CURRICULUM/GEN ED COMMITTEE
a standing committee of the Education Advisory Committee

Agenda
March 5, 2008
Sylvania CC, Conference Rm B

Information Items from the Curriculum Office:
(These items do not require curriculum committee recommendation)

Experimental Courses:

ART 299 – History of Islamic Art
PS 299 – The 2008 Elections

Inactivations:
None to report

Old Business:

188. EET 111 – Electrical Circuit Analysis I
Course Revision – Description, Requisites, Outcomes

189. EET 112 – Electrical Circuit Analysis II
Course Revision – Description, Requisites, Outcomes

190. EET 113 – Electrical Circuit Analysis III
Course Revision – Title, Description, Requisites, Outcomes

191. EET 188 – Industrial Safety
Course Revision – Description, Requisites, Outcomes

192. EET 221 – Semiconductor Devices/Circuits
Course Revision – Title, Requisites, Outcomes

193. EET 222 – Operational Amplifier Circuits
Course Revision – Requisites, Outcomes

194. EET 223 – RF Communications Circuits
Course Revision – Outcomes

195. EET 260 – Biomedical Equipment I
Course Revision – Requisites

196. EET 261 – Biomedical Equipment II
Course Revision – Requisites

197. EET 280C – BMET Practicum
Course Revision – Description, Requisites

210. TE 9145- Electrical Motor Controls (ELT 201)

Course Revision – Number, Description, Outcomes

218. TE 9201 – AMP ACT I (ELT 250)
Course Revision – Number, Description

219. TE 9202 – AMP ACT II (ELT 251)
Course Revision – Number, Description, Requisite
220. TE 9203 – AMP ACT III (ELT 252)
Course Revision – Number, Description, Requisites

237. TE 9631 – LME Electrical I (APR 101)
Course Revision – Number, Title, Description, Outcomes

238. TE 9632 – LME Electrical II (APR 102)
Course Revision – Number, Title, Description, Requisites, Outcomes

239. TE 9633 – LME Electrical III (APR 103)
Course Revision – Number, Title, Description, Requisites, Outcomes

240. TE 9634 – LME Electrical IV (APR 104)
Course Revision – Number, Title, Description, Requisites, Outcomes

241. TE 9610 – Electrical I: 1st Year, 1st Term (APR 121)
Course Revision – Number, Title, Description, Outcomes

242. TE 9611 – Electrical II: 1st Year, 2nd Term (APR 122)
Course Revision – Number, Title, Description, Requisites, Outcomes

243. TE 9612 – Electrical III: 1st Year, 3rd Term (APR 123)
Course Revision – Number, Title, Description, Requisites, Outcomes

244. TE 9613 – Electrical IV: 2nd Year, 1st Term (APR 124)
Course Revision – Number, Title, Description, Requisites, Outcomes

245. TE 9614 – Electrical V: 2nd Year, 2nd Term (APR 125)
Course Revision – Number, Title, Description, Requisites, Outcomes

246. TE 9615 – Electrical VI: 2nd Year, 3rd Term (APR 126)
Course Revision – Number, Title, Description, Requisites, Outcomes

250. TE 9145 – Electrical Motor Controls (APR 201)
Course Revision – Number, Description, Requisites, Outcomes

251. TE 9636 – LME Electrical VI (APR 202)
Course Revision – Number, Title, Description, Requisites, Outcomes

252. TE 9637 – LME Electrical VII (APR 203)
Course Revision – Number, Title, Description, Requisites, Outcomes

253. TE 9638 – LME Electrical VIII (APR 204)

Course Revision – Number, Title, Description, Requisites, Outcomes

254. TE 9616 – Electrical VII: 3rd Year, 1st Term (APR 221)
Course Revision – Number, Title, Description, Requisites, Outcomes

255. TE 9617 – Electrical VIII: 3rd Year, 2nd Term (APR 222)
Course Revision – Number, Title, Requisites, Outcomes

256. TE 9618 – Electrical IX- 3rd Year, 3rd Term (APR 223)
Course Revision – Number, Title, Description, Requisites, Outcomes

257. TE 9619 – Electrical X: 4th Year, 1st Term (APR 224)
Course Revision – Number, Title, Description, Requisites, Outcomes

258. TE 9620 – Electrical XI: 4th Year, 2nd Term (APR 225)
Course Revision – Number, Title, Description, Requisites, Outcomes

259. TE 9621 – Electrical XII: 4th Year, 3rd Term (APR 226)
Course Revision – Number, Title, Description, Requisites, Outcomes

263. APR 202 – LME Electrical Code – Level I (was TE 9636)
Contact/Credit Hour Change

264. APR 203 – LME: Electrical Code – Level II (was TE 9637)
Contact/Credit Hour Change

265. APR 204 – LME: Electrical Code – Level III (was TE 9638)
Contact/Credit Hour Change

266. APR 224 – Electrical Code – Level I (was TE 9619)
Contact/Credit Hour Change

267. APR 225 – Electrical Code – Level II (was TE 9620)
Contact/Credit Hour Change

268. APR 226 – Electrical Code – Level III (was TE 9621)
Contact/Credit Hour Change

New Business:

269. INSP 252 – International Building Code 3
Course Revision – Description, Outcomes

270. INSP 253 – International Building Code 3
Course Revision – Description, Outcomes

271. BCT 115 – Introduction to Residential Greenroofing
New Course

272. HUM 100 – Introduction to Humanities
General Education Request

273. HUM 100 – Introduction to Humanities
Diversity Request

274. ARCH 137 – AutoCAD Architectural Desktop
Course Revision – Title

275. CJA 245 – Search Warrant Preparation
New Course

276. MM 262 – Video Production III
New Course

Curriculum Request Form
Course Revision

Change:	Course Description, Requisites, Learning Outcomes
Current course number:	EET 111
Current course title:	Electrical Circuit Analysis I
Current description:	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.
Proposed description:	EET 111 Electrical Circuit Analysis I, 5 Cr. System of Units; engineering notation and prefixes; definitions of current, voltage, resistance, power, work and efficiency; Ohm's and Kirchhoff's Laws; DC resistive networks including Thevenin and Norton equivalent circuits. Node voltage and mesh current analysis methods; Capacitance and RC transient response. Includes a 3-hour per week laboratory session. Prerequisite/concurrent: MTH 95.
Reason for description change:	To better divide the study load over the three classes, EET 111, 112, 113. Changed the prerequisites to include more students in the program. EET tutoring in place to assist the students.
Proposed learning outcomes:	1 Use basic electrical DC concepts and theorems to analyze circuits. 2 Build and simulate electrical DC circuits and perform measurements with electronic test equipment. Write technical reports using collected experiment data.
Current prerequisites/concurrent:	Prerequisite or concurrent registration: MTH 111C
Proposed prerequisites/concurrent:	Prerequisite or concurrent registration: MTH 95
Is there an impact on other sacs?:	No

Is there an impact on another dept or campus?:	No
Request term:	winter
Requested year:	2007
Contact name:	sanda nedelcu
Contact e-mail:	sanda.nedelcu@pcc.edu

Curriculum Request Form
Course Revision

Change:	Course Description, Requisites, Learning Outcomes
Current course number:	EET 112
Current course title:	Electrical Circuit Analysis II
Current description:	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.
Proposed description:	Inductance; RL transient response; sinusoidal waveforms; reactance and impedance; AC power. Phasor analysis of RLC circuits; node voltage and mesh current analysis; superposition, Thevenin's and Norton's network theorems. Includes a 3-hour per week laboratory. Prerequisite: EET 111; Prerequisite/concurrent: MTH 111.
Reason for description change:	Better divide load over the sequence and include more students in the program. EET tutoring in place to assist students.
Proposed learning outcomes:	1 Use basic AC concepts to analyze circuits. 2 Build and simulate AC electrical circuits and perform measurements with electronic test equipment. Write technical reports using collected experiment data.
Current prerequisites:	Prerequisite: EET 111
Proposed prerequisites:	Prerequisite: EET 111
Current prerequisites/concurrent:	Prerequisite or concurrent registration: MTH 112.
Proposed prerequisites/concurrent:	Prerequisite/concurrent: MTH 111.
Is there an impact on	No

other sacs?:

Is there an impact on another dept or campus?:	No
Request term:	winter
Requested year:	2007
Contact name:	sanda nedelcu
Contact e-mail:	sanda.nedelcu@pcc.edu

Curriculum Request Form
Course Revision

Change:	Course Title, Course Description, Requisites, Learning Outcomes
Current course number:	EET 113
Current course title:	Electrical Circuit Analysis
Proposed course title:	Electrical Circuit Analysis III
Reason for title change:	Existing Error
Current description:	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, transfer functions, decibels, frequency response and Bode diagrams. Includes a 3-hour per week laboratory. Prerequisite: EET 112
Proposed description:	Series and parallel resonant circuits; Q and selectivity; RL and RC filters; decibels; transfer functions and Bode diagrams; Transformers, three phase power distribution; Fourier series and transform applied to circuit analysis. Includes a 3-hour per week laboratory. Prerequisite: EET 112; Prerequisite/concurrent: MTH 112
Reason for description change:	To better divide the study load over the sequence
Current learning outcomes:	None
Proposed learning outcomes:	Intended Outcomes: 1 Use basic AC concepts and theorems to analyze AC circuits 2 Analyze basic magnetic circuits and applications
Current prerequisites:	Prerequisite: EET 112

Proposed prerequisites:	Prerequisite: EET 112
Proposed prerequisites/concurrent:	Prerequisite/concurrent: MTH 112
Is there an impact on other sacs?:	No
Is there an impact on another dept or campus?:	No
Request term:	winter
Requested year:	2007
Contact name:	sanda nedelcu
Contact e-mail:	sanda.nedelcu@pcc.edu

Curriculum Request Form
Course Revision

Change:	Course Description, Requisites, Learning Outcomes
Current course number:	EET 188
Current course title:	Industrial Safety
Current description:	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 or 121.
Proposed description:	Safety practices in the electronics industry. Covers: electrical safety, HAZMAT, flammable and combustible liquids, safe handling of electronic components in the manufacturing environment including ESD control, product testing/certification, blood born pathogens, fire safety, laser and radiation safety. Prerequisites: EET 111.
Reason for description change:	Update
Current learning outcomes:	None
Proposed learning outcomes:	1 Apply standard safety procedures in an industrial environment.
Current prerequisites:	Prerequisite: EET 111 or 121.
Proposed prerequisites:	Prerequisites: EET 111
Is there an impact on other sacs?:	No
Is there an impact on another dept or campus?:	No
Request term:	winter
Requested year:	2007
Contact name:	sanda nedelcu

Contact e-mail**:** sanda.nedelcu@pcc.edu

Curriculum Request Form
Course Revision

CHANGE:	Course Title, Requisites, Learning Outcomes
Current Course Number:	EET 221
Proposed Course Number:	EET 221
Current Course Title:	Semiconductor Devices/Circuits
Proposed Course Title:	Semiconductor Devises and Circuits
Proposed Transcript Title:	EET 221
Reason for Title Change:	Correct existing error

Current Learning Outcomes:

1. The student will have a qualitative understanding of P and N type semiconductors, PN junctions, NPN and PNP transistor operation, and field effect transistor operation.
2. The student will become familiar with the basic electrical characteristics of diodes and transistors, including the diode equation, and device characteristic curves.
3. The student will be able to bias diodes and transistors, and will be able to analyze and design basic diode and transistor circuits.
4. The student will be able to test diodes and transistors in a circuit and using a curve tracer.
5. The student will be able to calculate and measure the input and output impedances of transistor amplifier circuits.
6. The student will be able to calculate and measure the amplification of a transistor amplifier circuits, including common emitter, common base, and common collector types.
7. The student will be able to simulate basic diode and transistor circuits using a computer simulation program.
8. The student will be able to use computer data acquisition to acquire circuit data, and to process the data in a spreadsheet.
9. The student will be able to use a word processor, spreadsheet, and other software to produce a formal lab report on an experiment.

Proposed Learning Outcomes:	1 Apply concepts of semiconductor devices to design and analyze circuits. 2 Apply fundamentals of semiconductor devices in electronics projects and use computer tools in circuit design, evaluation and analysis.
Reason for Learning Outcomes Change:	Align with the PCC new format-5 bullets minimum
Current Prerequisites:	EET 113
Proposed Prerequisites:	EET 113, MTH 112
Will this impact other SACs?,Is there an impact on other SACs?:	No
Will this impact other Depts/Campuses?,Is there an impact on another dept or campus?:	No
Request Term:	winter
Requested Year:	2008
Contact Name:	sanda williams
Contact E-Mail:	sanda.williams@pcc.edu

Curriculum Request Form
Course Revision

CHANGE: Requisites,Learning Outcomes

Current Course Number: EET 222

Current Course Title: Operational Amplifier Circuits

Current Learning Outcomes:

1.The student will be able to calculate the quiescent point of operation for a differential amplifier, which uses a current source in the emitter circuit.
2. The student will be able to calculate and measure the input and output impedance of a differential amplifier.
3. The student will be able to determine the input bias currents, input offset current, and output offset voltage of a differential amplifier circuit and of an operational amplifier.
4. The student will be able to calculate and measure the single ended and differential gain of a differential amplifier using transistors or operational amplifiers.
5. The student will be able to measure and calculate the voltage amplification and frequency response of inverting and non-inverting operational amplifier circuits.
6. The student will be able to measure and calculate the transient response of operational amplifier differentiator and integrator circuits.
7. The student will be able to measure and calculate the sinusoidal response of operational amplifier differentiator and integrator circuits.
8. The student will be able to calculate and measure the frequency response of operational amplifier active filter circuits, including low pass, high pass, and band pass types.
9. The student will be able to calculate and measure the oscillation frequency, output waveform, and output amplitude of operational amplifier oscillators, including Hartley, Colpitts, phase shift, and Wien-bridge types.
10. The student will be able to calculate and measure the response of an operational amplifier Schmitt trigger circuit, and be able to calculate and measure the characteristics of a Schmitt trigger relaxation oscillator.

Proposed Learning Outcomes:

1 Apply op-amps fundamentals in design and analysis of op-amps applications.
2 Apply op-amps fundamentals and computer tools in project

	design, evaluation, and analysis.
Reason for Learning Outcomes Change:	Align with the PCCnew format-5 bullets maximum
Current Prerequisites:	EET 221; MTH 251
Proposed Prerequisites:	EET 221
Will this impact other SACs?,Is there an impact on other SACs?:	No
Will this impact other Depts/Campuses?,Is there an impact on another dept or campus?:	No
Request Term:	winter
Requested Year:	2008
Contact Name:	sanda williams
Contact E-Mail:	sanda.williams@pcc.edu

Curriculum Request Form
Course Revision

CHANGE:	Learning Outcomes
Current Course Number:	EET 223
Current Course Title:	RF Communications Circuits
Proposed Transcript Title:	RF Communications Circuits
Current Learning Outcomes:	1. The student will become familiar with a variety of transistor amplifier circuits used in communication systems, including common base, common collector, and common emitter types, as used in oscillators, amplifiers, frequency multipliers, and mixers. 2. The student will become familiar with the transistor's internal capacitances, and will be able to determine the effect of these capacitance's on the transistor's frequency response. 3. The student will be able to calculate and measure the amplification and frequency response of transistor amplifier circuits. 4. The student will become familiar with current source models of transistor amplifier circuits, and be able to use these models as an aide in calculating the amplifier's gain and frequency response. 5. The student will be able to calculate and measure the effect of load and source impedance on the amplification and frequency response of transistor amplifier circuits. 6. The student will be able to simulate transistor amplifier circuits using a computer simulation program. 7. The student will be able to use computer data acquisition to acquire circuit data, and to process the data in a spreadsheet. 8. The student will be able to use a word processor, spreadsheet, and other software to produce a formal lab report on an experiment.
Proposed Learning Outcomes:	1 Design and analyze multistage amplifiers and RF communications systems. 2 Analyze transistor and diode AC models and equivalent circuits. 3 Measure and analyze the performance of transistor circuits in RF communication systems
Reason for Learning Outcomes Change:	Align with the new PCC format-5 bullets maximum

Will this impact other SACs?,Is there an impact on other SACs?:	No
Will this impact other Depts/Campuses?,Is there an impact on another dept or campus?:	No
Request Term:	winter
Requested Year:	2008
Contact Name:	sanda williams
Contact E-Mail:	sanda.williams@pcc.edu

Curriculum Request Form
Course Revision

CHANGE:	Requisites
Current Course Number:	EET 260
Proposed Course Number:	EET 260
Current Course Title:	Biomedical Equipment I
Proposed Course Title:	Biomedical Equipment I
Proposed Transcript Title:	EET 260
Reason for Title Change:	NO Change
Current Description:	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.
Proposed Description:	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.
Reason for Description Change:	NO CHANGE
Current Learning Outcomes:	Upon successful completion of this Biomedical Engineering Technology option, students should be able to: safely evaluate, calibrate, operate and maintain the biomedical equipment included in this course. perform safety inspections make repairs when necessary.

Proposed Learning Outcomes:	Upon successful completion of this Biomedical Engineering Technology option, students should be able to: safely evaluate, calibrate, operate and maintain the biomedical equipment included in this course. perform safety inspections make repairs when necessary.
Reason for Learning Outcomes Change:	NO CHANGE
Current Prerequisites:	BI 122 or BI 233, EET 123 or instructor permission.
Proposed Prerequisites:	MP 111, BI 122 or BI 233, EET 123 or instructor permission.
Current Prerequisites/Concurrent:	EET 221
Proposed Prerequisites/Concurrent:	EET 221
Will this impact other SACs?,Is there an impact on other SACs?:	No
Will this impact other Depts/Campuses?,Is there an impact on another dept or campus?:	no
How other Depts/Campuses will be impacted:	
Request Term:	winter
Requested Year:	2008
Contact Name:	sanda williams
Contact E-Mail:	sanda.williams@pcc.edu

Curriculum Request Form
Course Revision

CHANGE:	Requisites
Current Course Number:	EET 261
Current Course Title:	Biomedical Equipment II
Current Prerequisites:	BI 122 or 233, EET 123, EET 221
Proposed Prerequisites:	EET 260
Will this impact other SACs?,Is there an impact on other SACs?:	No
Will this impact other Depts/Campuses?,Is there an impact on another dept or campus?:	No
Request Term:	winter
Requested Year:	2008
Contact Name:	sanda williams
Contact E-Mail:	sanda.williams@pcc.edu

Curriculum Request Form
Course Revision

CHANGE:	Course Description, Requisites
Current Course Number:	EET 280C
Current Course Title:	BMET Practicum
Current Description:	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.
Proposed Description:	Provides clinical education experience in a biomedical department with a hospital, clinic or other medical facility, with a medical equipment repair/manufacturing company, or laboratory. Variable credit: 30 hours of work experience equals 1 credit.
Reason for Description Change:	Increased the number of possible co-op sites to better accommodate students.
Current Prerequisites:	NONE
Proposed Prerequisites:	Department Approval; EET 260
Current Corequisites:	NONE
Proposed Corequisites:	EET 261
Will this impact other SACs?,Is there an impact on other SACs?:	No
Will this impact other Depts/Campuses?,Is there an impact on another dept or campus?:	No
Request Term:	winter
Requested Year:	2008
Contact Name:	sanda williams
Contact E-Mail:	sanda.williams@pcc.edu

Curriculum Request Form
Course Revision

CHANGE:	Course Number,Course Description,Learning Outcomes
Current Course Number:	TE 9145
Proposed Course Number:	ELT 201
Current Course Title:	Electrical Motor Control
Current Description:	Provides the knowledge and skills needed to service electric motors. Focuses on the operation and installation of control systems, specifically motor starters and controllers. Includes 16 Code Related hours of Continuing Education Unit credits for Oregon State regimenting purposes.
Proposed Description:	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.
Reason for Description Change:	To align with statewide apprenticeship degree
Current Learning Outcomes:	Demonstrate knowledge of the general principles of electric motor control and the common types of starters. Demonstrate understanding of the function of control pilot devices as a component of motor control. Demonstrate knowledge of the common electrical symbols, connections and layouts. Demonstrate understanding and ability to install or repair selected basic control circuits. Demonstrate understanding of the reasons for the use of reduced voltage starting.

Demonstrate understanding of the operating principles on which the squirrel cage motor is based

Demonstrate understanding of the advantages of an AC three-phase wound rotor, or slip ring, induction motor.

Demonstrate understanding of the operation and application of a synchronous motor.

Demonstrate understanding of direct-current motors and their use in a variety of industries.

Demonstrate understanding of several methods of repeated closure of a circuit.

Demonstrate knowledge of the installation of motor drives and how to calculate the size required.

Proposed Learning Outcomes:

Explain the general principles of electric motor control and the common types of starters.

Demonstrate the function of control pilot devices as a component of motor control.

Identify the common electrical symbols, connections and layouts.

Recognize electrical schematics, wiring devices and control diagrams.

Install and repair basic circuits.

Explain the reasons for the use of reduced voltage starting.

Demonstrate safe working conditions in accordance with state and federal regulations.

Describe the operating principles on which the squirrel cage motor is based.

Describe the operation of control systems, motor starters and controllers.

Discuss the advantages of an AC three-phase wound motor, slip ring, and induction motor.

	Explain the operation and application of a synchronous motor. Discuss direct-current motors and their use in a variety of industries. Install motor drives. Calculate the required size motor for installation of assigned tasks. Discuss electromagnetic controls, motors and transformers Utilize electrical test equipment to analyze electric motor control malfunctions. Perform motor maintenance.
Reason for Learning Outcomes Change:	The Trades & Industry Department is participating in a new state-wide apprenticeship degree pathway. The Trades & Industry Department currently uses Trade Extension (TE) as their subject code for three separate programs: apprenticeship, facilities maintenance technology and electrical trades. The TE structure is being broken into three new subject codes: APR for Apprenticeship, FMT for Facilities Maintenance Technology and ELT for Electrical Trades. All courses will move to 100 and 200 level course numbering. This framework provides additional access to courses, compliance with revised OAR's, alignment with BOLI standards, transferability of credit among Oregon colleges - all in an effort to increase degree completion. In addition, students will be able to locate classes more efficiently with the new indicators.
Will this impact other SACs?,Is there an impact on other SACs?:	No
Will this impact other Depts/Campuses?,Is there an impact on another dept or campus?:	No
Request Term:	summer
Requested Year:	2008
Contact Name:	Katrina Cloud

Contact E-Mail: kcloud@pcc.edu

Curriculum Request Form
Course Revision

CHANGE:	Course Number, Course Description
Current Course Number:	TE 9201
Proposed Course Number:	ELT 250
Current Course Title:	AMP ACT I
Current Description:	Provides individuals with the necessary level of knowledge needed for an entry-level position within the structure/premise cabling industry. Participants receive an in-depth understanding of the established ISO/IEC 11801, ANSI/TIA/EIA 568B industry standards. Participants who pass the exam at the end of the course will receive their AMP ACT I Certification. Participants learn how to correctly use a punch down tool; punch down various types of cables onto 110-style data patch panels, 110-style rack mount voice blocks, AMP communication outlets; termination methods for category 5e and category 6 jacks; application use and termination methods for correctly installing 4-pair UTP category 5e rated cable; termination methods for AMPs oven cure and light crimp style ST connectors; and termination methods for AMPs light crimp plus pre-polished SC style connectors.
Proposed Description:	Provides individuals with the necessary level of knowledge needed for an entry-level position within the structure/premise cabling industry. Participants receive an in-depth understanding of the established ISO/IEC 11801, ANSI/TIA/EIA 568B industry standards. Participants who pass the exam at the end of the course will receive their AMP ACT I Certification. Participants learn how to correctly use a punch down tool; punch down various types of cables onto 110-style data patch panels, 110-style rack mount voice blocks, AMP communication outlets; termination methods for category 5e and category 6 jacks; application use and termination methods for correctly installing 4-pair UTP category 5e rated cable; termination methods for AMPs oven cure and light crimp style ST connectors; and termination methods for AMPs light crimp plus pre-polished SC style connectors. This class can be used towards Continuing Education Units for Oregon State electrical licensing purposes.
Will this impact other SACs?,Is there an impact on other SACs?:	No
Will this impact other Depts/Campuses?,Is there an impact on another dept or campus?:	No

Request Term:	summer
Requested Year:	2008
Contact Name:	Katrina Cloud
Contact E-Mail:	kcloud@pcc.edu

Curriculum Request Form
Course Revision

CHANGE:	Course Number, Course Description, Requisites
Current Course Number:	TE 9202
Proposed Course Number:	ELT 251
Current Course Title:	AMP ACT II
Current Description:	Prepares participants to take the exam required for AMP ACT II certification. The training teaches how to certify and document twisted pair and optical cable plants based on established industry standards. Standards studied include the ISO/IEC 11801, TSB067 and TSB095. Learn testing of common and uncommon problems found in LAN-based systems within the premise/structured cabling industry. Participants will test and certify category 5E, 6, shielded Cat 5e, and Fiber Optic circuits using appropriate test equipment including level III copper testers, optical power meters, ITDRs, and visual fault locators. Will be required to troubleshoot various problems within a cable plant.
Proposed Description:	Prepares participants to take the exam required for AMP ACT II certification. Teaches how to certify and document twisted pair and optical cable plants based on established industry standards. Standards studied include the ISO/IEC 11801, TSB067 and TSB095. Learn testing of common and uncommon problems found in LAN-based systems within the premise/structured cabling industry. Participants will test and certify category 5E, 6, shielded Cat 5e, and Fiber Optic circuits using appropriate test equipment including level III copper testers, optical power meters, ITDRs, and visual fault locators. Will be required to troubleshoot various problems within a cable plant. This class can be used towards Continuing Education Units for Oregon State electrical licensing purposes.
Current Prerequisites:	TE 9201
Proposed Prerequisites:	ELT 250 or TE 9201
Will this impact other SACs?,Is there an impact on other SACs?:	No
Will this impact other Depts/Campuses?,Is there an	No

impact on another dept or campus?:

Request Term:	summer
Requested Year:	2008
Contact Name:	Katrina Cloud
Contact E-Mail:	kcloud@pcc.edu

Curriculum Request Form
Course Revision

CHANGE:	Course Number, Course Description, Requisites
Current Course Number:	TE 9203
Proposed Course Number:	ELT 252
Current Course Title:	AMP ACT III
Current Description:	Prepares the student to handle the many design criteria decisions associated with premises cabling systems. Course progresses through a step-by-step process from the initial design analysis through the final project presentation. Emphasizes design parameters and guidelines of the ANSI/TIA/EIA 568B, 569, 606 and 607 as well as ISO standards. Decisions a designer makes regarding network platforms and technologies, cabling architectures, and media selection are discussed in detail. Design several different systems including campus drawings, floor plan layouts, telecommunication room layout, and rack layout design, intra-building backbone elevations, and the development of a bill of materials. Present design solutions to the class and each proposal will be discussed in an open forum.
Proposed Description:	Prepares the student to handle the many design criteria decisions associated with premises cabling systems. Course progresses through a step-by-step process from the initial design analysis through the final project presentation. Emphasizes design parameters and guidelines of the ANSI/TIA/EIA 568B, 569, 606 and 607 as well as ISO standards. Decisions a designer makes regarding network platforms and technologies, cabling architectures, and media selection are discussed in detail. Design several different systems including campus drawings, floor plan layouts, telecommunication room layout, and rack layout design, intra-building backbone elevations, and the development of a bill of materials. Present design solutions to the class and each proposal will be discussed in an open forum. This class can be used towards Continuing Education Units for Oregon State electrical licensing purposes.
Current Prerequisites:	TE 9202
Proposed Prerequisites:	ELT 251 or TE 9202

Will this impact other SACs?,Is No

there an impact on other SACs?:	
Will this impact other Depts/Campuses?,Is there an impact on another dept or campus?:	No
Request Term:	summer
Requested Year:	2008
Contact Name:	Katrina Cloud
Contact E-Mail:	kcloud@pcc.edu

Curriculum Request Form
Course Revision

CHANGE:	Course Number,Course Title,Course Description,Learning Outcomes
Current Course Number:	TE 9631
Proposed Course Number:	APR 101
Current Course Title:	LME Electrical I
Proposed Course Title:	LME: Electrical Theory Fundamentals
Proposed Transcript Title:	LME: Elect. Theory Fundamental
Reason for Title Change:	To align with statewide apprenticeship degree
Current Description:	Includes math for computing values of voltage, amperage, resistance and power plus conductors, wire sizes and basic voltage drop calculations in a circuit. Covers magnetism and the generation of electro-magnetic force applied to motors, transformers, inductors and capacitors. General wiring methods conduit and fittings, over current protection, and lighting fundamentals are presented. Industrial safety emphasized.
Proposed Description:	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.
Reason for Description Change:	To align with statewide apprenticeship degree
Current Learning Outcomes:	Student will discuss the relationship of voltage, current and resistance in an electric circuit and use of formulas to determine current, voltage and resistance. Student will demonstrate familiarity with electrical measuring instruments and how to use them in a circuit. The student will select conductor materials, insulation and demonstrate how to measure wire sizes. The student/apprentice will be able to calculate permissible

	voltage drop for circuitry. Demonstrate knowledge of magnetism, conductors, coils, transformers and capacitors. Discuss wiring applications and demonstrate uses of conduit, outlet & junction boxes for power distribution.
Proposed Learning Outcomes:	Solve mathematical formulas and equations of theory. Discuss the relationship of voltage, current and resistance in an electric circuit. Use formulas to determine current, voltage, amperage, resistance, and power. Explain electrical measuring instruments as applied to circuit use. Select conductor materials and insulation. Measure wire sizes. Calculate voltage drop. Explain the principles of voltage drop, efficiency and cost of electrical energy. Use symbols and terminology that apply to designated tasks. Explain the differences between series, parallel and combination circuits. Utilize the American Wire Gauge Table. Recognize basic electrical theory and measurement of electron theory, electrical-electronic devices and conductors. Define terms of series circuits, parallel circuits and capacitors. Explain Ohm’s law, Kirchoff's law, wire size, amp and volt meter instrumentation to include troubleshooting. Interpret OSHA safety standards and electrical safety codes.
Reason for Learning Outcomes Change:	The Trades & Industry Department is participating in a new state-wide apprenticeship degree pathway. The Trades & Industry Department currently uses Trade Extension (TE) as their subject code for three separate programs: apprenticeship, facilities maintenance technology and electrical trades. The TE structure is being broken into three new subject codes: APR for

	Apprenticeship, FMT for Facilities Maintenance Technology and ELT for Electrical Trades. All courses will move to 100 and 200 level course numbering. This framework provides additional access to courses, compliance with revised OAR's, alignment with BOLI standards, transferability of credit among Oregon colleges - all in an effort to increase degree completion. In addition, students will be able to locate classes more efficiently with the new indicators.
Will this impact other SACs?,Is there an impact on other SACs?:	No
Will this impact other Depts/Campuses?,Is there an impact on another dept or campus?:	No
Request Term:	summer
Requested Year:	2008
Contact Name:	Katrina Cloud
Contact E-Mail:	kcloud@pcc.edu

Curriculum Request Form
Course Revision

CHANGE:	Course Number,Course Title,Course Description,Requisites,Learning Outcomes
Current Course Number:	TE 9632
Proposed Course Number:	APR 102
Current Course Title:	LME Electrical II
Proposed Course Title:	LME: DC Motors
Reason for Title Change:	To align with statewide apprenticeship degree
Current Description:	Battery theory, application and maintenance; DC motor theory, types, applications and maintenance; magnetic theory and the generation of electro-motive force; alternating current principles; theory, types, applications and maintenance of transformers; inductance and capacitance in AC circuits; standards and issues of electrical safety. Prerequisite: TE 9631.
Proposed Description:	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 sine wave/wave-form. Electrical safety, principles of inductance, inductive reactance, capacitance and capacitive reactance, various types of capacitors, capacitor testing and their use in an industrial environment will also be discussed. Prerequisites: APR 101 and TE 9631
Reason for Description Change:	To align with statewide apprenticeship degree
Current Learning Outcomes:	Demonstrate knowledge of AC motors including single phase, three phase, synchronous and wound rotor. Perform amacity, overload, short circuit, and ground fault calculations. Identify types of commercial space heating equipment. Identify and discuss grounding and bonding Show skill proficiency with branch circuits, overhead, underground & temporary electrical services. Identify DC motors, controls and appropriate applications.

	Identify common lighting fixtures
Proposed Learning Outcomes:	Describe and apply basic theory of electrical sources. Describe the generation of electro-magnetic force applied to motors, transformers, inductors and capacitors. Identify DC motors, controls, appropriate applications and maintenance. Demonstrate safe working conditions in accordance with state and federal regulations. Correctly use math and theory for alternating current calculation and values of voltage. Understanding various troubleshooting techniques of testing equipment as applies to power. Explain the principles of inductance, reactance, capacitance and capacitors. Understand principles or operation for DC motors, circuit components, and conductors. Explain magnets, magnetism, electromagnetism. Discuss AC and DC generators. Discuss inductive and capacitive reactance in the plant. Recite jobsite safety requirements.
Reason for Learning Outcomes Change:	The Trades & Industry Department is participating in a new state-wide apprenticeship degree pathway. The Trades & Industry Department currently uses Trade Extension (TE) as their subject code for three separate programs: apprenticeship, facilities maintenance technology and electrical trades. The TE structure is being broken into three new subject codes: APR for Apprenticeship, FMT for Facilities Maintenance Technology and ELT for Electrical Trades. All courses will move to 100 and 200 level course numbering. This framework provides additional access to courses, compliance with revised OAR’s, alignment with BOLI standards, transferability of credit among Oregon colleges - all in an effort to increase degree completion. In addition, students will be able to locate classes more efficiently with the new indicators.
Current Prerequisites:	TE 9631
Proposed Prerequisites:	APR 101

Will this impact other SACs?,Is there an impact on other SACs?:	No
Will this impact other Depts/Campuses?,Is there an impact on another dept or campus?:	No
Request Term:	summer
Requested Year:	2008
Contact Name:	Katrina Cloud
Contact E-Mail:	kcloud@pcc.edu

Curriculum Request Form
Course Revision

CHANGE:	Course Number,Course Title,Course Description,Requisites,Learning Outcomes
Current Course Number:	TE 9633
Proposed Course Number:	APR 103
Current Course Title:	LME Electrical III
Proposed Course Title:	LME: AC Motors & Transformers
Reason for Title Change:	To align with statewide apprenticeship degree
Current Description:	Introduction to the National Electric Code; electrical connections and applications; single and 3-phase motor theory, operation, types and operation; electric motor maintenance; motor control fundamentals; lighting fundamentals, applications and maintenance; safety standards and practices. Prerequisite: TE 9632.
Proposed Description:	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
Reason for Description Change:	To align with statewide apprenticeship degree
Current Learning Outcomes:	Discuss wiring in hazardous locations. Identify Class I and Class II locations. Discuss inductive and capacitive reactance in the plant. Show what can be done to improve power factor Describe Delta and Wye configurations. Describe PLC circuit diagrams Read selected electrical diagrams

Proposed Learning Outcomes:	Solve electrical equations using trade specific mathematical formulas. Show what can be done to improve power factor. Describe Delta and Wye configurations. Read selected electrical diagrams. Explain applications and maintenance of transformers. Discuss transformer theory, types and applications of various motors. Explain AC motors including single phase, three phase, synchronous and wound rotor. Troubleshoot and repair common motor operation. Solve problems using appropriate test equipment. Use symbols and industrial terminology. Identify electrical safety standards and practices.
Reason for Learning Outcomes Change:	The Trades & Industry Department is participating in a new state-wide apprenticeship degree pathway. The Trades & Industry Department currently uses Trade Extension (TE) as their subject code for three separate programs: apprenticeship, facilities maintenance technology and electrical trades. The TE structure is being broken into three new subject codes: APR for Apprenticeship, FMT for Facilities Maintenance Technology and ELT for Electrical Trades. All courses will move to 100 and 200 level course numbering. This framework provides additional access to courses, compliance with revised OAR's, alignment with BOLI standards, transferability of credit among Oregon colleges - all in an effort to increase degree completion. In addition, students will be able to locate classes more efficiently with the new indicators.
Current Prerequisites:	TE 9632
Proposed Prerequisites:	APR 102

Will this impact other SACs?,Is there an impact on other SACs?:	No
Will this impact other Depts/Campuses?,Is there an impact on another dept or campus?:	No
Request Term:	summer
Requested Year:	2008
Contact Name:	Katrina Cloud
Contact E-Mail:	kcloud@pcc.edu

Curriculum Request Form
Course Revision

CHANGE:	Course Number,Course Title,Course Description,Requisites,Learning Outcomes
Current Course Number:	TE 9634
Proposed Course Number:	APR 104
Current Course Title:	LME Electrical IV
Proposed Course Title:	LME: Luminaries & Equipment
Proposed Transcript Title:	
Reason for Title Change:	To align with statewide apprenticeship degree
Current Description:	Includes mechanical drives and couplings, their types, uses and maintenance; electronic theory and troubleshooting of various components including diodes, varistors, triacs, and rectifiers; electrical blueprint reading fundamentals; electrical safety; National Electric Code. Prerequisite: TE 9633.
Proposed Description:	Introduces the concept of luminars, including fluorescent and high intensity discharge and their application in the industrial environment. Also covers various types and application of fuses, receptacles, and their wiring. Includes electrical safety; principles of blue print reading and components; and identification and application of solid-state components. The theory, types and application of batteries will be covered. Prerequisites: APR 103 and TE 9633.
Reason for Description Change:	To align with statewide apprenticeship degree
Current Learning Outcomes:	Name the two main categories of bearings and cite their advantages Describe the three kinds of stresses acting on shafts Name and describe three classes of fits. Define crush and spread. Identify a principle cause of early bearing failure

Describe the common methods of mounting bearings

List six reasons for lubricating machinery

Name and Describe the six major properties of lubricating oils

List three functions usually performed by a coupling

Proposed Learning Outcomes:

Use basic math and algebra skills to problem solve and troubleshoot electrical issues.

Describe lighting fundamentals, applications, types and maintenance.

Operate PLC's according to trade-specific applications and methodology.

Identify common lighting fixtures.

Draw and interpret industrial blueprints and schematics.

Explain electrical safety.

Discuss the various types of fuses and receptacles.

Explain battery theory, application and maintenance.

Use different types of batteries.

Use test equipment to make electrical measurements.

Demonstrate appropriate use and care of trade-specific equipment.

Describe various troubleshooting techniques for trade-specific equipment.

Reason for Learning Outcomes Change:

The Trades & Industry Department is participating in a new state-wide apprenticeship degree pathway. The Trades & Industry Department currently uses Trade Extension (TE) as their subject code for three separate programs: apprenticeship, facilities maintenance technology and electrical trades. The TE structure is being broken into three new subject codes: APR for Apprenticeship, FMT for Facilities Maintenance Technology and ELT for Electrical Trades. All courses will move to 100 and 200 level course numbering.

	This framework provides additional access to courses, compliance with revised OAR's, alignment with BOLI standards, transferability of credit among Oregon colleges - all in an effort to increase degree completion. In addition, students will be able to locate classes more efficiently with the new indicators.
Current Prerequisites:	TE 9633
Proposed Prerequisites:	APR 103
Will this impact other SACs?,Is there an impact on other SACs?:	No
Will this impact other Depts/Campuses?,Is there an impact on another dept or campus?:	No
Request Term:	summer
Requested Year:	2008
Contact Name:	Katrina Cloud
Contact E-Mail:	kcloud@pcc.edu

Curriculum Request Form
Course Revision

CHANGE:	Course Number, Course Title, Course Description, Learning Outcomes
Current Course Number:	TE 9610
Proposed Course Number:	APR 121
Current Course Title:	Electrical I: 1st Year, 1st Term
Proposed Course Title:	Introduction to Electricity and Circuits
Proposed Transcript Title:	Intro Electricity & Circuits
Reason for Title Change:	To align with statewide apprenticeship degree
Current Description:	Covers math for electrical applications, electron theory, Ohms Law, series circuits, parallel circuits and series/parallel circuits. Focuses on computing the values of voltage, amperage resistance and power. Includes electrical energy and power, the measurement of, and computing efficiency of same. Understand electrical conductors, wire sizes and basic voltage drop calculations in a circuit. Also, theory use and maintenance of safety as applied to the industrial plant environment.
Proposed Description:	Covers math for the electrical applications, electron theory, the application of Ohm’s Law when determining the values of voltage, current resistance and power as applied to simple, series, parallel and combination circuits. Includes evaluating electrical energy/power, its measurement, cost and efficiency of same. Understanding the nature of electrical conductors which includes the circular-mil, cross-sectional-area (CSA) of conductors in mils when determining the proper size wire to be used as applied to the American Wire Gauge (AWG) Table. Also covers introduction to the concepts of "Voltage Drop" and methods used to calculate and minimize its effects in an electrical circuit. Electrical safety standards as applied to the industrial plant environment will be discussed.
Reason for Description Change:	To align with statewide apprenticeship degree
Current Learning Outcomes:	The student/apprentice will know the responsibilities of apprenticeship. Student will gain a basic understanding of electricity by explaining the behavior of electrons. Student will understand the relationship of voltage, current and

resistance in an electric circuit and use of formulas to determine current, voltage and resistance.
Student will be able to define terms, learn units of measurement, symbols and relationships.
Student/apprentice will know the relationship of voltage, current, resistance and power in a series circuit.
Student/apprentice will know the relationship of voltage, current and resistance in a parallel circuit.
The student/apprentice will think in terms of and visualize the combination of series and parallel connections.
The student/apprentice will become familiar with electrical measuring instruments and how to use them in a circuit
The student/apprentice will know conductor materials, insulation and how to measure wire sizes.
The student/apprentice will be able to calculate permissible voltage drop for circuitry.

Proposed Learning Outcomes: Discuss the responsibilities of apprenticeship.

Discuss the behavior of electrons.

Explain the relationship of voltage, current and resistance in an electric circuit.

Solve mathematical formulas and equations of theory.
Use math formulas to determine current, voltage and resistance.

Explain voltage, current, resistance and power in a series circuit.

Use electrical terms, units of measurement and symbols.
Explain voltage, current and resistance in a parallel circuit.
Calculate voltage drop.

Recite the combination of series and parallel connections.
Use measurement quantities of Ohm's Law.

Explain electrical measuring instruments and how to use them in a circuit.

Discuss conductor materials, insulation and how to measure wire sizes.

Demonstrate safe working conditions in accordance with state and federal regulations.

Describe and recognize basic electrical theory and measurement of electron theory, electrical-electronic devices and conductors.

Define terms of series circuits, parallel circuits and capacitors.

	Understand Ohm’s law, wire size, amp and volt meter instrumentation to include troubleshooting.
Reason for Learning Outcomes Change:	The Trades & Industry Department is participating in a new state-wide apprenticeship degree pathway. The Trades & Industry Department currently uses Trade Extension (TE) as their subject code for three separate programs: apprenticeship, facilities maintenance technology and electrical trades. The TE structure is being broken into three new subject codes: APR for Apprenticeship, FMT for Facilities Maintenance Technology and ELT for Electrical Trades. All courses will move to 100 and 200 level course numbering. This framework provides additional access to courses, compliance with revised OAR’s, alignment with BOLI standards, transferability of credit among Oregon colleges - all in an effort to increase degree completion. In addition, students will be able to locate classes more efficiently with the new indicators.
Will this impact other SACs?,Is there an impact on other SACs?:	No
Will this impact other Depts/Campuses?,Is there an impact on another dept or campus?:	No
Request Term:	summer
Requested Year:	2008
Contact Name:	Katrina Cloud
Contact E-Mail:	kcloud@pcc.edu

Curriculum Request Form
Course Revision

CHANGE:	Course Number,Course Title,Course Description,Requisites,Learning Outcomes
Current Course Number:	TE 9611
Proposed Course Number:	APR 122
Current Course Title:	Electrical II: 1st Year, 2nd Term
Proposed Course Title:	AC/DC Motors Principles
Reason for Title Change:	To align with statewide apprenticeship degree
Current Description:	Covers the theory and application of magnetism, electro-magnetism, the generation of electromotive force, AC and DC motor principles, transformer theory, types and applications. Focuses on alternating current principles and the theories involving the properties of inductance and capacitance. Lab covers the operation and use of electrical metering and testing devices used to analyze and troubleshoot the above subject matter. Prerequisite: TE 9610.
Proposed Description:	Covers theory and application of magnets, magnetism and electromagnetism. Electrical safety, theory and application of AC/DC generators in the process of generation of an "electro-motive-force" (voltage), DC motor principles, operation and application will be included. Alternating current principles which include deciphering wave forms/sine-waves created by an AC signal plotted on a graph. The values of RMS, effective, average and instantaneous values will be studied as well as terms such as maximum value, amplitude, peak, peak to peak, cycles and alternations. Introduction to the property of inductance/inductive reactance, capacitors, capacitive reactance and their effects upon AC circuits will be discussed.
Reason for Description Change:	To align with statewide apprenticeship degree
Current Learning Outcomes:	The student/apprentice will understand the terminology, back-ground theory, and material properties necessary to understand magnetism. The student/apprentice will understand how electric current flow produces magnetism applications to conductors, coils and solenoids, and be able to apply and demonstrate the appropriate left hand rules.

The student/apprentice will understand how magnetism, conductors, coils and relative motions can product torque.
The student/apprentice will understand how a current carrying conductor/coil moving in a magnetic field can produce current flow.

The student/apprentice will understand the principles, theory, and math of Alternating Current.

The student /apprentice will understand the composition, effects, and uses of capacitors.

The student/apprentice will understand the different classes and types of AC motors, know the principles of operation of each, and be able to identify different types of motors.

The student/apprentice will understand the operation, primary/secondary relationships, construction, and efficiencies of trans-formers.

The student/apprentice will understand the construction, operation and maintenance of storage cells.
The student/apprentice will understand electrical meter movements and construction.

Proposed Learning Outcomes:

Discuss the terminology, back-ground theory, and material properties of magnetism.

Solve electrical equations using trade-specific mathematical formulas.

Apply math and theory for alternating current calculation and values of voltage.

Explain how electric current flow produces magnetism applications to conductors, coils and solenoids.

Discuss electromagnetism, AC/DC generators and AC signal. Apply the current left hand rule.

Explain how magnetism, conductors, coils and relative motions can produce torque.

Discuss how a current carrying conductor coil moving in a magnetic field can produce current flow.

Explain the principles, theory, and math of alternating current. Decipher wave forms/sine-waves and plot on a graph.

Describe the composition, effects and uses of capacitors.

Demonstrate safe working conditions in accordance with state and federal regulations.

Explain DC motor principles, operation and application.
Discuss common electrical terms and their meanings.

Explain maximum value, amplitude, peak, peak to peak, cycles and alternations.

Identify the different classes, types and operations of each type of motors.

Describe various troubleshooting techniques of trade-specific equipment.

Explain the operation, primary/secondary relationships, construction, and efficiencies of transformers.

Discuss the construction, operation and maintenance of storage cells.

Explain the property of inductance/inductive reactance, capacitors, capacitive reactance and their effects upon AC circuits

Use test equipment to make electrical measurements.
Demonstrate appropriate use and care of trade-specific equipment.

Understand the principle operation for motors, AC/DC circuit components, and conductors.

Reason for Learning Outcomes Change:

The Trades & Industry Department is participating in a new state-wide apprenticeship degree pathway. The Trades & Industry Department currently uses Trade Extension (TE) as their subject code for three separate programs: apprenticeship, facilities maintenance technology and electrical trades. The TE structure is being broken into three new subject codes: APR for Apprenticeship, FMT for Facilities Maintenance Technology and ELT for Electrical Trades. All courses will move to 100 and 200 level course numbering.

This framework provides additional access to courses, compliance with revised OAR’s, alignment with BOLI standards, transferability of credit among Oregon colleges - all in an effort to increase degree completion. In addition, students will be able to locate classes more efficiently with the new indicators.

Current Prerequisites:

TE 9610

Proposed Prerequisites:	APR 121 or TE 9610
Will this impact other SACs?,Is there an impact on other SACs?:	No
Will this impact other Depts/Campuses?,Is there an impact on another dept or campus?:	No
Request Term:	summer
Requested Year:	2008
Contact Name:	Katrina Cloud
Contact E-Mail:	kcloud@pcc.edu

Curriculum Request Form
Course Revision

CHANGE:	Course Number,Course Title,Course Description,Requisites,Learning Outcomes
Current Course Number:	TE 9612
Proposed Course Number:	APR 123
Current Course Title:	Electrical III: 1st Year, 3rd Term
Proposed Course Title:	AC Theory for Motors and Transformers
Proposed Transcript Title:	AC Theory/Motors/Transformers
Reason for Title Change:	To align with statewide apprenticeship degree
Current Description:	Introduces the definitions, fundamental rules, purpose and scope covered by the National Electric Code (NEC). Covers general wiring methods, requirements for wiring, all varieties of conduit, associated electrical devices, and fittings. Included are over-current devices and the basics of lighting fundamentals which includes fluorescent and high intensity discharge types. Also, theory use and maintenance of batteries as applied to the industrial plant environment. Prerequisite: TE 9611.
Proposed Description:	Focuses on basic transformer theory, transformer types and applications; introduction to three phase AC motors including the squirrel cage, wound rotor and synchronous types; and various types of AC single phase motors which include split-phase, repulsion, synchronous and universal motors. Also covers, the introduction to the three phase winding connections (DELTA and WYE), their purpose and application in AC circuits. Introduces solid-state fundamentals and components. Also covers batteries: theory, use, types, maintenance, and application as applied to the industrial environment and electrical safety. Prerequisite: APR 122 or TE 9611
Reason for Description Change:	To align with statewide apprenticeship degree
Current Learning Outcomes:	The student/apprentice will understand various electrical power distribution terms and their appropriate applications as applied to Industrial, Commercial, and Residential Installations. The student/apprentice will know the different materials used as insulation on wire as well as the insulation designations.

The student/apprentice will understand how the code is organized so that he/she may find information more easily in later assignments, and on the job.
The student/apprentice will understand the general requirements for wiring methods and installation.
The student/apprentice will know the definitions and the use of open wiring on insulators.
The student /apprentice will understand the construction and restrictions in the use of various cable assemblies.
The student/apprentice will know the trade name, construction and restrictions in the use of flexible cords fixture wires and their associated tables.
The student/apprentice will understand the techniques involved when making conduit installations.
The student/apprentice will know switches, outlet boxes, junction boxes and their associated proper fittings as used in electrical wiring.
The student/apprentice will know the purposes of installations and regulations for cabinets and cut out boxes.
The student will understand fuse types and standard fuse ratings for sizes required for protection of certain devices.
The student will understand what light is and how it is produced, and will know various types of lighting devices.

Proposed Learning Outcomes:

Explain electrical power distribution terms and their appropriate applications as applied to industrial, commercial, and residential installations.

Sketch transformer connections and conductor sizes for loading.

Discuss safety precautions involved in the electrical trade.

Demonstrate familiarity of industry terminology.

Explain DC motors, generators, and AC motors.

Select proper tables, equipment and material for new installations.

Use different types of batteries.

Describe battery theory, maintenance, types and applications for an industrial environment.

Explain transformer theory, types and applications.

Demonstrate safe working conditions in accordance with state and federal regulations.

Explain three phase AC motors, squirrel cage motors, wound rotor and synchronous motor types.

	Identify different AC single phase motors to include split-phase, repulsion, synchronous and universal motors. Utilize Delta and Wye in AC circuit applications. Discuss solid-state fundamentals. Use basic electrical safety practices. Use test equipment to make electrical measurements. Demonstrate appropriate use and care of trade-specific equipment. Troubleshoot and repair common motor operation. Solve problems using appropriate testing equipment.
Reason for Learning Outcomes Change:	The Trades & Industry Department is participating in a new state-wide apprenticeship degree pathway. The Trades & Industry Department currently uses Trade Extension (TE) as their subject code for three separate programs: apprenticeship, facilities maintenance technology and electrical trades. The TE structure is being broken into three new subject codes: APR for Apprenticeship, FMT for Facilities Maintenance Technology and ELT for Electrical Trades. All courses will move to 100 and 200 level course numbering. This framework provides additional access to courses, compliance with revised OAR's, alignment with BOLI standards, transferability of credit among Oregon colleges - all in an effort to increase degree completion. In addition, students will be able to locate classes more efficiently with the new indicators.
Current Prerequisites:	TE 9611
Proposed Prerequisites:	APR 122
Will this impact other SACs?,Is there an impact on other SACs?:	No
Will this impact other Depts/Campuses?,Is there an impact on another dept or campus?:	No
Request Term:	summer
Requested Year:	2008
Contact Name:	Katrina Cloud

Contact E-Mail: kcloud@pcc.edu

Curriculum Request Form
Course Revision

CHANGE:	Course Number,Course Title,Course Description,Requisites,Learning Outcomes
Current Course Number:	TE 9613
Proposed Course Number:	APR 124
Current Course Title:	Electrical IV: 2nd Year, 1st Term
Proposed Course Title:	Electrical Systems Operations
Reason for Title Change:	To align with statewide apprenticeship degree
Current Description:	Covers use of AC measure instruments, transformer theory, review of Ohm's law, AC motor theory and motor controls, and general installation requirements to meet code specifications. Prerequisite: TE 9612.
Proposed Description:	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. Prerequisite: APR 123 or TE 9612
Reason for Description Change:	To align with statewide apprenticeship degree
Current Learning Outcomes:	Demonstrate understanding of the concept of utilizing various AC instruments, as applied to industrial, commercial, and residential installations. Demonstrate understanding of transformer theory and operation, and NEC requirements, including single phase, (3) Phase Dry Type, Liquid Filled, K - Rated, Buck Boost, and High Voltage. Demonstrate knowledge of Article 450, including Transformer Overcurrent Protection. Demonstrate understanding of AC Motor theory and operation and NEC requirements, including single phase, (3) phase, Wound Rotor, and Synchronous.

Demonstrate understanding of Article 430, and be able to perform Ampacity, Overload and Branch Circuit, Short Circuit, and Ground Fault Calculations.

Demonstrate knowledge of various types of Commercial and Industrial space heating equipment.

Demonstrate knowledge of Grounding and Bonding methods and NEC requirements, per Article 250.

Proposed Learning Outcomes:

Explain the concept of utilizing various AC instruments, as applied to industrial, commercial, and residential installations.
Use capacitance analyzer, mulitmeter and megameter AC testing instruments.

Test and troubleshoot equipment.

Explain AC motor theory, operation and NEC requirements, including single phase, three phase, wound rotor, and synchronous.

Discuss transformer theory, operation and NEC requirements, including single phase, three phase dry type, liquid filled, K-rated, buck boost, and high voltage.

Describe the construction and restrictions in the use of various cable assemblies.

Solve electrical equations using trade-specific mathematical formulas.

Explain the different materials used as insulation on wire as well as the insulation designations.

Draw and interpret industrial blueprints and schematics.
Recognize electrical schematics, wiring devices and control diagrams.

Recite the trade name, construction and restrictions in the use of flexible cords, fixture wires and their associated tables.

Use switches, outlet boxes, junction boxes and their associated fittings in electrical wiring.

Explain the purposes of installations and regulations for cabinets and cut out boxes.

Explain what light is, how it is produced, and the different types of lighting devices.

	Explain grounding and bonding methods and NEC requirements, per Article 250. Describe various types of commercial and industrial space heating equipment. Use contactors and relays. Discuss a typical cable installation.
Reason for Learning Outcomes Change:	The Trades & Industry Department is participating in a new state-wide apprenticeship degree pathway. The Trades & Industry Department currently uses Trade Extension (TE) as their subject code for three separate programs: apprenticeship, facilities maintenance technology and electrical trades. The TE structure is being broken into three new subject codes: APR for Apprenticeship, FMT for Facilities Maintenance Technology and ELT for Electrical Trades. All courses will move to 100 and 200 level course numbering. This framework provides additional access to courses, compliance with revised OAR' s, alignment with BOLI standards, transferability of credit among Oregon colleges - all in an effort to increase degree completion. In addition, students will be able to locate classes more efficiently with the new indicators.
Current Prerequisites:	TE 9612
Proposed Prerequisites:	APR 123
Will this impact other SACs?,Is there an impact on other SACs?:	No
Will this impact other Depts/Campuses?,Is there an impact on another dept or campus?:	No
Request Term:	summer
Requested Year:	2008
Contact Name:	Katrina Cloud
Contact E-Mail:	kcloud@pcc.edu

Curriculum Request Form
Course Revision

CHANGE:	Course Number,Course Title,Course Description,Requisites,Learning Outcomes
Current Course Number:	TE 9614
Proposed Course Number:	APR 125
Current Course Title:	Electrical V: 2nd Year, 2nd Term
Proposed Course Title:	Electrical Circuits and Wiring Methods
Proposed Transcript Title:	Elect. Circuits/Wiring Methods
Reason for Title Change:	To align with statewide apprenticeship degree
Current Description:	Covers appliances, branch circuits, calculations, services, and code requirements in detail. Prerequisite: TE 9613.
Proposed Description:	Covers residential and commercial lighting, fixtures, and ballast in detail. Includes conductor selection, overcurrent protection, motor maintenance, calculations, controls, troubleshooting, services, construction upgrades, wire methods, tagout, lockout and appliances. Covers series, branch, and parallel circuits in detail, and learn the basic use of a multimeter to check for voltage, current, and resistance. Prerequisites: APR 124 or TE 9613
Reason for Description Change:	To align with statewide apprenticeship degree
Current Learning Outcomes:	Demonstrate understanding of the ground rules of the NEC. Demonstrate detailed knowledge of branch circuits, per the NEC. Demonstrate knowledge of overhead, underground & temporary electrical services, per the NEC. Demonstrate knowledge of series & parallel circuits, voltage drop, and introduction to power factor. Demonstrate knowledge of outside branch circuits, feeder and messenger supported wiring. Demonstrate knowledge of DC Motors, Generators, and AC Motors.

Proposed Learning Outcomes:	Calculate incandescent loads, as well as make industrial lighting calculations. Explain branch circuit terminology as outlined in the NEC. Use math formulas to solve standard ballast and electronic ballast calculations. Explain fuse types and standard fuse ratings required for protection of certain devices. Perform ampacity, overload, branch circuit, short circuit and ground fault calculations according to Article 430 specifications. Explain outside branch circuits, feeder and messenger supported wiring. Explain the general requirements for wiring methods and installation. Recite the definitions and the use of open wiring on insulators. Discuss common lighting fixtures and their applications. Solve basic short circuit calculations. Explain the applications for basic interrupting ratings, withstand capability of circuit breakers, busways and transfer switches. Explain Article 450, including transformer overcurrent protection. Explain the basics of selective coordination, component protection, principles of current limitation and series ratings of overcurrent devices. Calculate electrical construction upgrades using standard and optional methods. Describe various troubleshooting techniques of trade-specific equipment. Discuss motor theory, motor control, motor starters and calculations. Understand motor maintenance and troubleshooting including lockout and tagout requirements.
Reason for Learning Outcomes Change:	The Trades & Industry Department is participating in a new state-wide apprenticeship degree pathway. The Trades & Industry Department currently uses Trade Extension (TE) as their subject code for three separate programs: apprenticeship, facilities maintenance technology and electrical trades. The TE structure is

	being broken into three new subject codes: APR for Apprenticeship, FMT for Facilities Maintenance Technology and ELT for Electrical Trades. All courses will move to 100 and 200 level course numbering. This framework provides additional access to courses, compliance with revised OAR's, alignment with BOLI standards, transferability of credit among Oregon colleges - all in an effort to increase degree completion. In addition, students will be able to locate classes more efficiently with the new indicators.
Current Prerequisites:	TE 9613
Proposed Prerequisites:	APR 124
Will this impact other SACs?,Is there an impact on other SACs?:	No
Will this impact other Depts/Campuses?,Is there an impact on another dept or campus?:	No
Request Term:	summer
Requested Year:	2008
Contact Name:	Katrina Cloud
Contact E-Mail:	kcloud@pcc.edu

Curriculum Request Form
Course Revision

CHANGE:	Course Number,Course Title,Course Description,Requisites,Learning Outcomes
Current Course Number:	TE 9615
Proposed Course Number:	APR 126
Current Course Title:	Electrical VI: 2nd Year, 3rd Term
Proposed Course Title:	Electrical Systems Installation per NEC
Proposed Transcript Title:	Elect. Systems Install per NEC
Reason for Title Change:	To align with statewide apprenticeship degree
Current Description:	Covers residential and commercial lighting and fixtures, cranes and hoists, emergency systems, and power circuiting in various locations. Includes detailed code requirements. Prerequisite: TE 9614.
Proposed Description:	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
Reason for Description Change:	To align with statewide apprenticeship degree
Current Learning Outcomes:	Demonstrate knowledge of common lighting fixtures & their applications. Demonstrate understanding of standard ballast calculations as well as electronic ballasts. Calculate incandescent loads, as well as make Industrial Lighting calculations. Demonstrate understanding of Industrial Cranes and Hoists, along with NEC requirements. Demonstrate understanding of typical types of emergency systems, such as battery back-up and UPS. Demonstrate knowledge of NEC requirements in industry.

Demonstrate knowledge of DC Motor Applications, Overcurrent Protection (Article 240 - NEC), Industrial Calculations, wire sizing, fuse, and breaker sizing, Conduit types and uses, Motor circuits, and Motor circuit calculations.

Demonstrate understanding of Basic Short Circuit Calculations, Basic Interrupting Ratings, Withstand Capability of Circuit Breakers, Fuses, Busway, Wire, Motor Starters, and Transfer Switches.

Demonstrate understanding of Basics of Selective Coordination, Component Protection, Principles of Current Limitation, and Series Ratings of Overcurrent Devices.

Proposed Learning Outcomes:

Explain typical types of emergency systems, such as battery back-up and UPS.

Describe heat tracing and freezing protection.

Explain fire alarm systems and installation practices.

Determine when temporary electrical services are needed and what equipment is necessary.

Discuss the different types of specialty systems.

Describe various troubleshooting techniques of trade-specific equipment.

Demonstrate safe working conditions in accordance with state and federal regulations.

Describe and apply basic theory of electrical sources.

Explain the practical skills most commonly used by a journeyperson.

Determine the difference between a low voltage and limited energy circuit.

Explain the ground rules of the NEC.

Describe how the National Electrical Code is organized and how it applies to motor use and ratings.

Locate code requirements for overhead, underground and temporary electrical services.

Interpret NEC requirements in industry.

Reason for Learning Outcomes Change:	The Trades & Industry Department is participating in a new state-wide apprenticeship degree pathway. The Trades & Industry Department currently uses Trade Extension (TE) as their subject code for three separate programs: apprenticeship, facilities maintenance technology and electrical trades. The TE structure is being broken into three new subject codes: APR for Apprenticeship, FMT for Facilities Maintenance Technology and ELT for Electrical Trades. All courses will move to 100 and 200 level course numbering. This framework provides additional access to courses, compliance with revised OAR's, alignment with BOLI standards, transferability of credit among Oregon colleges - all in an effort to increase degree completion. In addition, students will be able to locate classes more efficiently with the new indicators.
Current Prerequisites:	TE 9614
Proposed Prerequisites:	APR 125
Will this impact other SACs?,Is there an impact on other SACs?:	No
Will this impact other Depts/Campuses?,Is there an impact on another dept or campus?:	No
Request Term:	summer
Requested Year:	2008
Contact Name:	Katrina Cloud
Contact E-Mail:	kcloud@pcc.edu

Curriculum Request Form
Course Revision

CHANGE:	Course Number,Course Description,Requisites,Learning Outcomes
Current Course Number:	TE 9145
Proposed Course Number:	APR 201
Current Course Title:	Electrical Motor Controls
Current Description:	Provides the knowledge and skills needed to service electric motors. Focuses on the operation and installation of control systems, specifically motor starters and controllers. Includes 16 Code Related hours of Continuing Education Unit credits for Oregon State regimenting purposes.
Proposed Description:	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 201and ELT 201 cannot both be taken for credit.
Reason for Description Change:	To align with statewide apprenticeship degree
Current Learning Outcomes:	Demonstrate knowledge of the general principles of electric motor control and the common types of starters. Demonstrate understanding of the function of control pilot devices as a component of motor control. Demonstrate knowledge of the common electrical symbols, connections and layouts. Demonstrate understanding and ability to install or repair

selected basic control circuits.

Demonstrate understanding of the reasons for the use of reduced voltage starting.

Demonstrate understanding of the operating principles on which the squirrel cage motor is based

Demonstrate understanding of the advantages of an AC three-phase wound rotor, or slip ring, induction motor.

Demonstrate understanding of the operation and application of a synchronous motor.

Demonstrate understanding of direct-current motors and their use in a variety of industries.

Demonstrate understanding of several methods of repeated closure of a circuit.

Demonstrate knowledge of the installation of motor drives and how to calculate the size required.

Proposed Learning Outcomes:

Explain the general principles of electric motor control and the common types of starters.

Demonstrate the function of control pilot devices as a component of motor control.

Identify the common electrical symbols, connections and layouts.

Recognize electrical schematics, wiring devices and control diagrams.

Install and repair basic circuits.

Explain the reasons for the use of reduced voltage starting.

Demonstrate safe working conditions in accordance with state and federal regulations.

Describe the operating principles on which the squirrel cage motor is based.

Describe the operation of control systems, motor starters

	and controllers. Discuss the advantages of an AC three-phase wound motor, slip ring, and induction motor. Explain the operation and application of a synchronous motor. Discuss direct-current motors and their use in a variety of industries. Install motor drives. Calculate the required size motor for installation of assigned tasks. Discuss electromagnetic controls, motors and transformers Utilize electrical test equipment to analyze electric motor control malfunctions. Perform motor maintenance.
Reason for Learning Outcomes Change:	The Trades & Industry Department is participating in a new state-wide apprenticeship degree pathway. The Trades & Industry Department currently uses Trade Extension (TE) as their subject code for three separate programs: apprenticeship, facilities maintenance technology and electrical trades. The TE structure is being broken into three new subject codes: APR for Apprenticeship, FMT for Facilities Maintenance Technology and ELT for Electrical Trades. All courses will move to 100 and 200 level course numbering. This framework provides additional access to courses, compliance with revised OAR's, alignment with BOLI standards, transferability of credit among Oregon colleges - all in an effort to increase degree completion. In addition, students will be able to locate classes more efficiently with the new indicators.
Will this impact other SACs?,Is there an impact on other SACs?:	No
Will this impact other	No

Depts/Campuses?,Is there an impact on another dept or campus?:

Request Term:	summer
Requested Year:	2008
Contact Name:	Katrina Cloud
Contact E-Mail:	kcloud@pcc.edu

Curriculum Request Form
Course Revision

CHANGE:	Course Number,Course Title,Course Description,Requisites,Learning Outcomes
Current Course Number:	TE 9636
Proposed Course Number:	APR 202
Current Course Title:	LME Electrical VI
Proposed Course Title:	LME: Electrical Code Level I
Reason for Title Change:	To align with statewide apprenticeship degree
Current Description:	This course lays the foundation for students seeking to gain a working knowledge of the National Electrical Code. Focuses on State of Oregon statutes governing electrical installations as well as Building Codes Division administrative rules covering license requirements and responsibilities. Covers other codes and publications which impact electrical installations as well as State of Oregon Amendments to the National Electrical Code. Provides a basic introduction to the National Electrical Code.
Proposed Description:	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, circuit-protection, wiring methods, materials, and electrical safety standards. Prerequisites: APR 104 or TE 9634.
Reason for Description Change:	To align with statewide apprenticeship degree
Current Learning Outcomes:	Demonstrate knowledge of State statutes governing electrical installations. Demonstrate knowledge of State Administrative Rules governing electrical installations and electrical licenses. Demonstrate knowledge of State amendments to the NEC and how they change the NEC general rule. Demonstrate knowledge of electrical requirements in other publications and codes that are in addition to the NEC but impact the electrical installation.

	Demonstrate knowledge of NEC requirements about branch circuits, feeders, overcurrent devices, grounding, bonding as well as understand definitions of terms used in the NEC.
Proposed Learning Outcomes:	Locate code requirements for wiring methods required or permitted by the NEC. Locate code requirements for materials used in electrical installations. Locate code requirements for lamp holders, lamps, and lighting fixtures. Locate code requirements for motors, motor circuits, and controllers. Locate code requirements for transformers. Locate code requirements for luminaries, cords, switchboards and panel boards. Locate code requirements for raceways, boxes, cables, and conductors. Use the NEC articles and tables to perform various calculations. Explain over current protection and lighting fundamentals. Prepare for state exam. Complete and pass timed practice exams. Complete NEC code preparation exams with a 75% or higher.
Reason for Learning Outcomes Change:	The Trades & Industry Department is participating in a new state-wide apprenticeship degree pathway. The Trades & Industry Department currently uses Trade Extension (TE) as their subject code for three separate programs: apprenticeship, facilities maintenance technology and electrical trades. The TE structure is being broken into three new subject codes: APR for Apprenticeship, FMT for Facilities Maintenance Technology and ELT for Electrical Trades. All courses will move to 100 and 200 level course numbering. This framework provides additional access to courses, compliance with revised OAR’s, alignment with BOLI standards, transferability of credit among Oregon colleges - all in an effort to increase degree completion. In addition, students will be able to locate classes more efficiently with the new indicators.
Current Prerequisites:	None

Proposed Prerequisites:	APR 104 or TE 9634.
Will this impact other SACs?,Is there an impact on other SACs?:	no
Will this impact other Depts/Campuses?,Is there an impact on another dept or campus?:	No
Request Term:	summer
Requested Year:	2008
Contact Name:	Katrina Cloud
Contact E-Mail:	kcloud@pcc.edu

Curriculum Request Form
Course Revision

CHANGE:	Course Number,Course Title,Course Description,Requisites,Learning Outcomes
Current Course Number:	TE 9637
Proposed Course Number:	APR 203
Current Course Title:	LME Electrical VII
Proposed Course Title:	LME: Electrical Code - Level II
Proposed Transcript Title:	LME: Electrical Code-Level II
Reason for Title Change:	To align with statewide apprenticeship degree
Current Description:	Covers wiring methods and materials referenced in the NEC. Instructs how to find the Code requirements about raceways, boxes, cables, conductors, and wiring methods. Electrical equipment such as appliances, motors, luminairs, air conditioners, cords, switchboards and panelboards will be discussed, focusing on the code requirement for each type of installation.
Proposed Description:	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, place of assembly, theaters, manufactured buildings, mobile homes, temporary locations, etc. Electrical standards will be emphasized. Prerequisites: APR 202 or TE 9636
Reason for Description Change:	To align with statewide apprenticeship degree
Current Learning Outcomes:	Locate code requirements for wiring methods required or permitted by the NEC. Locate code requirements for materials used in the electrical installations.

	Locate code requirements for lampholders, lamps, and lighting fixtures.
	Locate code requirements for motors, motor circuits, and controllers.
	Locate code requirements for transformers.
	Locate code requirements for electric space heating equipment and air conditioners.
Proposed Learning Outcomes:	Solve electrical equations using trade-specific mathematical formulas.
	Interpret NEC and Oregon Specialty Codes.
	Locate code requirements for special occupancies such as flammable locations, hospitals, spray booths and places of assembly.
	Locate code requirements for such as special equipment as computer rooms, cranes, hoists, elevators, and welders.
	Locate code requirements for emergency systems, legally required systems, optional systems and identify the differences between the systems.
	Locate code requirements for Class 1, Class 2, and Class 3 circuits and identify the differences between the systems.
	Locate code requirements for powerlimited fire alarm systems and non-powerlimited fire alarm systems.
	Locate code requirements for communication systems such as radio, television and CATV systems.
	Demonstrate knowledge of industry terminology.
	Use industry terminology and the NEC to problem solve and find answers to electrical problems.
	Explain thoroughly the general layout, structure, organization and numbering system of the National Electrical Code.
	Cluster code articles into wiring methods and protection, special conditions, equipment and occupancies and communications

	systems and demonstrate location of each. Use the NEC articles and tables to perform various calculations. Prepare for state exam. Complete and pass timed practice exams. Complete NEC code preparation exams with a 75% or higher.
Reason for Learning Outcomes Change:	The Trades & Industry Department is participating in a new state-wide apprenticeship degree pathway. The Trades & Industry Department currently uses Trade Extension (TE) as their subject code for three separate programs: apprenticeship, facilities maintenance technology and electrical trades. The TE structure is being broken into three new subject codes: APR for Apprenticeship, FMT for Facilities Maintenance Technology and ELT for Electrical Trades. All courses will move to 100 and 200 level course numbering. This framework provides additional access to courses, compliance with revised OAR's, alignment with BOLI standards, transferability of credit among Oregon colleges - all in an effort to increase degree completion. In addition, students will be able to locate classes more efficiently with the new indicators.
Current Prerequisites:	None
Proposed Prerequisites:	Prerequisites: APR 202 or TE 9636
Will this impact other SACs?,Is there an impact on other SACs?:	No
Will this impact other Depts/Campuses?,Is there an impact on another dept or campus?:	No
Request Term:	summer
Requested Year:	2008
Contact Name:	Katrina Cloud
Contact E-Mail:	kcloud@pcc.edu

Curriculum Request Form
Course Revision

CHANGE:	Course Number,Course Title,Course Description,Requisites,Learning Outcomes
Current Course Number:	TE 9638
Proposed Course Number:	APR 204
Current Course Title:	LME Electrical VIII
Proposed Course Title:	LME: Electrical Code - Level III
Proposed Transcript Title:	LME: Electrical Code - Level III
Reason for Title Change:	To align with statewide apprenticeship degree
Current Description:	This course assists students in locating and understanding electrical code requirements for hazardous locations such as gas stations spray booths, etc. Covers Requirements for healthcare facilities, places of assembly, electric sign, elevators, computer rooms, emergency systems, signaling circuits, fire alarm systems and communication systems.
Proposed Description:	Provides a working 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 fountains; 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, state of Oregon amendments, supplemental code reference materials, safety standards and practice exams. Prerequisites: APR 204 or TE 9637
Reason for Description Change:	To align with statewide apprenticeship degree
Current Learning Outcomes:	Locate code requirements for special occupancies such as flammable locations, hospitals, spray booths and places of assembly. Locate code requirements for such special equipment as computer

rooms, cranes, hoists, elevators, and welders.

Locate code requirements for emergency systems, legally required systems, optional systems and identify the differences between the systems.

Locate code requirements for Class 1, Class 2, and Class 3 circuits and identify the differences between the systems.

Locate code requirements for powerlimited fire alarm systems and non-powerlimited fire alarm systems.

Locate code requirements for communication systems such as radio, television and CATV systems.

Proposed Learning Outcomes:

Solve mathematical formulas and equations of theory.
Interpret NEC and Oregon Specialty Codes.

Discuss state statutes governing electrical installations.

Understand state administrative rules governing electrical installations and electrical licenses.

Explain state amendments to the NEC and how they change the NEC general rule.

Interpret electrical requirements in other publications and codes that are in addition to the NEC but impact the electrical installation.

Recognize NEC requirements about branch circuits, feeders, overcurrent devices, grounding, and bonding as well as understand definitions of terms used in the NEC.

Use the NEC articles and tables to perform various calculations.
Identify NEC code book clues, key words and phrases.

Utilize the Oregon Administrative Rules (OAR's) in relation to the NEC and Oregon Specialty Codes (OSC).

Use the NEC to find answers to electrical problems.
Prepare for state exam.

Complete and pass timed practice exams.

Complete NEC code preparation exams with a 75% or higher.

Reason for Learning Outcomes Change:	The Trades & Industry Department is participating in a new state-wide apprenticeship degree pathway. The Trades & Industry Department currently uses Trade Extension (TE) as their subject code for three separate programs: apprenticeship, facilities maintenance technology and electrical trades. The TE structure is being broken into three new subject codes: APR for Apprenticeship, FMT for Facilities Maintenance Technology and ELT for Electrical Trades. All courses will move to 100 and 200 level course numbering. This framework provides additional access to courses, compliance with revised OAR's, alignment with BOLI standards, transferability of credit among Oregon colleges - all in an effort to increase degree completion. In addition, students will be able to locate classes more efficiently with the new indicators.
Current Prerequisites:	None
Proposed Prerequisites:	APR 204 or TE 9637
Will this impact other SACs?,Is there an impact on other SACs?:	No
Will this impact other Depts/Campuses?,Is there an impact on another dept or campus?:	No
Request Term:	summer
Requested Year:	2008
Contact Name:	Katrina Cloud
Contact E-Mail:	kcloud@pcc.edu

Curriculum Request Form
Course Revision

CHANGE:	Course Number,Course Title,Course Description,Requisites,Learning Outcomes
Current Course Number:	TE 9616
Proposed Course Number:	APR 221
Current Course Title:	Electrical VII: 3rd Year, 1st Term
Proposed Course Title:	Advanced AC Circuitry
Reason for Title Change:	To align with statewide apprenticeship degree
Current Description:	Covers the theory of alternating current and power. 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. Prerequisite: TE 9615.
Proposed Description:	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
Reason for Description Change:	To align with statewide apprenticeship degree
Current Learning Outcomes:	Discuss generation of alternating current, discuss advantages of alternating current, perform calculations of peak, instantaneous, and effective values and perform Ohm's law calculations. Discuss differences and similarities between AC and DC circuits, calculate voltage, current, and resistance. Discuss factors that influence inductive reactance and where they are seen in an industrial plant and perform circuit calculations with these factors considered. Discuss factors that influence capacitance and capacitive reactance, and where they are seen in an industrial plant and perform circuit calculations with these factors considered.

Discuss factors and what can be done to improve power factor and calculate the kvar required to improve p.f. to a particular value.

Calculate circuit power for single and three-phase circuits considering a range of factors and power factors.

Use vectors to demonstrate the principles learned and demonstrate the application of principles of single phase motors.

Describe delta and wye configurations and calculate line phase voltage, current and impedance.

Describe the use of power factor correction and power supply capacitors including their use, sizing, and the Code requirements for their installation and discuss safety precautions involved with capacitors.

Proposed Learning Outcomes:

Discuss the generation and advantages of alternating current. Perform peak, instantaneous, effective values and Ohm's law calculations.

Discuss differences and similarities between AC and DC circuits, calculate voltage, current, and resistance.

Explain factors that influence inductive reactance, where they are seen in an industrial plant and perform circuit calculations with these factors considered.

Discuss factors that influence capacitance and capacitive reactance, where they are seen in an industrial plant and perform circuit calculations with these factors considered.

Discuss what can be done to improve power factor and calculate the kvar required to improve power factor. to a particular value.

Calculate circuit power for single and three-phase circuits considering a range of factors and power factors.

Use vectors to demonstrate the principles learned and explain the application of principles of single phase motors.

Demonstrate safe working conditions in accordance with state and federal regulations.

Describe and apply basic theory of electrical sources.

Use delta and Wye configurations to calculate line phase voltage, current and impedance.

	Describe the use of power factor correction and power supply capacitors including their use, sizing and code requirements for installation. Explain safety precautions involved with capacitors. Discuss the differences and similarities of AC/DC circuits, voltage, current and resistance. Describe power factor correction, power supply, code requirements and safety.
Reason for Learning Outcomes Change:	The Trades & Industry Department is participating in a new state-wide apprenticeship degree pathway. The Trades & Industry Department currently uses Trade Extension (TE) as their subject code for three separate programs: apprenticeship, facilities maintenance technology and electrical trades. The TE structure is being broken into three new subject codes: APR for Apprenticeship, FMT for Facilities Maintenance Technology and ELT for Electrical Trades. All courses will move to 100 and 200 level course numbering. This framework provides additional access to courses, compliance with revised OAR's, alignment with BOLI standards, transferability of credit among Oregon colleges - all in an effort to increase degree completion. In addition, students will be able to locate classes more efficiently with the new indicators.
Current Prerequisites:	TE 9615
Proposed Prerequisites:	APR 124 or TE 9615
Will this impact other SACs?,Is there an impact on other SACs?:	no
Will this impact other Depts/Campuses?,Is there an impact on another dept or campus?:	No
Request Term:	summer
Requested Year:	2008
Contact Name:	Katrina Cloud
Contact E-Mail:	kcloud@pcc.edu

Curriculum Request Form
Course Revision

CHANGE:	Course Number,Course Title,Requisites,Learning Outcomes
Current Course Number:	TE 9617
Proposed Course Number:	APR 222
Current Course Title:	Electrical VIII: 3rd Year, 2nd Term
Proposed Course Title:	Hazardous Locations
Proposed Transcript Title:	Hazardous Locations
Reason for Title Change:	To align with statewide apprenticeship degree
Current Description:	Includes introduction to hazardous locations, Class I, II, III installations, commercial garages-repair and storage, aircraft hangars, gasoline dispensing and service stations, bulk storage plants, finishing processes and health care facilities. Prerequisite: APR 221 or TE 9616 .
Current Learning Outcomes:	Demonstrate understanding, by means of introduction; Hazardous Locations, NEC Article 500, and the principles behind wiring for hazardous locations. Demonstrate knowledge of class I Locations, NEC Article 501, and will be able to describe wiring methods, sealing requirements, and materials for Class I Divisions 1 and 2. Demonstrate knowledge of Class II Locations, NEC Article 502, and will be able to describe wiring methods, sealing requirements, and materials for Class I Division 1 and 2. Demonstrate understanding of Commercial Garages, and NEC Article 512. Demonstrate understanding of Aircraft Hangars, and NEC Article 513. Demonstrate understanding of Gasoline Dispensing and Service Stations, and NEC Article 514. Demonstrate understanding of Bulk Storage Plants, and NEC Article 515. Demonstrate understanding of Finishing Processes, and NEC Article 516, and specifically the principles behind safe installations in paint spray booths and electrostatic coatings. Demonstrate understanding of Health Care Facilities, NEC Article 517, and in particular standby power supplies, redundant grounding, and microshock as well as flammable anesthetizing areas.

Proposed Learning Outcomes:	Explain hazardous locations, NEC Article 500 and the principles behind wiring for hazardous locations. Explain Class I Locations, NEC Article 501 and describe wiring methods, sealing requirements and materials for Class I: Divisions 1 and 2. Discuss Class II Locations, NEC Article 502, and describe wiring methods, sealing requirements and materials for Class I: Division 1 and 2. Discuss commercial garages and NEC Article 512. Discuss aircraft hangars and NEC Article 513. Discuss gasoline dispensing, service stations and NEC Article 514. Discuss bulk storage plants and NEC Article 515. Explain NEC Article 516 for finishing processes and safe installations in spray paint booths and electrostatic coatings. Explain NEC Article 517 for health care facilities, standby power supplies, redundant grounding, micro shock and flammable anesthetizing areas. Understand and explain the concepts, structure and components associated with machine process control. Demonstrate familiarity of industry terminology.
Reason for Learning Outcomes Change:	The Trades & Industry Department is participating in a new state-wide apprenticeship degree pathway. The Trades & Industry Department currently uses Trade Extension (TE) as their subject code for three separate programs: apprenticeship, facilities maintenance technology and electrical trades. The TE structure is being broken into three new subject codes: APR for Apprenticeship, FMT for Facilities Maintenance Technology and ELT for Electrical Trades. All courses will move to 100 and 200 level course numbering. This framework provides additional access to courses, compliance with revised OAR’s, alignment with BOLI standards, transferability of credit among Oregon colleges - all in an effort to increase degree completion. In addition, students will be able to locate classes more efficiently with the new indicators.
Current Prerequisites:	TE 9616

Proposed Prerequisites:	APR 221 or TE 9616
Will this impact other SACs?,Is there an impact on other SACs?:	No
Will this impact other Depts/Campuses?,Is there an impact on another dept or campus?:	No
Request Term:	summer
Requested Year:	2008
Contact Name:	Katrina Cloud
Contact E-Mail:	kcloud@pcc.edu

Curriculum Request Form
Course Revision

CHANGE:	Course Number,Course Title,Course Description,Requisites,Learning Outcomes
Current Course Number:	TE 9618
Proposed Course Number:	APR 223
Current Course Title:	Electrical IX: 3rd Year, 3rd Term
Proposed Course Title:	Motor Control Operations including PLC's
Proposed Transcript Title:	Motor Control Operations/PLC's
Reason for Title Change:	To align with statewide apprenticeship degree
Current Description:	Covers motor and 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. Prerequisite: TE 9617.
Proposed Description:	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. Prerequisite: APR 222 or TE 9617
Reason for Description Change:	To align with statewide apprenticeship degree
Current Learning Outcomes:	Demonstrate understanding of principles of Motor Control, including manual and magnetic starters, dynamic braking, motor nameplates, and overload. Demonstrate understanding of reduced voltage starting, including reasons for and methods of accomplishment. Demonstrate understanding of Pilot Devices, including types and nomenclature of switches, sensors, and timers. Demonstrate understanding of the development of Motor Control Circuits, including two and three-wire circuits and the thought processes involved in developing a complex logic circuit. Demonstrate understanding of troubleshooting of Machine Controls, including procedures and helpful hints for troubleshooting of both familiar and unfamiliar equipment. Demonstrate understanding of Programmable Logic

	Controllers, by means of introducing the basic components, wiring, and programming procedures for PLC's.
Proposed Learning Outcomes:	Explain the principles of motor control including manual starters, magnetic starters, dynamic braking, motor nameplates, and overload. Solve electrical equations using trade specific mathematical formulas. Describe reduced voltage starting, including reasons for and methods of accomplishment. Explain pilot devices, switches, sensors and timers. Discuss the development of motor control circuits, including two and three-wire circuits and the thought processes involved in developing a complex logic circuit. Troubleshoot machine controls. Explain troubleshooting procedures familiar and unfamiliar equipment. Recognize troubleshooting issues for both familiar and unfamiliar equipment. Recognize Programmable Logic Controllers basic components, wiring, and programming procedures. Operate PLC;s according to trade-specific applications and methodology. Know the basic components and their functions that are common to programmable controllers. Troubleshoot PLC operating programs. Interpret PLC schematics to configure communications.
Reason for Learning Outcomes Change:	The Trades & Industry Department is participating in a new state-wide apprenticeship degree pathway. The Trades & Industry Department currently uses Trade Extension (TE) as their subject code for three separate programs: apprenticeship, facilities maintenance technology and electrical trades. The TE structure is being broken into three new subject codes: APR for Apprenticeship, FMT for Facilities Maintenance Technology and ELT for Electrical Trades. All courses will move to 100 and 200 level course numbering. This framework provides additional access to courses, compliance with revised OAR;s, alignment with BOLI standards, transferability of credit among Oregon colleges - all in an effort to increase degree completion. In addition, students will be able to locate classes more efficiently with the new indicators.
Current Prerequisites:	TE 9617
Proposed Prerequisites:	APR 222 or TE 9617
Current Prerequisites/Concurrent:	
Proposed Prerequisites/Concurrent:	

Current Corequisites:	
Proposed Corequisites:	
Will this impact other SACs?,Is there an impact on other SACs?:	no
How other SACs may be impacted:	
Will this impact other Depts/Campuses?,Is there an impact on another dept or campus?:	no
How other Depts/Campuses will be impacted:	
Request Term:	summer
Requested Year:	2008
Contact Name:	Katrina Cloud
Contact E-Mail:	kcloud@pcc.edu

-

Curriculum Request Form
Course Revision

CHANGE:	Course Number,Course Title,Course Description,Requisites,Learning Outcomes
Current Course Number:	TE 9619
Proposed Course Number:	APP 224
Current Course Title:	Electrical X: 4th Year, 1st Term
Proposed Course Title:	Electrical Code - Level I
Reason for Title Change:	To align with statewide apprenticeship degree
Current Description:	First of three courses which emphasize the use and understanding of the National Electrical Code book. Assists plant maintenance electricians in preparing for the state electrical exam. Topics include grounding, motors, transformers, overcurrent protection and feeders. Prerequisite: TE 9618.
Proposed Description:	Emphasize the use and understanding of the NEC. Assists plant maintenance electricians in preparing for the state electrical exam. Topics include grounding, motors, wiring methods, overcurrent protection, branch circuits, calculations, feeders and specialty codes. Prerequisites: APR 223 or TE 9618
Reason for Description Change:	To align with statewide apprenticeship degree
Current Learning Outcomes:	Discuss generation of alternating current, discuss advantages of alternating current, perform calculations of peak, instantaneous, and effective values and perform Ohm's law calculations. Discuss differences and similarities between AC and DC circuits, calculate voltage, current, and resistance. Discuss factors that influence inductive reactance and where they are seen in an industrial plant and perform circuit calculations with these factors considered. Discuss factors that influence capacitance and capacitive reactance, and where they are seen in an industrial plant and perform circuit calculations with these factors considered. Discuss factors and what can be done to improve power factor and calculate the kvar required to improve p.f. to a particular

value.

Calculate circuit power for single and three-phase circuits considering a range of factors and power factors.

Use vectors to demonstrate the principles learned and demonstrate the application of principles of single phase motors.

Describe delta and wye configurations and calculate line phase voltage, current and impedance.

Describe the use of power factor correction and power supply capacitors including their use, sizing, and the Code requirements for their installation and discuss safety precautions involved with capacitors.

Proposed Learning Outcomes:

Interpret NEC and Oregon Specialty Codes.
Interpret Article 90 and 100 of the NEC.

Explain how to use the NEC code book and locate descriptions.

Interpret Article 110 of the NEC.

Explain the NEC requirements for electrical installations.
Interpret Articles 215 through 225 of the NEC.

Explain the NEC requirements for feeders and branch circuits.
Solve service calculations.

Interpret Article 230 of the NEC.

Explain the NEC requirements for services, overcurrent protection.

Interpret Article 250 and 280 of the NEC.

Explain the NEC requirements for grounding, bonding and surge arresters.

Interpret Article 300 of the NEC.

Explain the NEC requirements for wiring methods and temporary wiring.

Interpret Article 310 of the NEC.

Explain the NEC requirements for conductors for general wiring.

Demonstrate familiarity of industry terminology.

Utilize the Oregon Administrative Rules (OAR's) in relation to the

	NEC and Oregon Specialty Codes (OSC). Use the NEC articles and tables to perform various calculations. Prepare for the NEC code exam. Complete and pass timed practice exams. Complete the NEC code preparation exams with a 75% or higher.
Reason for Learning Outcomes Change:	The Trades & Industry Department is participating in a new state-wide apprenticeship degree pathway. The Trades & Industry Department currently uses Trade Extension (TE) as their subject code for three separate programs: apprenticeship, facilities maintenance technology and electrical trades. The TE structure is being broken into three new subject codes: APR for Apprenticeship, FMT for Facilities Maintenance Technology and ELT for Electrical Trades. All courses will move to 100 and 200 level course numbering. This framework provides additional access to courses, compliance with revised OAR's, alignment with BOLI standards, transferability of credit among Oregon colleges - all in an effort to increase degree completion. In addition, students will be able to locate classes more efficiently with the new indicators.
Current Prerequisites:	TE 9618
Proposed Prerequisites:	APR 223 or TE 9618
Will this impact other SACs?,Is there an impact on other SACs?:	No
Will this impact other Depts/Campuses?,Is there an impact on another dept or campus?:	No
Request Term:	summer
Requested Year:	2008
Contact Name:	Katrina Cloud
Contact E-Mail:	kcloud@pcc.edu

Curriculum Request Form
Course Revision

CHANGE:	Course Number,Course Title,Course Description,Requisites,Learning Outcomes
Current Course Number:	TE 9620
Proposed Course Number:	APR 225
Current Course Title:	Electrical XI: 4th Year, 2nd Term
Proposed Course Title:	Electrical Code - Level II
Proposed Transcript Title:	
Reason for Title Change:	To align with statewide apprenticeship degree
Current Description:	Covers the second part of code review, motors, XFMRS., voltage drop calculations, feeder-broauers, and loads. Topics include busway, cable bus, switches, SWBDS., panel boards, high voltage equipment, and installation of electrical systems used in commercial and industrial installations. Prerequisite: TE 9619.
Proposed Description:	Emphasizes the use and understanding of the NEC. Topics include cable, raceway, busway, cablebus, switches, panel boards, lighting, heating equipment, transformers and practice exams. Prerequisites: APR 224 or TE 9619
Reason for Description Change:	To align with statewide apprenticeship degree
Current Learning Outcomes:	Demonstrate understanding of feeder ducts, suspension methods, bus plugs. Determine numbers and types of electrical panels required, describe panel construction, demonstrate knowledge of where panels locate and adjust circuit breakers magnetic trips. Demonstrate understanding of trolley runs, feed-in adapters, trolleys, conduit, lighting and cord drops/strain reliefs. Demonstrate ability to select a conductor from the proper wire table, knowledge of types of insulation, and characteristics, correct for proper ampacity, and discuss use of a megger. Demonstrate understanding of conductors and conductor material, insulation, correction factors, underground conductors, resistance, parallel conductors and test wire installations.

Proposed Learning Outcomes:

Interpret NEC and Oregon Specialty Codes.

Interpret Articles 318 through 365 of the NEC.

Explain NEC requirements for cable and conduit types.

Interpret Articles 370 through 384 of the NEC.

Explain NEC requirements for cablebus, raceways, wireways, assemblies and extensions.

Interpret Articles 400 through 411 of the NEC.

Explain NEC requirements for cords, cables, fixture wires, switches, receptacles, code connectors, attachment plugs, switchboards, panel boards and industrial control panels.

Explain NEC requirements for luminaries, lamp holders, lamps and lighting systems operating at 30 volts or less.

Interpret Articles 422 through 427 of the NEC.

Explain NEC requirements for electric heating equipment.

Interpret Article 430 of the NEC.

Explain NEC requirements for motors, motor circuits and controllers.

Interpret Articles 440 through 450 of the NEC.

Explain NEC requirements for air conditioners, refrigeration equipment, generators, transformers and transformer vaults. Interpret Articles 455 through 480 of the NEC.

Explain NEC requirements for phase converters, capacitors, resisters, reactor and storage batteries.

Identify motor control, Arc fault and GFCI in the NEC code.

Utilize the Oregon Administrative Rules (OAR's) in relation to the NEC and Oregon Specialty Codes (OSC).

Use the NEC articles and tables to perform various calculations.

Prepare for state exam.

Complete and pass timed practice exams.

Complete the NEC code preparation exams with a 75% or higher.

Reason for Learning Outcomes Change:	The Trades & Industry Department is participating in a new state-wide apprenticeship degree pathway. The Trades & Industry Department currently uses Trade Extension (TE) as their subject code for three separate programs: apprenticeship, facilities maintenance technology and electrical trades. The TE structure is being broken into three new subject codes: APR for Apprenticeship, FMT for Facilities Maintenance Technology and ELT for Electrical Trades. All courses will move to 100 and 200 level course numbering. This framework provides additional access to courses, compliance with revised OAR's, alignment with BOLI standards, transferability of credit among Oregon colleges - all in an effort to increase degree completion. In addition, students will be able to locate classes more efficiently with the new indicators.
Current Prerequisites:	TE 9619
Proposed Prerequisites:	APR 224 or TE 9619
Will this impact other SACs?,Is there an impact on other SACs?:	No
Will this impact other Depts/Campuses?,Is there an impact on another dept or campus?:	No
Request Term:	summer
Requested Year:	2008
Contact Name:	Katrina Cloud
Contact E-Mail:	kcloud@pcc.edu

Curriculum Request Form
Course Revision

CHANGE:	Course Number,Course Title,Course Description,Requisites,Learning Outcomes
Current Course Number:	TE 9621
Proposed Course Number:	APR 226
Current Course Title:	Electrical XII: 4th Year, 3rd Term
Proposed Course Title:	Electrical Code - Level III
Reason for Title Change:	To align with statewide apprenticeship degree
Current Description:	Covers the National Electric Code and prepares the apprentice/student to become a licensed Manufacturing Plant Electrician journeyperson. Prerequisite: TE 9620.
Proposed Description:	Emphasizes the use of understanding of the NEC. Topics includes code articles, OAR's, supplemental code reference materials, calculations and practice exams. Prepares the student apprentice to become a licensed Manufacturing Plant Electrician Journeyperson. Prerequisite APR 225 or TE 9620
Reason for Description Change:	To align with statewide apprenticeship degree
Current Learning Outcomes:	Demonstrate understanding of Chapter 1 - General requirements of the NEC Demonstrate understanding of Chapter 2 - Wiring & Protection requirement of the NEC Demonstrate understanding of Chapter 3 - Wiring Methods of the NEC Demonstrate understanding of Chapter 4 - Equipment requirements of the NEC Demonstrate understanding of Chapter 5 - Special Occupancies of the NEC Demonstrate understanding of Chapter 6 - Special Equipment of the NEC Demonstrate understanding of Chapter 7 - Special Conditions of the NEC

Demonstrate understanding of Chapter 8 - Communication Systems of the NEC

Demonstrate understanding of Chapter 9 - Tables and Examples Sections of the NEC

Proposed Learning Outcomes:

Interpret NEC and Oregon Specialty Codes.

Utilize the tables and examples sections of the NEC.

Interpret Articles 500 through 517 of the NEC.

Explain NEC requirements for hazardous locations: Classes I, Class II, Class III, Division 1 and Division 2.

Interpret Articles 517 through 525 of the NEC.

Explain NEC requirements for special occupancy locations.

Interpret Articles 530 through 590 of the NEC.

Explain NEC requirements for specialized locations.

Interpret Articles 600 through 675 of the NEC.

Explain NEC requirements for specialized equipment such as industrial equipment, electric signs, audio equipment, information technology equipment, irrigation, and x-ray equipment.

Explain NEC requirements for moving equipment such as cranes, elevators and electric vehicle charging systems.

Interpret Articles 680 through 695 of the NEC.

Explain NEC requirements for swimming pools, fountains, solar photovoltaic systems, fuel cell systems, and fire pumps.

Interpret Articles 700 through 830 of the NEC.

Explain NEC requirements for special conditions such as emergency systems, standby systems, critical operating systems, fire alarms, fiber optics, communication, radio, television and network systems.

Locate code supplements in NEC reference materials.
Explain NEC requirements for signaling circuits.
Prepare for state exam.

Use the NEC articles and tables to perform various calculations.

	Cluster code articles into wiring methods and protection, special conditions, equipment and occupancies and communications systems and locate each. Utilize the Oregon Administrative Rules (OAR's) in relation to the NEC and Oregon Specialty Codes (OSC). Complete and pass timed practice exams. Complete the NEC code preparation exams with a 75% or higher.
Reason for Learning Outcomes Change:	The Trades & Industry Department is participating in a new state-wide apprenticeship degree pathway. The Trades & Industry Department currently uses Trade Extension (TE) as their subject code for three separate programs: apprenticeship, facilities maintenance technology and electrical trades. The TE structure is being broken into three new subject codes: APR for Apprenticeship, FMT for Facilities Maintenance Technology and ELT for Electrical Trades. All courses will move to 100 and 200 level course numbering. This framework provides additional access to courses, compliance with revised OAR's, alignment with BOLI standards, transferability of credit among Oregon colleges - all in an effort to increase degree completion. In addition, students will be able to locate classes more efficiently with the new indicators.
Current Prerequisites:	TE 9620
Proposed Prerequisites:	APR 225 or TE 9620
Will this impact other SACs?,Is there an impact on other SACs?:	No
Will this impact other Depts/Campuses?,Is there an impact on another dept or campus?:	No
Request Term:	summer
Requested Year:	2008
Contact Name:	Katrina Cloud
Contact E-Mail:	kcloud@pcc.edu

Curriculum Request Form
Contact/Credit Hour

Current Course Number:	APR 202
Current Course Title:	LME: Electrical Code - Level I

	Current	Proposed
Lecture Hours:	3	4
Contact Hours:	3	4
Credits:	3	4

Reason for Change: The Trades & Industry Department is participating in a new state-wide apprenticeship degree pathway. The Trades & Industry Department currently uses Trade Extension (TE) as their subject code for three separate programs: apprenticeship, facilities maintenance technology and electrical trades. The TE structure is being broken into three new subject codes: APR for Apprenticeship, FMT for Facilities Maintenance Technology and ELT for Electrical Trades. All courses will move to 100 and 200 level course numbering.

This framework provides additional access to courses, compliance with revised OAR's, alignment with BOLI standards, transferability of credit among Oregon colleges - all in an effort to increase degree completion. In addition, students will be able to locate classes more efficiently with the new indicators.

The credit change is needed to align with the statewide apprenticeship degree. In addition, students need additional code knowledge to pass their journeyperson exam.

Are outcomes affected?:	YES
Are degrees/certs affected?:	YES
Is there an impact on other Dept/Campus?:	NO
Is there potential conflict with another SAC?:	NO
Implem. Term:	Summer
Implementation Year,Implem. Year:	2008

Contact Name: Katrina Cloud
Contact Email: kcloud@pcc.edu

Curriculum Request Form
Contact/Credit Hour Change

Current Course Number:	APR 203
Current Course Title:	LME: Electrical Code - Level II

	Current	Proposed
Current Lecture Hours:	3	4
Total Contact Hours:	3	4
Current Credits:	3	4

Reason for Change: The Trades & Industry Department is participating in a new state-wide apprenticeship degree pathway. The Trades & Industry Department currently uses Trade Extension (TE) as their subject code for three separate programs: apprenticeship, facilities maintenance technology and electrical trades. The TE structure is being broken into three new subject codes: APR for Apprenticeship, FMT for Facilities Maintenance Technology and ELT for Electrical Trades. All courses will move to 100 and 200 level course numbering.

This framework provides additional access to courses, compliance with revised OAR's, alignment with BOLI standards, transferability of credit among Oregon colleges - all in an effort to increase degree completion. In addition, students will be able to locate classes more efficiently with the new indicators.

The credit change is needed to align with the statewide apprenticeship degree. In addition, students need additional code knowledge to pass their journeyperson exam.

Are outcomes affected?:	YES
Are degrees/certs affected?:	YES
Is there an impact on other Dept/Campus?:	NO
Is there potential conflict with another SAC?:	NO

Impact on SACs:	
Implem. Term:	Summer
Implementation Year,Implem. Year:	2008
Contact Name:	Katrina Cloud
Contact Email:	kcloud@pcc.edu

Curriculum Request Form
Contact/Credit Hour Change

Current Course Number:	APR 204
Current Course Title:	LME: Electrical Code - Level III

	Current	Proposed
Current Lecture Hours:	3	4
Total Contact Hours:	3	4
Current Credits:	3	4

Reason for Change: The Trades & Industry Department is participating in a new state-wide apprenticeship degree pathway. The Trades & Industry Department currently uses Trade Extension (TE) as their subject code for three separate programs: apprenticeship, facilities maintenance technology and electrical trades. The TE structure is being broken into three new subject codes: APR for Apprenticeship, FMT for Facilities Maintenance Technology and ELT for Electrical Trades. All courses will move to 100 and 200 level course numbering.

This framework provides additional access to courses, compliance with revised OAR's, alignment with BOLI standards, transferability of credit among Oregon colleges - all in an effort to increase degree completion. In addition, students will be able to locate classes more efficiently with the new indicators.

The credit change is needed to align with the statewide apprenticeship degree. In addition, students need additional code knowledge to pass their journeyperson exam.

Are outcomes affected?:	YES
Are degrees/certs affected?:	YES
Is there an impact on other Dept/Campus?:	NO
Impact on Dept/Campus:	
Is there potential conflict with another SAC?:	NO
Impact on SACs:	
Implem. Term:	Summer
Implementation	2008

Year,Implem. Year:
Contact Name: Katrina Cloud
Contact Email: kcloud@pcc.edu

Curriculum Request Form
Contact/Credit Hour Change

Current Course Number:	APR 224
Current Course Title:	Electrical Code - Level I

	Current	Proposed
Lecture Hours:	3	4
Contact Hours:	3	4
Credits:	3	4

Reason for Change: The Trades & Industry Department is participating in a new state-wide apprenticeship degree pathway. The Trades & Industry Department currently uses Trade Extension (TE) as their subject code for three separate programs: apprenticeship, facilities maintenance technology and electrical trades. The TE structure is being broken into three new subject codes: APR for Apprenticeship, FMT for Facilities Maintenance Technology and ELT for Electrical Trades. All courses will move to 100 and 200 level course numbering.

This framework provides additional access to courses, compliance with revised OAR's, alignment with BOLI standards, transferability of credit among Oregon colleges - all in an effort to increase degree completion. In addition, students will be able to locate classes more efficiently with the new indicators.

The credit change is needed to align with the statewide apprenticeship degree. In addition, students need additional code knowledge to pass their journeyperson exam.

Are outcomes affected?:	YES
Are degrees/certs affected?:	YES
Is there an impact on other Dept/Campus?:	NO
Is there potential conflict with another SAC?:	NO
Impact on SACs:	
Implem. Term:	Summer
Implementation	2008

Year,Implem. Year:
Contact Name: Katrina Cloud
Contact Email: kcloud@pcc.edu

Curriculum Request Form
Contact/Credit Hour Change

Current Course Number:	APR 225
Current Course Title:	Electrical Code - Level II

	Current	Proposed
Lecture Hours:	3	4
Contact Hours:	3	4
Credits:	3	4

Reason for Change: The Trades & Industry Department is participating in a new state-wide apprenticeship degree pathway. The Trades & Industry Department currently uses Trade Extension (TE) as their subject code for three separate programs: apprenticeship, facilities maintenance technology and electrical trades. The TE structure is being broken into three new subject codes: APR for Apprenticeship, FMT for Facilities Maintenance Technology and ELT for Electrical Trades. All courses will move to 100 and 200 level course numbering.

This framework provides additional access to courses, compliance with revised OAR's, alignment with BOLI standards, transferability of credit among Oregon colleges - all in an effort to increase degree completion. In addition, students will be able to locate classes more efficiently with the new indicators.

The credit change is needed to align with the statewide apprenticeship degree. In addition, students need additional code knowledge to pass their journeyperson exam.

Are outcomes affected?:	YES
Are degrees/certs affected?:	YES
Is there an impact on other Dept/Campus?:	NO
Impact on Dept/Campus:	
Is there potential conflict with another SAC?:	NO
Impact on SACs:	
Implem. Term:	Summer

Implementation Year,Implem. Year:	2008
Contact Name:	Katrina Cloud
Contact Email:	kcloud@pcc.edu

Curriculum Request Form
Contact/Credit Hour Change

Current Course Number:	APR 226
Current Course Title:	Electrical Code - Level III

	Current	Proposed
Current Lecture Hours:	3	4
Total Contact Hours:	3	4
Current Credits:	3	4

Reason for Change: The Trades & Industry Department is participating in a new state-wide apprenticeship degree pathway. The Trades & Industry Department currently uses Trade Extension (TE) as their subject code for three separate programs: apprenticeship, facilities maintenance technology and electrical trades. The TE structure is being broken into three new subject codes: APR for Apprenticeship, FMT for Facilities Maintenance Technology and ELT for Electrical Trades. All courses will move to 100 and 200 level course numbering.

This framework provides additional access to courses, compliance with revised OAR's, alignment with BOLI standards, transferability of credit among Oregon colleges - all in an effort to increase degree completion. In addition, students will be able to locate classes more efficiently with the new indicators.

The credit change is needed to align with the statewide apprenticeship degree. In addition, students need additional code knowledge to pass their journeyperson exam.

Are outcomes affected?:	YES
Are degrees/certs affected?:	YES
Is there an impact on other Dept/Campus?:	NO
Is there potential conflict with another SAC?:	NO
Implem. Term:	Summer

Implementation Year,Implem. Year:	2008
Contact Name:	Katrina Cloud
Contact Email:	kcloud@pcc.edu

Curriculum Request Form
Course Revision

CHANGE:	Course Description,Learning Outcomes
Current Course Number:	INSP252
Current Course Title:	International Building Code 2
Current Description:	Study of the International Building Code, including occupancy requirements, finish materials, glazing, plastics, chimneys, and fireplaces. This is 30 total contact hours and is also worth 60 HSW credits to AIA members.
Proposed Description:	Study of the International Building Code including fire protection systems, egress systems, accessibility, sanitation, exterior finishes, glazing, plastics, chimneys, and fireplaces. Prerequisite: INSP 251.
Reason for Description Change:	Clarifies topics of discussion
Current Learning Outcomes:	1.Understanding of the various types of construction referenced in the state building code. 2. Identifying fire-resistive standard used in fire protection systems in buildings. 3. Identifying the different fire protection systems used in the design and construction of buildings. 4. Identify methods used to remove architectural barriers for the physically challenged.
Proposed Learning Outcomes:	1.Use problem solving techniques to determine if fire and life safety systems and accessibility requirements apply to specific project. 2.Explain to the public elements of fire and life safety systems, and associated code requirements for a specific situation. 3.Inform permit applicants of the number of plumbing fixtures required for a specific project. 4.Interpret code requirements for specific situations and suggest options for compliance.
Reason for Learning Outcomes Change:	meet PCC guidelines and coordinate with description
Current Prerequisites:	INSP251
Will this impact other SACs?,Is there an impact on other SACs?:	no
How other SACs may be	

impacted:	
Will this impact other Depts/Campuses?,Is there an impact on another dept or campus?:	no
How other Depts/Campuses will be impacted:	
Request Term:	spring
Requested Year:	2008
Contact Name:	Debra Anderson
Contact E-Mail:	debra.anderson4@pcc.edu

Curriculum Request Form
Course Revision

CHANGE:	Course Description, Learning Outcomes
Current Course Number:	INSP253
Current Course Title:	International Building Code 3
Current Description:	Study of the International Building Code, including handicapped access requirements, energy conservation and prefabrication construction. This is 30 total contact hours and is also worth 60 HSW credits to AIA members. Prerequisites: RD 115 or WR 115; placement into MTH 60.
Proposed Description:	The student will be introduced to the loading parameters for structural engineering in the International Building Code chapters that apply to Small Commercial Structures of three stories and less. This course also covers glazing, temporary structures and prefabrication construction. This course is worth 60 HSW credits to AIA members. Prerequisites: RD 115 or WR 115 and placement into MTH 60 or equivalent/higher.
Reason for Description Change:	Clarify topics of discussion
Current Learning Outcomes:	Understand the code provisions that will prepare the student to become certified as a state of Oregon B-Level plans examiner or building inspector. Identify construction standards used in building construction. Identify the energy conservation techniques and requirements found in the International Building Code and the State of Oregon Structural Specialty Code.
Proposed Learning Outcomes:	1.Identify if glazing is required to meet strength and safety requirements. 2. Determine requirements for temporary and prefabricated structures based on specific situations. 3. Utilize problem solving processes to determine requirements for structural elements. 4. Use appropriate tables and mathematical formulas presented in the code.
Reason for Learning Outcomes Change:	Meet PCC guidelines and coordinate with description.
Current Prerequisites:	RD 115 or WR 115 and placement into MTH 60 or equivalent/higher

Will this impact other SACs?,Is there an impact on other SACs?:	No
Will this impact other Depts/Campuses?,Is there an impact on another dept or campus?:	No
Request Term:	spring
Requested Year:	2008
Contact Name:	Debra Anderson
Contact E-Mail:	debra.anderson4@pcc.edu

Curriculum Request Form
New Course

Course Number:	BCT 115
Course Title:	Introduction to Residential Greenroofing
Transcript Title:	Intro to Res. Greenroofing
Lec/Lab Hours:	20-24
Load Total:	1.08
Weekly Contact Hours:	2
Total Credits:	1
Reason for New Course:	The BCT Advisory Committee has suggested offering more courses related to Sustainable Construction Practices. Residential Greenroofing covers the use of greenroofs as a choice for a more environmental safe construction.
Course Description:	Learners will gain a basic understanding of local residential greenroof design and installation. Covers greenroof benefits, best practices, material selections, and appropriate plantings; includes hands-on installation.
Prerequisite(s):	None
Prereq/Concurrent:	None
Corequisite(s):	None
Learning Outcomes:	• Articulate greenroof benefits and targeted selling points. • Understand basic greenroof design concepts that work in our climate. • Identify a basic pallet of local greenroof plants. • Demonstrate hands-on knowledge of best practices for greenroof installation techniques, including waterproofing.
GenEd List:	No

Course Format:	On Campus
Are there similar courses existing:	NO
Required or Elective:	Elective
Is there impact on degrees or certificates:	NO
Is there an impact on another dept or campus?:	NO
Have other SACs been contacted?:	NO
Is there an increase in costs for Library or AV Dept?:	NO
Implementation Term:	Spring
Implementation Year:	2008
Contact Name:	Robert Steele
Contact E-mail:	rsteele@pcc.edu

Course Content and Outcome Guide

Date:	1/14/07
Course Number:	BCT 115
Course Title:	Introduction to Residential Greenroofing
Prepared by:	Greg Haines
Credits:	2
Lecture hrs/week:	3
Number of weeks:	7

Course Description:
Learners will gain a basic understanding of local residential greenroof design and installation. Covers greenroof benefits, best practices, material selections, and appropriate plantings; includes hands-on installation.

Intended Learning Outcomes:

- Articulate greenroof benefits and targeted selling points.
- Understand basic greenroof design concepts that work in our climate.
- Identify a basic pallet of local greenroof plants.
- Demonstrate hands-on knowledge of best practices for greenroof installation techniques, including waterproofing.

Outcome Assessment Strategies:

- “Soak It Up” Game: Students will work in groups and learn to identify pervious vs. impervious surfaces on a neighborhood map. Students will use basic budgetary skills to maximize the stormwater absorption while remaining within their allotted budgets.
- Students will choose and categorize greenroof benefits related to an ecoroof case study.
- Each student will design a greenroof (in cross section,) and present it to the class, giving reasons for each design choice.
- Students will work on an actual greenroof project.
- Students will participate in a greenroof tour of local greenroofs, and answer a written quiz.
- Students will complete homework assignments, quizzes and tests (mid-term & final) that will assess their understanding of the themes issues and concepts discussed.

Themes, Issues & Concepts:

- Internet
- Email
- Horticulture
- Local Resources
- Niche Marketing
- Quality Testing
- Environmental Design
- Least Toxic Methods
- Mathematics
- Best Practices
- Watershed Stewardship
- Stormwater Management
- Design Specifications
- Durability
- Adaptability

Process Skills:

- Research
- Persuasion
- Teamwork
- Evaluation
- Awareness
- Quality Control
- Testing
- Process Improvement
- Meeting Specifications
- Budgeting
- Lifecycle Cost Analysis
- Documentation
- Presentation
- Organization
- Critical Thinking
- Thinking “outside of the box”

Curriculum Request Form
General Education Distribution

Course number:	Hum 100
Course name:	Introduction to Humanities
Course credits:	4
Course description:	Designed to introduce students to college-level study in the humanities; it is a survey course that promotes a sense of humanity through such topics as literature, theatre, art, music, architecture, philosophy, and religion by critical 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.
Course category:	Art and Letters
Proof of course transferable:	Portland State University- as a transfer course Contact- Admission's Office- Ian Barry, 503-725-3511 University of Oregon- Arts and Letters, humanities requirement Contact Colin Hayes- Registrar's Office, 1-541-346-2935
Course eligible status:	Yes
Other courses in the set req for aaot:	No.
Gened philosophy stmt:	Explanation of courses that applied to Gen Ed Philosophy Statement
Understanding of their culture and how it relates to other cultures:	This course encompasses the study of a variety of cultures: European, African, Asian and South American in terms of art, architecture, literature, etc from a comparative viewpoint not only of American cultures but with other cultures as well. For example- comparing American and Japanese film techniques; comparing French and Gupta India architecture styles; and, contrasting Aztec and African religions.

Appreciation of history both from a global perspective and from a personal perspective including an awareness of the role played by gender and by various cultures:	The study of cultures will be within a historical context and students will be introduced to a variety of roles played by men and women. For example- Renaissance Art will investigate Leonardo da Vinci as well as Pieroa de la Francesca and they will be challenged to compare the topics and style of men and women.
Understanding of themselves and their natural and technological environments:	Philosophy is a key topic in this course and Socrates' 'Know thyself' dictum is one of the themes (the self and others); students are encouraged to better know themselves. While there is no specific study of the natural environment, it will be studied through the art, architecture of the culture. Tools and technology are themes that will be explored as well as inventions and students will come to see how these have helped to shape cultures, their own as well as others.
Ability to reason qualitatively and quantitatively:	During this course students will use critical thinking to evaluate culturally-based assumptions behind art, architecture, literature, music, religion, philosophy, and drama.
Ability to conceptually organize experience and discern its meaning:	The Outcome Assessment Strategies outline the variety of ways by which students will put their learning into context as well as assess, evaluate, explain and construct meaning.
Aesthetic and artistic values:	Two key and enjoyable parts of this course are art and architecture which provide students with numerous opportunities to view and interact with the aesthetic: these include paintings, sculpture and building design. They will also analyze why people create and how their creations reflect their values and world views.
Understanding of the ethical and social requirements of responsible citizenship:	Through the study of societal ethics, religion and leadership, students will come to better understand the meaning of 'citizenship' in various cultures and be challenged to deepen their own understanding of what it means to be a responsible member of society.
Reason if the course is not available to all pcc students:	Yes.
How the course include wide spectrum concept and theoretical models:	Students will be introduced (or in some cases reinforced) to an extensive set of concepts ranging from tools and technology to labor and values, urban life and introspective

	ones such as knowing the self and the deity. By comparison and analysis they will learn about models in terms of ethical codes, art forms, theater and literature.
How this course develops students abilities to examine evaluate and make critical comparisons of various concepts relevant to the discipline:	The humanities encompass what makes us human and students will be taught, encouraged and required to carefully examine aspects of several cultures and draw meaningful comparisons; for example- Roman plays, Shakespearean drama and the Noh drama of Japan.
How the course attempts an examination or analysis of the discipline to which it belongs:	Again, Humanities 100 explores aspects of our common humanity and students will be informed as well as led to see the differences between this discipline and others such as history, economics, mathematics, and science because even though these are viewed in a peripheral way they have different approaches. For example, we can touch on the use of mathematics in art and architecture or in the design of a sonnet or haiku but realize that the primary focus of mathematics is the study of measurement and relationships and not of beauty and cultural expression.
How the course provides students with access to the thinking and feelings of the disciplines respected and acknowledged contributors:	Each topic studied will focus on well known figures in the field. For example- in religion: Moses, Jesus, Buddha, Martin Luther, Calvin; in literature- Goethe, Cervantes, Shakespeare, Richard Wright, Emily Dickinson; in film- DW Griffith, Akira Kurosawa and Sergei Eisenstein.
How the course attends to the role that language plays in the discipline and in ways the subject is understood and has been understood:	Students will come to understand the versatility and power of language as we encounter it in a variety of settings: fables, speeches, poetry, tablets, inscriptions and literature. If by subject you are referring to the various topics in the discipline: religion, art, etc. We examine those via a historical context and investigate how they have changed through time and how the understandings have changed through time. For example- early Christianity changes as it becomes medieval and highly structure and then changes again as a result of the Reformation.
How the course explores questions related to values ethics and belief within the human experience:	Values, ethics and beliefs are explored through the study of major religions, traditional religions, such as in Africa, as well as the governments of various civilizations: Roman, Greek, Aztec, Islamic.
How the course examines the relationship of its material to other	The course uses an interdisciplinary approach and is historically based.

disciplines and attempt to place it
in historical perspective:

Contact person: James S. Harrison
From: jharriso@pcc.edu

Curriculum Request Form
Cultural Diversity

Current Course Number:	Hum 100
Current Course Title:	Introduction to Humanities
Explain how this course meets the diversity statement:	The main purpose of the course is to investigate the contributions of people from a wide variety of cultural backgrounds. In additional to the traditional studies of European culture, it includes Asian, African and Latin American.
Contact Name:	James S. Harrison
Contact Email:	jharriso@pcc.edu

Curriculum Request Form
Course Revision

CHANGE:	Course Title
Current Course Number:	ARCH 137
Current Course Title:	AutoCAD Architectural Desktop
Proposed Course Title:	AutoCAD Architecture
Proposed Transcript Title:	AutoCAD Architecture
Reason for Title Change:	The name of the software has changed from AutoCAD Architectural Desktop to AutoCAD Architecture
Will this impact other SACs?,Is there an impact on other SACs?:	No
How other SACs may be impacted:	
Will this impact other Depts/Campuses?,Is there an impact on another dept or campus?:	No
Request Term:	spring
Requested Year:	2008
Contact Name:	Elizabeth Metcalf
Contact E-Mail:	emetcalf@pcc.edu

Curriculum Request Form
New Course

Course number:	CJA 245
Course title:	Search Warrant Preparation
Transcript title:	Search Warrant Preparation
Course credits:	3
Lec contact hrs:	3
Course description:	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 coreq concurrent:	CJA 100, CJA 111 and WR 121 or instructor permission
Addendum to course description:	Students will learn how to gather critical evidence in preparation for a search warrant application, and how to draft legal documents that will withstand defense attacks to suppress evidence. Emphasis will be placed on the actual application and execution process: the supervisor's review, DA's review, the Court's expectations, affirmation under oath, signage of the documents, execution and service of the warrant, return of the warrant, and surviving defense attacks to the warrant.
Intended outcomes:	Effectively investigate criminal offenses with a focus on gathering critical information for the warrant application process Draft search and seizure affidavits and judicial orders for a variety of criminal offenses and situations Organize and utilize information in a way that will present the least chance for successful evidentiary challenges during motions to controvert or suppress
Course activities and design:	The materials in this court will be presented in lecture, writing and discussion format. The instructor will use power point presentations, in and out-of-class writing assignments, and role playing scenarios. The instructor may use videos, legal updates, or guest speakers.
Outcomes assessment	Assessment may include in-class and out-of-class writing

strategies:	assignments, along with student participation in, and contribution to, all class and group discussions.
Course content and skills:	Federal and State Constitutions State Statutes Local Judicial Rules Relevant Legal Case-law Exceptions to the warrant requirement Search Warrant Checklist Statement of Probable Cause (e.g. Nexus, Informants, Basis of Knowledge, exculpatory information) Execution/Service of the Warrant (e.g. Knock and Announce, Special Endorsements) Motions to Controvert and Motions to Suppress
Course used to supply ri for certificate:	no
Ri computation hrs:	0
Ri computation activities:	N/A
Ri communication hrs:	0
Ri communication activities:	N/A
Ri human relations hrs:	0
Ri human relations activities:	N/A
Reason for new course:	Educate students about search warrant preparation
How course will be taught:	Campus
Reason for other:	
Explanation if there are degrees andor certificates that are affected by the instruction of this course:	No
Explanation if this course transfer to any other academic institution:	No
Explanation if there are similar courses existing in other programs or disciplines at pcc:	No
Explanation if they have	No

consulted with sac chairs of other programs regarding potential impact:	
Explain if there are any potential impact on another department or campus:	No
Implemented term or year requested:	Summer 2008
Submitter:	Jim Parks
From:	jparks@pcc.edu
Sac chair:	Jim Parks
Sac chair email:	jparks@pcc.edu
Sac admin liason name:	Kate Dins
Sac admin liason email:	kdins@pcc.edu

Curriculum Request Form
New Course

Course number:	MM262
Course title:	Video Production III
Transcript title:	Video Production III
Course credits:	4
Lec contact hrs:	30
Lec lab contact hrs:	20
Lab contact hrs:	0
Special fee:	$6
Course description:	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 coreq concurrent:	Pre-requisite: MM 260, MM 235, or instructor's permission.
Addendum to course description:	This is one of three video production courses and provides an introduction to documentary video making.
Intended outcomes:	On completion of the course, the student should be able to: ➢ Create standard documentary preproduction materials including proposals, treatments, scripts, and budgets. ➢ Understand when and how to get appropriate release forms and copyright clearance. ➢ In a documentary production environment: o Properly set up and use a video camera and camera support; o Properly place microphones and record audio; o Properly set up lights; o Properly set up a field video monitor. ➢ Edit short documentary projects on a non-linear video editing system.

➢ Understand the roles of a documentary production crew.
➢ Be able to conduct and/or assist with interviews
➢ Be familiar with various modes of delivery for documentary videos.

Course activities and design:

Materials will be presented via lectures, demonstrations, screenings, and reading assignments. Students will learn and demonstrate their abilities through hands-on assignments and practical exams. Guest speakers will provide students with exposure to the local professional documentary production community.

Outcomes assessment strategies:

Student fulfillment of expected outcomes will be assessed using:
➢ video and audio assignments;
➢ written quizzes;
➢ written assignments;
➢ practical exams in which the student demonstrates hands-on skills and abilities;

Course content and skills:

The following technologies, skills, and concepts will be covered and/or demonstrated:

1. DEVELOPING A DOCUMENTARY PROJECT
1.1. Proposal
1.2. Treatment
1.3. Script (2-column format)
1.4. Budget
1.5. Copyright clearance
1.6. Releases

2. DOCUMENTARY PRODUCTION CREW
2.1. The responsibilities and techniques of documentary crew members: camera operator, sound recordist/boom operator, production assistant, and director.
2.2. Refining efficient and effective communication on the set.

3. CAMERAS IN A DOCUMENTARY PRODUCTION
3.1. Review of camera components, controls, and use;
3.2. Review of camera support and their use;
3.3. Visual composition for documentary;
3.4. Setting-up and using a camera for field documentary production;

3.5. Current and emerging video camera technologies;
3.6. Techniques for handheld videorecording.

4. AUDIO IN A DOCUMENTARY PRODUCTION
4.1. Microphones used for documentary field production;
4.2. Microphone placement;
4.3. Integration of audio with a video camera;
4.4. Setting optimal audio levels;
4.5. Using a field audio mixer;
4.6. Current and emerging audio production technologies;

5. LIGHTING FOR DOCUMENTARY
5.1. Review of lighting instruments and their use;
5.2. How to use and control available light;
5.3. Three-point lighting for field production.

6. DOCUMENTARY INTERVIEWS
6.1. The uses of interviews in documentary;
6.2. Preparing for interviews;
6.3. Interacting with interviewees;
6.4. Conducting the interview.

7. NONLINEAR EDITING & POST-PRODUCTION
7.1. Review of nonlinear editing basics;
7.2. Post-production workflows;
7.3. Techniques for organizing, managing, backing-up, and archiving media;
7.4. Editing and concepts and techniques for the documentary project.

8. DELIVERY/DISTRIBUTION
8.1. Review of distribution options (broadcast, DVD, Internet);
8.2. Current and emerging distribution technologies.

Course used to supply ri for certificate:	No
Ri computation hrs:	0
Ri computation activities:	
Ri communication hrs:	0
Ri communication	

activities:	
Ri human relations hrs:	0
Ri human relations activities:	
Reason for new course:	Continuing to merge resources from IVP Program
How course will be taught:	Campus
Reason for other:	
Explanation if there are degrees andor certificates that are affected by the instruction of this course:	The current Multimedia certificate can use this class as a MM elective
Explanation if this course transfer to any other academic institution:	No
Explanation if there are similar courses existing in other programs or disciplines at pcc:	No
Explanation if they have consulted with sac chairs of other programs regarding potential impact:	yes, it has been agreed that Multimedia will absorb the Video Production instruction.
Explain if there are any potential impact on another department or campus:	none
Implemented term or year requested:	Fall 2008
Submitter:	Beth Fitzgerald
From:	efitzger@pcc.edu
Sac chair:	Beth Fitzgerald
Sac chair email:	efitzger@pcc.edu
Sac admin liason name:	Greg Walters
Sac admin liason email:	gregory.walters@pcc.edu