



Clackamas Community College
Associate of Science in Engineering
to
Oregon Institute of Technology
Bachelor of Science in Renewable Energy Engineering
Articulation Agreement
2023 - 2024 Catalog

It is agreed that students transferring with Clackamas Community College's (CCC) Associate of Science Area of Emphasis in Renewable Energy Engineering at Oregon Institute of Technology (Oregon Tech) to Oregon Tech's Bachelor of Science in Renewable Energy Engineering (BREE) program will be given full credit for all selected courses listed below. This agreement is based on the evaluation of the rigor and content of the general education and technical courses at both CCC and Oregon Tech, and is subject to a yearly reevaluation by both schools for continuance. This agreement is dated May 1st, 2024.

Bachelor degree-seeking students must complete a minimum of 60 credits of upper-division work before a degree will be awarded. Upper-division is defined as 300-and 400-level classes at a bachelor's degree granting institution. Bachelor degree-seeking students that transfer to Oregon Tech with 300-400 level transferable courses must complete at least 45 additional credits with Oregon Tech before a degree will be awarded.

Admission to Oregon Tech is not guaranteed. Students must apply for admission to Oregon Tech in accordance with the then-existing rules, policies and procedures of Oregon Tech. Dual Enrollment is possible according to an existing Memorandum of Understanding. Students are responsible for notifying the Oregon Tech Admissions and Registrar's Office when operating under an articulation agreement to ensure their credits transfer as outlined in this agreement. In order to utilize this agreement students must be attending CCC during the above catalog year. Students must enroll at Oregon Tech within three years of this approval.

Clackamas Community College

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Clackamas Community College Degree Courses & Oregon Tech Equivalent Credits

Clackamas Community College Course Number & Title	Qtr. Units	Oregon Institute of Technology Course Number & Title	Qtr. Units
CH 221 - General Chemistry	5	Satisfies CHE 201/204 Requirement: CHE 221 - General Chemistry I	4
CH 222 - General Chemistry	5	Satisfies CHE 202/205 Requirement: CHE 222 - General Chemistry II	4
COMM 111Z - Public Speaking	4	COM 111Z - Public Speaking	4
EC 201 - Principles of Economics: Micro or EC 202 - Principles of Economics: Macro	4	ECO 201 - Principles of Microeconomics or ECO 202 - Principles of Macroeconomics	3
ENGR 111 - Introduction to Engineering	3	ENGR 101 - Introduction to Engineering I ENGR 102 - Introduction to Engineering II	2 2
ENGR 211 - Statics	4	ENGR 211 - Engineering Mechanics: Statics	4
ENGR 221 - Electrical Circuit Analysis I	4	EE 221 - Circuits I	4
ENGR 222 - Electrical Circuit Analysis II	4	EE 223 - Circuits II	4
ENGR 223 - Electrical Circuit Analysis III	4	EE 225 - Circuits III	4
Humanities Electives ¹	6-8	Humanities Electives ¹	6
MTH 251 - Calculus I	5	MATH 251 - Differential Calculus	4
MTH 252 - Calculus II	5	MATH 252 - Integral Calculus	4
MTH 254 - Vector Calculus	5	MATH 254 - Vector Calculus I	4
MTH 256 - Differential Equations	4	MATH 321 - Applied Differential Equations I ²	4
MTH 261 - Linear Algebra	4	MATH 341 - Linear Algebra ²	4
PH 211 - General Physics with Calculus	5	PHY 221 - General Physics with Calculus	4
PH 212 - General Physics with Calculus	5	PHY 222 - General Physics with Calculus	4
PH 213 - General Physics with Calculus	5	PHY 223 - General Physics with Calculus	4
Social Science Electives ³	7-8	Social Science Electives ³	6
WR 121Z - Composition I	4	WRI 121Z - Composition I	4
WR-227Z Technical Writing	4	WRI 227Z - Technical Writing	4
Total CCC Degree Credits ⁴	96-99	Total Oregon Tech Degree Credits	87

Courses not required for Clackamas Community College's AS in Engineering but are required for Oregon Tech's BS in Renewable Energy Engineering and can be taken at CCC or Oregon Tech.

Clackamas Community College Course Number & Title	Qtr. Units	Oregon Institute of Technology Course Number & Title	Qtr. Units
COMM 219 - Small Group Discussion	4	SPE 321 - Small Group & Team Communication ²	3
Humanities Elective ¹	3	Humanities Elective ¹	3
Additional CCC Degree Credits ⁴	7	Additional Oregon Tech Degree Credits	6
Total CCC Degree Credits ⁴	103-106	Total Oregon Tech Degree Credits	93

In addition to the above courses, the courses listed below are also required for the BS in Renewable Energy Engineering and should be completed at Oregon Tech.

Oregon Institute of Technology Course Number & Title	Qtr. Units
CHE 260 - Electrochemistry for Renewable Energy Applications	4
EE 321 - Electronics I	5
EE 419 - Power Electronics	4
EE 461 - Control Engineering I: Classical Methods	4
ENGR 267 - Engineering Programming	3
ENGR 355 - Thermodynamics	3
ENGR 465 - Capstone Project	6
HIST 356 - A History of Energy or HIST 357 - History of the Electrical Grid	3
MECH 318 - Fluid Mechanics I or ENGR 318 - Engineering Mechanics: Fluids	4
MATH 465 – Mathematical Statistics	4
MECH 323 - Heat Transfer I	3
REE 243 - Electrical Power	4
REE 253 - Electromechanical Energy Conversions	3
REE 331 - Fuel Cells	3
REE 337 - Materials for Renewable Energy Applications or EE 343 - Solid-State Electronic Devices	3
REE 412 - Photovoltaic Systems	3
REE 413 - Electrical Power Conversion Systems	4
REE 463 - Energy Systems Instrumentation	3

REE 4XX - Senior Sequence I, II, and III	9
Renewable Energy Engineering Electives	9
Upper Division Writing Elective - choose from: WRI 327 - Advanced Technical Writing WRI 350 - Document Documentation WRI 410 - Proposal and Grant Writing	3
Additional Oregon Tech Credits ⁵	87
Total Oregon Tech Degree Credits ⁶	180

1. Students can transfer up to nine (9) credit hours of Humanities electives into the BREE; these courses should be designated as Humanities electives by Oregon Tech. However, only three (3) humanities credits can be studio/performance based. Choose from the following CCC prefixes: ART, ENG, HUM, MUS, PHL, R, TA, or Languages (second year/200-level only).
2. Does not count toward the 60 upper-division credit requirement.
3. Students can transfer up to six (6) credit hours of Social Science electives into the BREE; these courses should be designated as Social Science elective by Oregon Tech. Choose from the following CCC prefixes: ANT, EC, GEO, HST, PS, PSY, or SOC.
4. Excess credits will transfer to Oregon Tech as general elective credit except for developmental course work; these credits will not be used toward the BREE.
5. Baccalaureate students must complete a minimum of 60 credits of upper-division work before a degree will be awarded. Upper-division is defined as 300- and 400- level classes at a bachelor's degree granting institution.
6. Oregon Tech's BREE requires 180 credits.