Clackamas Community College | ARTICULATION AGREEMENT GUIDE

Catalog Year: 2018-2019

Department Name – Engineering Technology
Transfer Guide with Oregon Institute of Technology

Purpose: Student transfer from Clackamas Community College to the Oregon Institute of Technology

Clackamas Community College	**Oregon Institute of Technology**
Associate of Engineering Transfer	Bachelor of Science in Renewable Energy Engineering

Program/Major Requirements:

Clackamas Community College Course Number & Title	**Qtr. Units**	**Oregon Institute of Technology Course Number & Title**	**Qtr. Units**
CH-221 General Chemistry	5	CHE 201 General Chemistry CHE 204 General Chemistry Lab	3 1
CH-222 General Chemistry	5	CHE 202 General Chemistry CHE 205 General Chemistry Lab	3 1
EC-201 Principles of Economics: MICRO **or** EC-202 Principles of Economics: Intro to MACRO	4	ECO 201 Principles of Economics, Microeconomics **or** ECO 202 Principles of Economics, Macroeconomics	3
ENGR-111 Introduction to Engineering OR RET-200 Renewable Energy Systems	4	REE 201 Introduction to Renewable Energy	3
ENGR-211 Statics	4	ENGR 211 Engineering Mechanics: Statics	4
ENGR-221 Electrical Circuit Analysis ENGR-222 Electrical Circuit Analysis II ENGR-223 Electrical Circuit Analysis III	4 4 4	EE 221 Circuits I EE 223 Circuits II EE 225 Circuits III	4 4 4
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 [1]	4	MATH 321 Applied Differential Equations I [1]	4
MTH-243 Statistics I [1] **and** MTH-244 Statistics II [1]	4 4	MATH 361 Statistical Methods I [1]	4
MTH-261 Linear Algebra [1]	4	MATH 341 Linear Algebra [1]	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 elective [2]	3	Social Science elective [2]	3
COMM-111 Public Speaking	4	SPE 111 Public Speaking	3

COMM-219 Small Group Communication [1]	4	SPE 321 Small Group & Team Communication [1]	3
WR-121 English Composition	4	WRI 121 English Composition	3
WR-122 English Composition	4	WRI 122 Argumentative Writing	3
WR-227 Technical Report Writing	4	WRI 227 Technical Report Writing	3
Total Clackamas CC Credits [3]	**103**	**Total Oregon Tech Degree Credits**	**84**

Courses not required for Clackamas CC's Associate of Science - Engineering, but required for Oregon Tech's Bachelor of Science in Renewable Energy Engineering. Can be taken at CCC or Oregon Tech.

Humanities Elective [4]	9	Humanities Elective [3]	9
Social Science Elective [2]	3	Social Science Elective [2]	3
Additional Clackamas CC Credits	**12**	**Additional Oregon Tech Degree Credits**	**12**
Total Clackamas CC Credits [2]	**115**	**Total Oregon Tech Degree Credits**	**96**

In addition to the above courses, the courses listed below are also required for the Bachelor of Science 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 355 Control Systems Design	4
EE 419 Power Electronics	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 Electrical Grid	3
MECH 318 Fluid Mechanics I or ENGR 318 Engineering Mechanics: Fluids	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 RE Applications or EE 343 Solid-State Electronic Devices	3
REE 412 Photovoltaic Systems	3
REE 413 Electrical Power Conversion Systems	3
REE 463 Energy Systems Instrumentation	3
REE 4XX Senior Sequence I	3
REE 4XX Senior Sequence II	3
REE 4XX Senior Sequence III	3
Renewable Energy Engineering electives	15
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]	**88**
Total Oregon Tech Degree Credits [6]	**184**

In addition to the departmental requirements listed above, students must also complete coursework for university admission, general education requirements and BA/BS requirements. Meet with an Oregon Institute of Technology Academic & Career Coach to develop an effective transfer plan that will meet your individual needs.

General Education Requirements

- Does not count toward 60 upper-division credit requirement.
- Students can transfer up to 6 credit hours of Social Science electives. Choose from the following Clackamas course prefixes: ANT, EC, GEO, HST, PS, PSY, SOC, SSC, and WS or other courses designated as Social Science electives by the Oregon Tech Registrar's Office.
- Excess credits will transfer to Oregon Tech as general elective credit; these credits will **not** be used toward the Bachelor of Science in Renewable Energy Engineering degree.
- Students can transfer up to 9 credit hours of Humanities electives (Arts & Letters). **No more than 3 credits of activity or performing based humanities courses are accepted.** Choose from the following Clackamas prefixes: ART, ENG, HUM, MUS, PHL, R, TA, Second-year Foreign Languages or other courses designated as Humanities electives by the Oregon Tech Registrar's Office.
- Baccalaureate degree students must complete a minimum of 60 upper-division credits before a degree will be awarded. Upper-division is defined as 300- and 400-level classes at a bachelor's degree granting institution. A minimum of 45 credits must be from Oregon Tech.
- Oregon Tech's Bachelor of Science in Renewable Energy Engineering requires 184/185 total credits.