

This is a web based syllabus and is best viewed/utilized on-line

Instructor:	Eric Kirchner		
Office:	RC 7-202 Portland Community College 17705 NW Springville Road Portland, OR 97229	Administrative Assistant:	Meryl DePasquale RC 9-115 971-722-7513 meryl.depasquale@pcc.edu
Phone:	971-722-7621		
E-mail:	ekirchne@pcc.edu	CRN 20152	Mon, Tues: 1-2:20 PM RC 7/212
Web:	My.pcc.edu My Courses	CRN 21339	Thurs, Fri: 9-10:20 AM RC 2/120
Office Hours:	Posted at PCC staff web directory , Please make an appointment.		

Course Description: Semiconductor Processing Explores aspects of semiconductor processing. Covers semiconductor device design (photo-voltaic cells, diodes, bipolar and MOSFET transistors) and the following manufacturing processes: oxidation, lithography, etch, doping, deposition, planarization, and test/sort.

Credits: 3

Text Book: Use your MT Intro textbook. Several texts on the subject are also available from the library collection and on reserve. *Introduction to Semiconductor Manufacturing Technology* by Hong Xiao is available on e-reserve:

<https://libproxy.pcc.edu/login?url=https%3A%2F%2Fbookcentral.proquest.com%2Flib%2Fpccol%2Fdetail.action%3FdocID%3D1120176>

Prerequisites: MT102 Intro to Semiconductor Devices, MT103 Intro to Micro and Nano Processing or MT104 Intro to Solar Voltaic Processing, MT240 Plasma Technology, COMM130 Business and Professional Speech Communication or COMM215 Small Group Communication, or instructor permission

Outcomes: students will be able to:

- Monitor and maintain device production by recognizing how they look and function in silicon planar technology, including: resistors, capacitors, diodes, PV cells, and MOSFET transistors
- Monitor and maintain device production by following the manufacturing flows to create these devices
- Develop increasing competence in an assigned production area by researching various aspects, such as: effects on device structure, relationship to process flow, resulting film properties, process mechanisms, effects of process inputs and settings, interactions between processes, equipment used, equipment options, process monitoring.
- Enhance production and maintenance teams by presenting these topics to teammates so that they can understand, and similarly learning other processes and topics from teammates.

Instructional Program: The focus of the student in this course is to explore a particular process used in semiconductor manufacturing, including process parameters, equipment configuration, logistics and issues in operation. The first half of the term will be lectures by the instructor on devices, circuits and manufacturing flows. The second half will be presentations based on student research. All students will be responsible for all material presented in class. Besides the course project, there will be daily quizzes, one midterm, and a final exam.

Grading:

Homework	20%
Quizzes	10%
Midterm Exam	15%
Project	30%
Final Exam*	25%

*Final will be optional for those with an A or B average.

88 – 100% of total points	A
75 – 88% of total points	B
65 – 75% of total points	C
55 – 65% of total points	D
< 55% of total points	F

Other:

- No phones, not even in vibrate mode
- Attendance: counts as participation. Please see me regarding any class you must miss. You are responsible for all material presented in class.
- The classroom is open – come and go, as you need.
- Assignments and exams can only be made up by prearrangement. Work submitted late will be penalized 5% per day.
- Tests and quizzes are closed book, one hand written crib sheet (8.5”x11”) allowed
- Assignment/exam calendars may be changed in response to the weather or institutional problems.
- Students who wish to make an auditory or visual recording of any portion of the class must speak with the instructor ahead of time. Any such recording is for personal use only. It may not be shared, shown to others, copied, uploaded to the Internet, and/or distributed, EVER! Sharing of recorded content is a violation of Oregon state law and of the [PCC Student Code of Conduct Policy and Procedures](http://www.pcc.edu/student-conduct/conduct/student-code-of-conduct-policy-and-procedures/) [www.pcc.edu/student-conduct/conduct/student-code-of-conduct-policy-and-procedures/].
- If you have an accommodation form from [Accessible Ed & Disability Resources \(AEDR\)](http://www.pcc.edu/resources/disability/) [www.pcc.edu/resources/disability/], please make arrangements to meet with me privately at the beginning of the term to discuss your needs.
- Grades are assigned based on the [PCC grading policy](http://www.pcc.edu/resources/academic/standardspractices/AcademicStandardsandPractices-GradingGuidelines.html) [http://www.pcc.edu/resources/academic/standardspractices/AcademicStandardsandPractices-GradingGuidelines.html]. Students should be aware of the grading options and the associated deadlines.
- Academic Integrity: Submitting improperly cited work copied from other sources is a violation of PCC's [Code of Student Conduct](http://www.pcc.edu/about/policy/student-rights/documents/student-conduct.pdf) [http://www.pcc.edu/about/policy/student-rights/documents/student-conduct.pdf] and [Academic Integrity policy](http://www.pcc.edu/about/policy/student-rights/documents/academic-integrity.pdf) [http://www.pcc.edu/about/policy/student-rights/documents/academic-integrity.pdf]. All work submitted (homework, presentations) should be your original work. Any assignment in violation will receive a zero. This includes the use of internet tools and artificial intelligence; using those without citation is a violation. In general, I discourage their use as they short circuit your learning intended with the given assignments.
- Here are some other items you should know as a PCC student: <http://catalog.pcc.edu/handbook/s704-syllabus-standardsforcreditcourses/>