



Portland Community College Transfer Guide Bachelor of Science in Energy Systems Engineering

Important Note:

Students are encouraged to dually enroll at OSU-Cascades spring term of their second year, to avoid a year delay in the ESE program. ST 314, is only offered spring term and once a year. ST 314 is an important pre-requisite for upper division courses offered fall term of third year. Failure to take ST 314 could result in a year delay in the ESE program.

Transfer Admissions:

osucascades.edu/admissions/admissions-advising

Program Requirements

OSU Graduation Requirement:

Students are required to meet the University Graduation requirements as well as complete course work required for their major to graduate with a Bachelor of Science in Energy Systems Engineering. **All catalog and course selection information is subject to change pending catalog declaration year.* catalog.oregonstate.edu/regulations/#text

- 180 minimum = total number of credits required to graduate
- 60 minimum = number of upper division credits required
- 45 of last 75 credits must be OSU credits
- Max 135 credits transferred to OSU
- Max 18 W grades (withdraw)
- Max 11 credits PAC

College of Engineering Academic Standing

Progression Model

- Grades of C or better and a minimum of 2.50 cumulative OSU GPA
- Maintain 2.50 term and/or cumulative OSU GPA and 65% of courses completed
 - Warning: OSU term GPA is below a 2.50 and/or completion is under 65%
 - Probation: After 24 OSU credits attempted, if both term and cumulative standards are not met
 - Suspension: If on probation and have a subsequent term OSU GPA under 2.50 and/or pace under 65%
- No major courses may be taken with S/U grading.

Academic Progression Model Information: <https://engineering.oregonstate.edu/current-students/advising/progression>

Important Notes:

- **It is the student's responsibility to double check that all requirements are met.** The advisor can suggest courses and assist the student in constructing a plan of study, but the student in the end is responsible for assuring all requirements for graduation are met.
- Degree requirements are subject to change and dependent on catalog year of admission and major declaration.
- MECOP Internship information: www.mecopinc.org/

Students will work with their Academic Advisor and use the Bacc Core approved list for OSU-Cascades to choose courses for the Bacc Core requirements. To find information about Bacc Core or for the approved list, visit: <https://admissions.oregonstate.edu/course-articulations>

Baccalaureate Core:

x	Skills Requirements	Non-AAOT course	AAOT or ASOT
	Health/Fitness	HE 295 & PE 295	AAOT completes
	Mathematics	MTH 251 in major	AAOT completes
	Writing I [^]	WR 121Z in major	AAOT completes
	Writing II	WR 227Z in major	AAOT completes
	Speech [^]	COMM 111Z/112 in major	AAOT completes
x	Perspective Requirements: no more than 2 from 1 department		
	Cultural Diversity	See Bacc Core guide	AAOT completes
	Literature & the Arts	See Bacc Core guide	AAOT completes
	Social Processes & Institutions	EC 201 in major	AAOT completes
	Western Culture	See Bacc Core guide	AAOT completes
	Physical Science	PHY 211-213 in major	AAOT completes
	Biological Science	See Bacc Core guide	AAOT completes
	Additional Science (Physical or Biological)	CH 221-222 in major	AAOT completes
	Difference, Power & Discrimination	See Bacc Core guide	AAOT completes
x	Synthesis Requirements: cannot be from the same department		
	Contemporary Global Issues – Met by SUS 350 (in ESE Major)	OSU Only	OSU Only
	Science, Technology & Society	OSU Only	OSU Only

A student who has completed (or plans on completing) an ASOT-Business or an AAOT has completed all Skills & Perspectives requirements in the Bacc Core. Students still need to complete synthesis courses.

Major Requirements

First & Second year courses: All courses must be completed with a C grade or better

x	Major Requirement (OSU)	Portland CC Approved Transfer Courses:
	CH 201: Chemistry for Engineering Majors	CH 221: General Chemistry I
	CH 202/205: Chem. For Engineering Major + Lab	CH 222: General Chemistry II
	COMM 111Z or COMM 114: Public Speaking or Argument & Critical Discourse	COMM 111Z or COMM 112: Public Speaking or Persuasive Speaking
	ENGR 100: The OSU Engineering Student	ENGR 101: Engineering Fundamentals
	ENGR 102: Design Engineering & Problem Solving	ENGR 105: 3-D Modeling and ENGR Graphics
	ENGR 103: Engineering Computation & Algorithmic Thinking	ENGR 114: Engineering Programming or CS 161: Computer Sci. I
	ENGR 201: Electrical Fundamentals I	ENGR 221: Electrical Circuits I
	ENGR 202: Electrical fundamentals II	ENGR 222: Electrical Circuits II
	ENGR 211: Statics	ENGR 211: Statics
	ENGR 212: Dynamics	ENGR 212: Dynamics
	IE 212: Computational Methods for IE	OSU Only
	MTH 251: Differential Calculus	MTH 251: Calculus I
	MTH 252: Integral Calculus	MTH 252: Calculus II
	MTH 254: Vector Calculus I	MTH 254: Vector Calculus I
	MTH 256: Applied Differential Equations	MTH 256: Differential Equations
	MTH 341: Linear Algebra I	MTH 253 + MTH 261: Calculus III + Applied Linear Algebra I
	PH 211: General Physics with Calculus	PHY 211: General Physics I (Calculus)
	PH 212: General Physics with Calculus	PHY 212: General Physics II (Calculus)
	PH 213: General Physics with Calculus	PHY 213: General Physics III (Calculus)
	ST 314: Intro. to Statistics for Engineers	OSU Only
	WR 121Z: Composition I	WR 121Z: Composition I
	WR 227Z: Technical Writing	WR 227Z: Technical Writing

Third & Fourth year courses: All courses must be completed with a C grade or better

x	Major Requirement (OSU)	Portland CC Approved Transfer Courses:
	ME 311: Introduction to Thermal-Fluid Sciences	OSU Only
	ME 312: Thermodynamics	OSU Only
	ME 331: Introductory to Fluid Mechanics	OSU Only
	ME 332: Heat Transfer	OSU Only
	ESE 450: Energy Generation Systems	OSU Only
	ESE 470: Energy Distribution Systems	OSU Only
	ESE 471: Energy Storage Systems	OSU Only
	ESE 355: Energy Regulation	OSU Only
	ESE 330: Modeling & Analysis of Dynamic Systems	OSU Only
	ESE 360: Energy Consumption Analysis	OSU Only
	ESE 430: Feedback Control Systems	OSU Only
	IE 415: Simulation and Decision Support Systems	OSU Only
	IE 425: Industrial Systems Optimization	OSU Only
	IE 471: Project Management in Engineering	OSU Only
	ENGR 415: Engineering Capstone Design I	OSU Only
	ENGR 416: Engineering Capstone Design II	OSU Only
	Choose one (Lower Division Tech Elective): ME 444 or ESE 499	OSU Only

Business & Sustainability Courses: All courses must be completed with a C grade or better

x	Major Requirement (OSU)	Portland CC Approved Transfer Courses:
	BA 357: Operations Management	OSU Only
	ENGR 390: Engineering Economy	OSU Only
	ECON 201: Intro. to Microeconomics	EC 201: Microeconomics
	SUS 350: Sustainable Communities	OSU Only

NOTES

* All info is subject to change at catalog policy

See Academic Advisor for Restricted Elective information

All PH courses need to be taken at the same institution