

TRANSFER GUIDE FOR OREGON STATE UNIVERSITY

Major Offered At:

CORVALLIS

**Umpqua
Community College**

Bioengineering

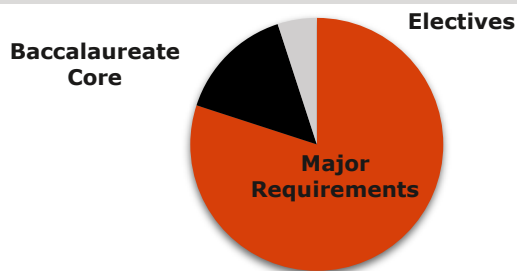
Bioengineering is an interdisciplinary field that applies scientific and engineering principles to the development of new biologics, materials, devices, and processes in the broad areas of bioprocess, biomedical, and bioenvironmental technology. You will study heat and fluid flow and how they are coupled with biological reactions or phenomena.

With a Bioengineering degree you can work in pharmaceutical industry, medical device and diagnostics, food and beverage, commodities, petrochemical or paper products, etc.

Common employment industries include

- cosmetics,
- prosthetics,
- fermentation,
- cellular and tissue engineering.

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



- A minimum of 192 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 cbee.oregonstate.edu/bioe-undergraduate-program

Courses Required for Bioengineering Major

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

Bioengineering Core Requirements	Umpqua CC Equivalent Course	OSU Course	Notes
CBEE Orientation	ENGR 111	CBEE 101	
Engr. Problem Solving & Comput.	ENGR 112	CBEE 102	
Material Balances & Stoichiometry	None	CBEE 211	Offered ECampus Winter term at OSU, or take CBEE 280 summer term.
Energy Balances	None	CBEE 212	Offered ECampus Spring term at OSU, or take CBEE 280 summer term.
Process Data Analysis	None	CBEE 213	
Electrical Fundamentals I	ENGR 201	ENGR 201	
Statics	ENGR 211	ENGR 211	
Differential Calculus	MTH 251	MTH 251	
Integral Calculus	MTH 252	MTH 252	
Vector Calculus	MTH 254	MTH 254	
Applied Differential Equations	MTH 256	MTH 256	
Matrix & Power Series	MTH 261 MTH 253	MTH 264 MTH 265	
General Physics (Calculus)	PH 211	PH 211	
General Physics (Calculus)	PH 212	PH 212	
General Physics (Calculus)	PH 213	PH 213	
Human Anatomy & Physiology	BI 231 BI 232 BI 233	BI 231/241 BI 232/242 BI 233/243	Transfers to OSU as general BI credit, full series must be completed at CC. CBEE will honor this towards our BI 231 & 233 requirements.
Microbiology	MB 230	MB 230	
General Chemistry	CH 221 CH 222 CH 223	CH 231/261 CH 232/262 CH 233/263	Lecture & lab for 200-level Chemistry have separate course numbers at OSU
Organic Chemistry	CH 241 CH 242	CH 331 (LD) CH 332 (LD)	(LD) = Lower Division Transfer. If complete series and pass ACS = upper division credit



**Oregon State
University**

Courses Required for Bioengineering Major, cont.

Bioengineering Core Requirements	Umpqua CC Equivalent Course	OSU Course	Notes
Technical Writing	WR 227	WR 327 (LD)	(LD) = Lower Division Transfer
Public Speaking Argument & Critical Discourse	SP 111 SP 112	COMM 111 COMM 114	Complete 1(one) course

Important Notes & Resources

Important Notes for the College of Engineering and Bioengineering Major:

- Grade requirements: Grade of C or better in all major coursework.
- See a sample degree plan by searching "Bioengineering" at admissions.oregonstate.edu/find-your-major
- Other similar majors to explore: Chemical Engineering, Environmental Engineering
- Bioengineering students the best time to transfer is **Summer** term, particularly due to the CBEE series courses. Talk with an OSU advisor about your specific timeline.
- CBEE 280 should be taken, after pre-requisites are met, the summer before starting upper division CBEE courses.
- CBEE 211/212 will now be offered E-Campus during winter and spring term to all allow for more flexibility.

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
- Want to take classes at both OSU and an Oregon community college? Check out the Degree Partnership Program: partnerships.oregonstate.edu/students
- Schedule your OSU campus tour and meet with an advisor at 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 Umpqua CC courses that fulfill Bacc Core requirements: <https://admissions.oregonstate.edu/baccalaureate-core-course-equivalencies-umpqua-community-college>

SKILLS COURSES	Math Writing I Writing II Speech (Writing III) Fitness	Completed as part of the major WR 121. Required to transfer. Completed as part of the major Completed as part of the major HPE 295
PERSPECTIVE COURSES	Biological Science Physical Science Additional Biological or Physical Science Cultural Diversity Literature and the Arts Social Processes and Institutions Western Culture	Completed as part of major Completed as part of major Completed as part of 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
DPD COURSE	Difference, Power, & Discrimination	Choose one course from BIOE DPD requirement, please consult BIOE Advising Guide on our website: https://cbee.oregonstate.edu/undergraduate-advising/curriculum
SYNTHESIS COURSES	Contemporary Global Issues Science, Technology, & Society	Upper division course, take through OSU Upper division course, take through OSU

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 to schedule your personalized visit.

Umpqua Community College	umpqua.edu/areas-of-study/transfer-education
OSU Bioengineering	CBEE Advisors: cbee.advising@oregonstate.edu
OSU College of Engineering Main Office	askengineering@oregonstate.edu