In the electronics industry, technicians typically fix things that once worked or build and test prototypes for engineers. Engineers design devices or systems that never existed before. The Electrical Engineering Technology programs at PCC are highly thought of and they have the advantage that they get students into the workforce in just two years. However, if you want to move into actual design work, then you need to continue on to get at least a BS degree. One option available in Portland is for you to continue on at the OIT Portland campus and work toward a BS in Electrical Engineering Technology. Note that the degree obtained at the OIT Portland Campus, however, is an Engineering Technician degree, not an Engineering degree. It is true that some graduates of a BSEET program do move into design positions, but industry feedback shows that these graduates seldom reach the same status, salaries, and job responsibilities as graduates with a BS in Electrical Engineering (BSEE) or a BS in Computer Engineering (BScPCE). To improve their job prospects, a significant number of BSEET graduates apply to the Master’s program in Electrical and Computer Engineering at PSU. Since these applicants have a technician degree, rather than an engineering degree, they are required to take a group of undergraduate Electrical and Computer Engineering classes successfully in order to be considered for admission to the PSU ECE Masters program.

The alternative path described in the following pages provides a direct route through a two year EET program and some supplementary classes into an ABET accredited Electrical Engineering or Computer Engineering program as a junior. For the benefit of working students, all of our upper division ECE classes are offered in the evening at some point in the year. Note that at PSU, any student who completes the BSEE program or the BScPCE program with a GPA of 3.0 or higher is automatically admitted directly to the Master’s program upon application. Furthermore, the work done in a Masters program fulfills most of the course requirements for the PSU PhD in Electrical and Computer Engineering, if you want to continue on beyond your Master’s and move into the research world. For more information about the PSU BS, MS, and PhD programs, please go to the ECE Department website at http://www.ece.pdx.edu/.

For clarification or for individual advising to develop a path that works best for you, please feel free to contact me directly at dough@ece.pdx.edu or drop by my PSU office during office hours to discuss in person. Office hours for a given term are always posted on the PSU ECE website, at http://www.ece.pdx.edu/.
**PSU COURSE LIST FOR FIRST TWO YEARS OF BS IN COMPUTER ENGINEERING**

**Freshman Year**
- EAS 101 Engineering Problem Solving 4
- ECE 171 Digital Circuits 4
- CS 161 Introduction to Computer Science I or EAS 102 Engineering Computation Structures 4
- MTH 251, 252, 253 Calculus I, II, III 12
- PH 221, 222, 223 General Physics (w/ Calculus) 9
- PH 214, 215, 216 Physics Laboratory 3
- Freshman Inquiry classes—University Studies 15
**Total** 51

**Sophomore Year**
- ECE 201/202/203 Elec. Engineering Lab I/II/III 3
- ECE 221 Electric Circuits 4
- ECE 222 Signals & Systems I 4
- ECE 223 Signals & Systems II 4
- ECE 271 Digital Systems 5
- CS 162 Introduction to Computer Science II 4
- CS 163 Data Structures 4
- Ch 221 General Chemistry 4
- Ch 227 General Chemistry Laboratory 1
- MTH 256 Applied Differential Equations I 4
- MTH 261 Introduction to Linear Algebra 4
- Sophomore Inquiry classes—University Studies 12
**Total** 49

**PSU COURSE LIST FOR FIRST TWO YEARS OF BS IN ELECTRICAL ENGINEERING**

**Freshman Year**
- ECE 171 Digital Circuits 4
- EAS 101 Engineering Problem Solving 4
- EAS 102 Engineering Computation Structures or CS 161 Introduction to Computer Science I 4
- MTH 251, 252, 253 Calculus I, II, III 12
- PH 221, 222, 223 General Physics (w/ Calculus) 9
- PH 214, 215, 216 Physics Lab 3
- Freshman Inquiry classes—University Studies 15
**Total** 51

**Sophomore Year**
- ECE 201/202/203 Elec. Engineering Lab I/II/III 3
- ECE 221 Electric Circuits 4
- ECE 222 Signals and Systems I 4
- ECE 223 Signals and Systems II 4
- ECE 271 Digital Systems 5
- CH 221 General Chemistry 4
- CH 227 General Chemistry Lab 1
- MTH 254 Calculus IV 4
- MTH 256 Applied Differential Equations I 4
- MTH 261 Introduction to Linear Algebra 4
- Sophomore Inquiry classes—University Studies 12
**Total** 49

**CURRENT PCC EET DEGREE COURSE LIST**

**First Term**
- EET 111 Electrical Circuit Analysis I 5
- EET 121 Digital Systems I 3
- MTH 111C College Algebra for Math, Science & Engineering 5
- WR 121 English Composition 4
**Second Term**
- EET 112 Electrical Circuit Analysis II 5
- EET 122 Digital Systems II 3
- EET 188 Industrial Safety 1
- MTH 112 Elementary Functions 5
- Social Science Electives 4
**Third Term**
- EET 113 Electrical Circuit Analysis III 5
- EET 123 Digital Systems III 5
- EET 178 PC Architecture for Technicians 4
- CS 133U Introduction to C 4
**Fourth Term**
- EET 221 Semiconductor Devices & Circuits 5
- EET 241 Microcomputer Systems 4
- MTH 243 Statistics I 4
- PHY 201 General Physics I 4
**Fifth Term**
- EET 222 Operational Amplifier Circuits 5
- EET 242 Microcontroller Systems 4
- PHY 202 General Physics II 4
- Arts and Letters Electives 4
**Sixth Term**
- EET 223 RF Communications Circuits 5
- EET 254 EET Seminar I 1
- EET 255 Industrial Control Systems 4
- EET 256 Project Lab 2
- PHY 203 General Physics III 4

**PCC EET DEGREE COURSE LIST FOR BEST TRANSFER INTO PSU BSEE OR BSCPE**

**First Term**
- EET 111 Electrical Circuit Analysis I 5
- EET 121 Digital Systems I 3
- MTH 251 Calculus I 4
- WR 121 English Composition 4
**Second Term**
- EET 112 Electrical Circuit Analysis II 5
- EET 122 Digital Systems II 3
- EET 188 Industrial Safety 1
- MTH 252 Calculus II 4
- Social Science Electives 4
**Third Term**
- EET 113 Electrical Circuit Analysis III 5
- EET 123 Digital Systems III 5
- EET 178 PC Architecture for Technicians 4
- CS 133U Introduction to C 4
(For transfer to Computer Engineering take CS 161)
**Fourth Term**
- EET 221 Semiconductor Devices & Circuits 5
- EET 241 Microcomputer Systems 4
- MTH 261 Linear Algebra 4
- PHY 211/214 Calc Physics I 5
**Fifth Term**
- EET 222 Operational Amplifier Circuits 5
- EET 242 Microcontroller Systems 4
- PHY 212/215 Calc Physics II 4
- Arts and Letters Electives 4
**Sixth Term**
- EET 223 RF Communications Circuits 5
- EET 254 EET Seminar I 1
- EET 255 Industrial Control Systems 4
- EET 256 Project Lab 2
- PHY 213/216 Calc Physics III 5
NOTES:

1. Instead of EET 121, EET 122, and EET 123, students could take ENGR 171 and ENGR 271. These would cover as much material as the EET 121, 122, and 123 and would transfer directly into PSU BSEE program as ECE 171 and ECE 271.

2. Alternatively, students who take the EET 121, 122, 123 sequence could have ECE 171 waived upon entry to PSU. They would then have to take ECE 271 to get the additional design and Verilog components.

3. Students who take MTH 251, MTH 252, and MTH 261 as suggested above would then just have to take MTH 254 and MTH 256 for Electrical Engineering or just MTH 256 for Computer Engineering. MTH 253 is also required as a pre-req if MTH 254 and MTH 256 are to be taken at PCC.

4. Students who take the calculus-based physics sequence would have completed this requirement for the BSEE or BSCpE program. They would still have to take the CH 221/227, since this is part of the ABET math/science requirement for the programs.

5. Students who do the EET 111, 112, and 113 sequence would then take a special PSU “bridge class” in circuits that PSU is creating for students who come from a technician or other background and need to learn this material to succeed in upper division ECE classes.

6. The PSU EAS 101 requirement could be waived, based on the total from the PCC classes, if Matlab is introduced in some of the PCC classes.

7. Students wishing to enter the Computer Engineering program would have to take 2 additional programming classes, CS 162 (Intro to CS II) and CS 163 (Data Structures) or the PCC equivalent classes.

8. Regarding general education, students transferring to a PSU BSEE or BSCpE program with 90 or more transfer credits do not have to take the Freshman and Sophomore Inquiry classes shown in the list. However, due to PSU transfer policies and our ABET accreditation requirements, they do have to take WR 121 and SP 100 or SP 111 plus 21 credits of Arts and Letters or Social Science. Students can take any mix of AL/SS classes to meet the requirement and the list of possible classes is very large. Excluded are HPE, science, business and skill classes such as a class on playing the guitar or a sculpture class. Up to 6 credits of Upper-Advanced ENNL can be used as part of the AL/SS requirement.

9. In summary, a student who does the suggested EET courses above and wishes to be admitted to the PSU BSEE program as a junior would have to take CH 221/227, MTH 256 and MTH 254, the Electric Circuits “bridge class”, ECE 271, and potentially some AL/SS classes and speech 111. A student who does the suggested EET courses and wishes to be admitted to the PSU BSCpE program as a junior would have to take CH 221/227, MTH 256, CS 162 and CS 163 or PCC equivalents, the Electric Circuits “bridge class”, ECE 271, and potentially some AL/SS classes and SP 111.
Electrical & Computer Engineering

Postal Address:
P.O. Box 751/ECE
Portland, OR 97207-0751

Physical Address:
1900 SW 4th Avenue, Suite 160
Portland, OR 97201

Phone: 503.725.3806
Fax: 503.725.3807
Email: info@ece.pdx.edu
Web: ece.pdx.edu