



**Oregon State**  
University

# School of Chemical, Biological, and Environmental Engineering (CBEE)

**College of Engineering**  
cbee.oregonstate.edu

## Undergraduate Advising Guide

# Environmental Engineering (ENVE)

Revised 06/13/18

Environmental engineers manage our environment for the benefit of humanity and nature. They provide engineering solutions to problems with our land, air and water resources. In both public and private practice, environmental engineers work in interdisciplinary teams to manage environmental problems through application of scientific, engineering, and social skills. These include issues of air pollution and control, water supply and distribution, wastewater collection and treatment, solid and hazardous waste disposal, control of hazardous substances, pollution in surface and ground-waters, public health, and the ecological health of our environment.

General questions? Email [cbee.advising@oregonstate.edu](mailto:cbee.advising@oregonstate.edu)

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# CBEE Advising Practices & Policies

Per College of Engineering rules, advising appointments are required once per term minimum for all engineering undergraduate students. You should schedule your advising appointment online at [cbee.oregonstate.edu/undergraduate-advising](http://cbee.oregonstate.edu/undergraduate-advising).

## Appointment Types:

Don't know what type of appointment to schedule? Below are common appointment types and the required appointment time for each.

### 15-Minute Appointment

- Form Signed
- Letter Requests
- Graduate/Degree Check
- ProSchool Application
- Class Overrides

### 30-Minute Appointment

- General Advising
- PIN Number
- Registration Issues
- Academic Standing
- Change of Major
- Transfer Advising
- Degree Partner Program (DPP)
- Research/Job/Internships
- Grad School

## Walk-In Hours:

CBEE Advisors provide one walk-in hour daily, from 3-4pm. These hours are intended for students with quick 1-15 minute questions. No PINs will be distributed during walk-in hours.

## Late policy:

If you arrive to a scheduled advising appointment 5 minutes or more late, you may be asked to reschedule. If you arrive 10 minutes or more late, you must reschedule. When we reserve time for you, we require all of that time to provide you with the best quality work possible. When you are late it decreases the advisors ability to accomplish this.

We strive to see every student as close to their appointment time as possible. It is your responsibility to remember your appointment and to be on time. We understand that true emergencies happen. We ask that you please be courteous of your advisors valuable time and attention. The Advisors, Faculty and Staff thank you.

## No show policy:

No penalty for the first no show on a scheduled appointment. If you no show on a 2nd appointment or more, we will withhold your PIN for registration until the final day of Phase I registration. If you schedule an appointment and need to cancel, please contact your advisor.

## Environmental Engineering (192 Credits)

Revised 6/13/18

Credits	First Year = 46 credits			Second Year = 50 credits			Third Year = 49 credits			Fourth Year = 47 credits									
	Fall	Winter	Spring	Fall	Winter	Spring	Fall	Winter	Spring	Fall	Winter	Spring							
<b>1</b>	Chemistry CH 231 (4FW)	Chemistry CH 232 (4WS)	Chemistry CH 233 (4FS)	Organic Chemistry CH 331 (4FW)	Organic Chemistry CH 332 (4WS)	Env. Geology GEO 221 (4FWS)	Transport I CHE 331 (4F)	Transport II CHE 332 (3W)	Transport III CHE 333 (3WS)	Water & Wastewater ENVE 421 (4F)	ENVE Design ENVE 422 (4W)	Sust. Water Resources ENVE 456 (3S)							
<b>2</b>													Intro to Env Engr ENVE 322 (4W)	Transport Lab CHE 334 (2S)	Air Pollution Control ENVE 425 (3S)				
<b>3</b>								CH 261 (1)	CH 262 (1)			CH 263 (1)				Differential Equations MTH 256 (4FWS)	Matrix & Power Series MTH 306 (4FWS)	Dynamics ENGR 212 (3FWS)	Thermo CHE 311 (3F)
<b>4</b>													Differential Calculus MTH 251 (4FWS)	Integral Calculus MTH 252 (4FWS)	Vector Calculus MTH 254 (4FWS)				
<b>5</b>	Orientation CBEE 101 (3F)	Engr. Comp. CBEE 102 (3W)	Physics w/ Calculus PH 211 (4FWS)	Engineering Ethics CBEE 320 (3F)	Process Analysis CBEE 213 (4S)	Engineering Ethics CBEE 320 (3F)	DPD (3FWS)	General Microbiology MB 230 (4FWS)	Engineering Elective (3-4FWS)	Engineering Elective (3-4FWS)	Synthesis (3FWS)								
<b>6</b>												English Composition WR 121 (3FWS)	COMM 111/114 (3FWS)	HHS 231 (2FWS)	Material Balances CBEE 211 (3F)	Energy Balances CBEE 212 (3W)	Perspective (3FWS)	Perspective (3FWS)	Technical Writing WR 327 (3FWS)
<b>7</b>	PAC (1FWS)	Statics ENGR 211 (3FWS)	Perspective (3FWS)	Perspective (3FWS)	Perspective (3FWS)	Perspective (3FWS)	Perspective (3FWS)	Perspective (3FWS)	Perspective (3FWS)	Perspective (3FWS)	Synthesis (3FWS)								
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- Pre-Core classes used in GPA calculation
- Pre-requisites for Pro School classes not used in GPA calculation
- Engineering Electives
- Baccalaureate Core course not covered by major requirements (S/U grading allowed)

This advising guide is intended for scheduling only. Course offerings and requirements are subject to change. Please reference the OSU Online catalog for a complete list of degree requirements.

## Requirements for EnvE Major

Total Credits: 192

### Required Courses

#### Math

Course #	Credit Hours	Description	Prerequisites	Terms Offered
MTH 251	4	Differential Calculus	MTH 112	FWS
MTH 252	4	Integral Calculus	MTH 251	FWS
MTH 254	4	Vector Calculus I	MTH 252	FWS
MTH 256	4	Differential Equations	MTH 254	FWS
MTH 306	4	Matrix & Power Series	MTH 252	FWS
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#### Science

Course #	Credit Hours	Description	Prerequisites	Terms Offered
CH 231/261	5	General Chemistry + Lab	MTH 111	FW
CH 232/262	5	General Chemistry + Lab	CH 231	WS
CH 233/263	5	General Chemistry + Lab	CH 232	FS
CH 331	4	Organic Chemistry (Series CH334/5/6 can substitute)	CH 233	FW
CH 332	4	Organic Chemistry (Series CH334/5/6 can substitute)	CH 331	WS
GEO 221	4	Environmental Geology	-	FWS
MB 230	4	Introductory Microbiology	-	FWS
PH 211	4	General Physics with Calculus	MTH 251, MTH 252 (co)	FWS
PH 212	4	General Physics with Calculus	PH 211, MTH 252	FWS
PH 213	4	General Physics with Calculus	PH 212, MTH 254	WS
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#### Engineering

Course #	Credit Hours	Description	Prerequisites	Terms Offered
BIOE 457	3	Bioreactors	BB 451, CHE 333	F
CBEE 101	3	Chemical, Biological and Environmental Engineering Orientation	-	F
CBEE 102	3	Engineering Problem Solving and Computation	MTH 112	W
CBEE 211	3	Material Balances and Stoichiometry	MTH 252, CH 233, 2nd year engr standing	F
CBEE 212	3	Energy Balances	CBEE 211, MTH 256 (co)	W
CBEE 213	4	Process Data Analysis	CBEE 212	S
CBEE 320	3	Professionalism and Engineering Ethics	-	F
CBEE 414	3	Process Engineering Laboratory	CBEE 213 (co), CHE 311, CHE 333	F
CCE 201	3	Civil and Construction Engineering Graphics and Design	MTH 111	FW
CE 313 or CE 372	4	Hydraulic Engineering (CE 313) or Geotechnical Engineering (CE 372)	CE 313: CHE 331, CE 372: ENGR 213, CHE 331	CE 313: WS, CE 372: W
CE 412	4	Hydrology	-	FS
CHE 311	3	Thermodynamics	CBEE 212, MTH 256	F
CHE 331	4	Transport Phenomena I: Fluids	CBEE 212 (co), MTH 256	F
CHE 332	3	Transport Phenomena II: Heat	CHE 311 and 331	W
CHE 333	3	Transport Phenomena III: Mass	CHE 331	S
CHE 334	2	Transport Phenomena Laboratory	CBEE 213 (co), CHE 333 (co)	S
ENGR 211	3	Statics	MTH 252, 2nd year engr standing	FWS
ENGR 212	3	Dynamics	ENGR 211, PH 211	FWS
ENGR 213	3	Strength of Materials	ENGR 211	FWS
ENVE 322	4	Fundamentals of Environmental Engineering	CH 232, MTH 256	W
ENVE 415	3	Environmental Engineering Laboratory	CBEE 414	W
ENVE 421	4	Water and Wastewater Characterization	ENVE 321 or ENVE 322	F
ENVE 422	4	Environmental Engineering Design	ENVE 421	W
ENVE 425	3	Air Pollution Control	ENVE 321 or ENVE 322	S
ENVE 431	4	Fate and Transport of Chemicals in Environmental Systems	CH 440 or CHE 331, ENVE 421	W
ENVE 456	3	Sustainable Water Resources Development	senior standing	S
ENVE 490	4	Environmental Engineering Design	ENVE 422	S
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#### Elective Courses

ENVE majors are required to take 7 credits upper division engineering electives.

## Baccalaureate Core

OSU requires completion of a set of Baccalaureate Core ("Bacc Core") courses, divided into 4 categories- Skills, Perspectives, Synthesis, and Difference, Power, and Discrimination (DPD). Some of these course requirements are met by technical courses within your major. Those Bacc Core requirements not fulfilled through technical course requirements are outlined below.

**Total Credits:** 37

### Skills (12 credits)

Course #	Credit Hours	Description	S/U Allowed
WR 121	3	English Composition	No
WR 327	3	Technical Writing	No
COMM 111 or 114	3	Public Speaking (COMM 111) or Argument and Critical Discourse COMM (114)	No
HHS 231	2	Lifetime Fitness for Health	Yes
HHS 24x or PAC	1	Lifetime Fitness or Physical Activity Courses	Yes

### Perspectives (16 credits)

Course Categories	Credit Hours	S/U Allowed
Biological Science w/ Lab	4	No
Cultural Diversity	3	Yes
Literature & Arts	3	Yes
Social Processes & Institutions	3	Yes
Western Culture	3	Yes

### Synthesis (6 credits)

Course Categories	Credit Hours	S/U Allowed
Contemporary Global Issues	3	Yes
Science, Technology, and Society	3	Yes

**Difference, Power, & Discrimination (3 credits)- No S/U grading**

# Important Links

**Student Online Services:** [myosu.oregonstate.edu](https://myosu.oregonstate.edu)

In your online account, you can register for classes, access MyDegrees, view & order transcripts, view account holds, and pay your student fees & tuition.

**Catalog:** <https://catalog.oregonstate.edu/>

The general OSU catalog contains information about all of the different major and minor programs at OSU, including course requirements and prerequisites.

**Course Descriptions:** <https://catalog.oregonstate.edu/courses/>

Detailed course descriptions can be found here, sorted by subject.

**OSU Schedule of Classes Searcher:** <https://catalog.oregonstate.edu/course-search/>

Use this tool to search for class availability sorted by term, requirement, subject, or campus.

**Transfer Credits:** <http://registrar.oregonstate.edu/transfer-credits>

General guide to transferring credits to OSU.

**Transfer Course Search:**

[https://adminfo.ucsadm.oregonstate.edu/prod/OSU\\_ADMTAM.P\\_tcs\\_splash\\_page](https://adminfo.ucsadm.oregonstate.edu/prod/OSU_ADMTAM.P_tcs_splash_page)

This tool allows you to search course equivalencies by the institution and course subject/number.

**Registrar Forms:** <http://registrar.oregonstate.edu/forms>

Forms relating to registration, grading, student records, veterans benefits, and graduation.

**College of Engineering (COE):** <http://engineering.oregonstate.edu/>

College of Engineering home page.

**Professional School:** <http://engineering.oregonstate.edu/pro-school>

College of Engineering Professional School information, including application cycles and the link to the application.

**MY COE:** <http://engineering.oregonstate.edu/my-coe>

Page with information about COE procedures and links to other OSU websites that are relevant to COE students.

**CBEE Advising:** <http://cbee.oregonstate.edu/undergraduate-advising>

Go to this site to book an appointment with your advisor! This page also contains general advising information and the latest copy of the advising guide.

**Research, Internships, and Careers:** <http://cbee.oregonstate.edu/careers>.

Practical work experience in a research laboratory or in industry is essential to your future employment and educational goals. CBEE students have a variety of opportunities to develop laboratory skills and obtain career advice from faculty and peer mentors.