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

NOTE:

Students are encourage 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:
Carmen Martinez
carmen.martinez@osucascades.edu or bendbeavs@osucascades.edu
541-706-2046

Program Requirements

osucascades.edu/academics/energy-systems-engineering

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.

- 180 total college credits (124 max transferred from a community college)
- 60 upper division credits
- 45 out of last 75 credits must be OSU credits

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

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.
- 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	HPE 295	AAOT completes
	Mathematics	MTH 251 in major	AAOT completes
	Writing I^	WR 121 in major	AAOT completes
	Writing II	WR 227 in major	AAOT completes
	Speech^	COMM 111/112 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	PH 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	Course	Title	
	ENGR 112	Engineering Programming	Clackamas CC
	ENGR 221	Electrical Circuit Analysis	Clackamas CC
	ENGR 211	Statics	Clackamas CC
	ENGR 212	Dynamics	Clackamas CC
	MTH 251	Calculus I	Clackamas CC
	MTH 252	Calculus II (Integral)	Clackamas CC
	MTH 254	Vector Calculus I	Clackamas CC
	MTH 256	Differential Equations	Clackamas CC
	MTH 341	Linear Algebra	OSU Only
	CH 221	General Chemistry I & Lab	Clackamas CC
	PH 211	General Physics w/ Calc. I	Clackamas CC
	PH 212	General Physics w/ Calc. II	Clackamas CC
	PH 213	General Physics w/ Calc. III	Clackamas CC
	COMM 111 or COMM 112	Public Speaking or Persuasive Speaking	Clackamas CC
	WR 121	English Composition	Clackamas CC
	IE 212	Computational Methods for Industrial Engineering	OSU Only
	ENGR 111	Intro. to Engineering	Clackamas CC
	ENGR 222	Electrical Circuit Analysis II	Clackamas CC
	ST 314	Intro. to Statistics for Engineers	OSU Only
	CH 222	General Chemistry II & Lab	Clackamas CC
	WR 227	Technical Report Writing	Clackamas CC
	Choose one: ENGR 213 or ENGR 115	Lower Division Restricted Elective: Strength of Materials or Engineering Graphics	Clackamas CC

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

x	Course	Title	
	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
	ESE 497	MIME Capstone Design	OSU Only
	ESE 498	MIME Capstone Design	OSU Only
	Choose one: ME 444 or ESE 499	Upper Division Restricted Elective	OSU Only

Business & Sustainability Courses:

x	Course	Title	
	BA 357	Operations Management	OSU Only
	ENGR 390	Engineering Economy	OSU Only
	EC 201	Microeconomics	Clackamas CC
	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