ. of California/Irvine, CA, 1973
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BA, Organization and Management, George Fox Univ., OR, 2002

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Instr/Biology
BS, Biology, Univ. Michigan Ann Arbor, MI, 1990
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MS, Mathematics, Univ. of Oregon, OR, 1987
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BS, Psychology, Ohio Univ., OH, 1968
BS, Electrical Engineering, Univ. Colorado Boulder, CO, 1977
MS, Economics, Portland State Univ., OR, 1994

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BA, German, Portland State Univ., OR, 1982
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AA, Heavy Equipt, Truck & Diesel, SUNY A&T C Alfred, NY, 1988
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BA, Business Economics, Univ. of CA/ Santa Barbara, CA, 1993
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LPN, Nursing, LPN, Clark College, WA, 1978
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BA, Psychology, Oregon State Univ., OR, 1976
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BS, Industrial Arts Education, Oregon State Univ., OR, 1974

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BA, Psychology, St Olaf C, MN, 1977
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BA, Sociology, Portland State Univ., OR, 2002

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MA, Foreign Lit & Language, Portland State Univ., OR, 1998

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BS, Medical Technology, SUNY Albany, NY, 1972
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AAS, Radiologic Tech, Weber State Univ., UT, 1974
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BA, Economics, Univ. of CA/Santa Cruz, CA, 1984
MA, Economics, Univ. of California/Berkeley, CA, 1987
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BS, Nursing, Univ. of Virginia, 1974
MS, Nursing, Univ. Pittsburgh Main Camp, PA, 1976

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BA, Sociology, Willamette Univ., OR, 1973
MS, Education, Portland State Univ., OR, 1991

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AA, Early Childhood Education, Chemeketa CC, OR, 1981
BS, Home Economics, Oregon State Univ., OR, 1984

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BA, English, SUNY Buffalo Main Camp, NY, 1987
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BA, Speech, Univ. of CA/ Santa Barbara, CA, 1968
MA, Speech, Pennsylvania State Univ., 1969
PHD, Speech Communication, Pennsylvania State Univ., 1978

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Instr/Philosophy
ACERT, Education, St Pauls C, DC, 1969
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BA, Arts & Philosophy, Open Univ., 1985
MA, Philosophy, Univ. of Manchester, 1989
PHD, Philosophy, Univ. of Oregon, OR, 1995

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BA, Art, Lewis & Clark College, OR, 1989
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BA, Political Science, Virginia Poly Inst & St UU, V, 1990
BA, International Studies, Virginia Poly Inst & St UU, V, 1990
MA, Public Affairs, Univ. of Minnesota, 1992

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BS, Psychology, Portland State Univ., OR, 1994
MA, Art Therapy, Marylhurst Univ., OR, 2001

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MS, Education, Portland State Univ., OR, 1973

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BA, Communication, Marylhurst Univ., OR, 1995

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BS, Business Education, Oregon State Univ., OR, 1976

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MS, Speech Communication, Portland State Univ., OR, 1998

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BA, History, Willamette Univ., OR, 2000
BA, English, Willamette Univ., OR, 2000
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MS, Speech Communication, Portland State Univ., OR, 1986

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BA, English, Univ. of New Mexico, 1999
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MFA, Literature, Warren Wilson C, NC, 2002

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AGEN, General Studies, Portland CC, OR, 1994

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BS, Information Systems, George Fox Univ., OR, 2002

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Instr/Anthropol
AB, Anthropology, Univ. of California/Berkeley, CA, 1970
MA, Anthropology, Univ. of California/Berkeley, CA, 1973
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BS, Technical Journalism, Oregon State Univ., OR, 1981

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MS, Management, American Univ., 1988
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MLS, Library Science, Univ. of Oregon, OR, 1967
MBA, Business Administration, Portland State Univ., OR, 1982
PHD, Educational Policy & Mgmt, Univ. of Oregon, OR, 1988

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Instr/Apprenticeship
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CERT, Technical Writing, Portland CC, OR, 1997

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MS, Counseling and Edu. Leadership, California St U, L.A., CA, 2004

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BS, Elementary Education, Utah State Univ., UT, 1983
MA, English, Utah State Univ., UT, 1984
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BS, Psychology, Northwest Missouri State U, MO, 1980
BS, Sociology, Northwest Missouri State U, MO, 1980
MS, Sociology, Univ. of Oregon, OR, 1982
AAS, Computer Science, National Univ., CA, 1986
PHD, Sociology, Univ. of Oregon, OR, 1995

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AA, General Studies, Lane CC, OR.
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Instr/Radiography
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BA, History, Univ. of Portland, OR, 1968
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MPA, Public Admin, Harvard U, MA, 1982

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MS, Education, Oregon College of Education OR, 1983

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MS, Chemistry, Univ. of Oregon, OR, 1988

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MA, Ed Policy,Foundation & Admin, Portland State Univ., OR, 1996

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Instr/Chem & Physics
MS, Physics, Portland State Univ., OR, 1996
PHD, ESR, Physics (Envir Studies), Portland State Univ., OR, 1996

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Coord/Fin Aid
BS, Family & Community Services, Univ. Delaware, DE, 1994
MED, Counsel & Develop in Higher Ed, George Mason U, VA, 2000

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Instr/Comp & Lit
AB, English, Princeton U, NJ, 1971
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BS, Science, Portland State Univ., OR, 1980
BS, Health Education, Portland State Univ., OR, 1980

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Instr/Med Lab Tech
AAS, Medical Lab Technology, Portland CC, OR, 1979
BS, Science, Portland State Univ., OR, 1986

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Instr/Psych
BA, Psychology, California St U, Fullerton, CA, 1984
MA, Psychology, Univ. of California/Riverside, CA, 1989

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BA, English, Univ. of CA/ Santa Barbara, CA, 1990
MA, English, Univ. of California/Riverside, CA, 1992
CERT, Tesl, Univ. of California/Riverside, CA, 1992

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AB, Marketing, Northwestern U, IL, 1980
AB, Public Policy & Management, Northwestern U, IL, 1980
MBA, Marketing, Northwestern U, IL, 1982

Zweben, Harry T
Counselor/Rehab Guid
BA, English Literature, Univ. of Oregon, OR, 1991

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