

Major Offered At:

**CORVALLIS**

**Umpqua  
Community College**

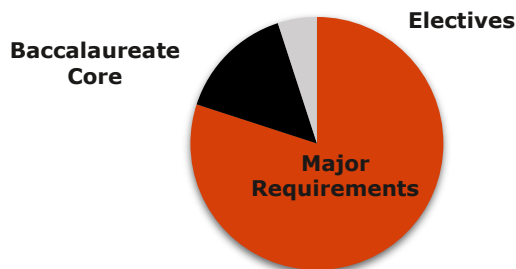
## Electrical and Computer Engineering

Electrical and computer engineers apply physics and mathematics to design, build, market, and support electrical and electronic products and computer hardware. They develop new technologies for a broad range of applications, including wireless communications, power systems, health care and medicine, multimedia, and navigation.

Electrical and computer engineers:

- Develop wind, wave, and solar energy systems.
- Design medical imaging systems for hospitals and pacemakers for heart patients.
- Build smaller, faster, and more powerful electronic devices.
- Create versatile smartphones and tablets.

## Your Bachelor's Degree (BS) in the College of Engineering



- A minimum of 180 credits are required for graduation; 60 must be upper division (300 and 400-level courses).
- A maximum of 135 credits earned at a community college may be applied toward a bachelor's degree at OSU.
- Some courses can count towards your major and the Baccalaureate Core. Advisors can assist in selection.
- More info at [eecs.oregonstate.edu/undergraduate/ece](https://eecs.oregonstate.edu/undergraduate/ece)

## Courses Required for Electrical and Computer Engineering Major

This list is comprehensive. Speak with OSU advisor for more information

Electrical & Computer Engr. Core Requirements	UCC Equivalent Course	OSU Course	Notes
Intro to Computer Science I	CS 161	CS 161	
Intro to Computer Science II	CS 162	CS 162	
Data Structures	CS 260	CS 261	
Intro to ECE: Tools	N/A	ECE 111	
Intro to ECE: Concepts	ENGR 112	ECE 112	
Digital Logic Design	N/A	ECE 271	
Digital Logic Design lab	N/A	ECE 272	
Electrical Foundations I	ENGR 201	ENGR 201	
Electrical Foundations II	ENGR 202	ENGR 202	
Electrical Foundations III	ENGR 203	ENGR 203	
Elements of Discrete Math	N/A	MTH 231	
Differential Calculus	MTH 251	MTH 251	
Integral Calculus	MTH 252	MTH 252	
Vector Calculus I	MTH 254	MTH 254	
Vector Calculus II	N/A	MTH 255	
Applied Differential Equations	MTH 256	MTH 256	
Introduction to Series	MTH 253	MTH 264	
Introduction to Matrix Algebra	MTH 261	MTH 265	
Intro to Statistics for Engineers	MTH 265	ST 314 (LD)	(LD) = Lower Division Transfer
General Physics (Calculus)	PHYS 211	PH 211	
General Physics (Calculus)	PHYS 212	PH 212	
General Physics (Calculus)	PHYS 213	PH 213	

## Courses Required for Electrical and Computer Engr. Major, cont.

Electrical & Computer Engr. Core Requirements	UCC Equivalent Course	OSU Course	Notes
Chemistry for Engineers	CH 221	CH 201	
Public Speaking Argument & Critical Discourse	SP 111 SP 112	COMM 111 COMM 114	Complete 1(one) course
Technical Writing	WR 227	WR 327 (LD)	(LD) = Lower Division Transfer

## Important Notes & Resources

### Important Notes for the College of Engineering and Electrical and Computer Engineering Major:

- Grade requirements: Grade of C or better in all major coursework. See [catalog.oregonstate.edu/college-departments/engineering](http://catalog.oregonstate.edu/college-departments/engineering) for more information.
- See a sample degree plan by searching "Electrical & Computer Engineering" at [admissions.oregonstate.edu/find-your-major](http://admissions.oregonstate.edu/find-your-major)
- Other similar majors to explore: Computer Science
- ECE students: the best time to transfer is fall term, particularly due MECOP. Talk with an OSU advisor about your specific timeline.
- ECE majors can participate in two six-month paid internships with MECOP: [mecopinc.org](http://mecopinc.org)

### Resources and OSU Information:

- Students do not have to complete a transfer degree in order to transfer to OSU.
  - If you've completed the Oregon AAOT, all requirements of the Baccalaureate Core are complete except for Synthesis Courses and Writing Intensive Courses.
- Preparing to apply to OSU? See admissions info: [transfer.oregonstate.edu](http://transfer.oregonstate.edu)
- Want to take classes at both OSU and an Oregon community college? Check out the Degree Partnership Program: [partnerships.oregonstate.edu/students](http://partnerships.oregonstate.edu/students)
- Schedule your OSU campus tour and meet with an advisor at [visitosu.oregonstate.edu/visit-campus](http://visitosu.oregonstate.edu/visit-campus)

## General Education Courses (called the Baccalaureate Core)

- Complete one course in each Perspective category with no more than two in the same department.
- Full listing of UCC courses that fulfill Bacc Core requirements: [admissions.oregonstate.edu/baccalaureate-core-course-equivalencies-umpqua-community-college](http://admissions.oregonstate.edu/baccalaureate-core-course-equivalencies-umpqua-community-college)

<b>SKILLS COURSES</b>	Math Writing I Writing II Speech (Writing III) Fitness (Only HHS 231)	Completed as part of the major WR 121. Required to transfer. Completed as part of the major Completed as part of the major HE 295
<b>PERSPECTIVE COURSES</b>	Biological Science Physical Science Additional Biological or Physical Science Cultural Diversity Literature and the Arts Social Processes and Institutions Western Culture	Choose one course from BaccCore link above Completed as part of the major Completed as part of the major Choose one course from BaccCore link above Choose one course from BaccCore link above Choose one course from BaccCore link above Choose one course from BaccCore link above Choose one course from BaccCore link above
<b>DPD COURSE</b>	Difference, Power, & Discrimination	Choose one course from BaccCore link above
<b>SYNTHESIS COURSES</b>	Contemporary Global Issues Science, Technology, & Society	Upper division course, take through OSU Completed as part of the major

## Advising Contacts

Academic advisors at your community college and OSU are available to answer your questions and assist you in creating a transfer plan. **See your community college advisor first and use this Transfer Guide to help you plan.** It is important to speak with your OSU academic advisor early on, and often, to ensure correct course selection and sequencing. See [visitosu.oregonstate.edu/visit-campus](http://visitosu.oregonstate.edu/visit-campus) to schedule your personalized visit.

<b>Umpqua Community College</b>	<a href="http://www.umpqua.edu/areas-of-study/transfer-education">http://www.umpqua.edu/areas-of-study/transfer-education</a>
<b>OSU Electrical Engr. &amp; Comp. Sci.</b>	<a href="mailto:Eecsundergrad.info@engr.oregonstate.edu">Eecsundergrad.info@engr.oregonstate.edu</a>
<b>OSU College of Engineering Main Office</b>	<a href="mailto:askengineering@oregonstate.edu">askengineering@oregonstate.edu</a>

