



Plant Operations

at Walla Walla Community College

www.wwcc.edu/plantoperations

The Program

As a Plant Operator or Technician you will work for a facility that converts biomass into electricity, heat, transportation fuels, clean water, and/or high value chemicals and products. Safe, skilled, and motivated technicians and operators are in demand for first generation and advanced biofuel plants, municipal wastewater treatment plants, industrial food and beverage processors, pulp & paper mills, public works departments and cogeneration facilities. Your training in Plant Operations will provide you with a strong skill set that well positions you to help the country move to a cleaner, more efficient and sustainable energy pathway.

Career Opportunities

The following positions have an entry wage of more than \$20/hour with annual salary beginning above \$35,000/year plus benefits*:

- Process Operator
- Plant Operator
- Biofuels Processing Technician
- Biomass Plant Technician
- Wastewater Operator

*According to O*Net Online (www.onetonline.org)

WWCC's Degree Options

Plant Operations courses are offered online with hands-on lab components and focus on: safety, electricity principles, equipment and process controls, and other key scientific concepts used widely across industry sectors.

WWCC offers the following degree options in collaboration with Northwest Community and Technical Colleges:

- **Associate in Applied Arts and Sciences (AAAS) degree in Plant Operations**
- **Certificate in Plant Operations**
- **Bioproducts Short Certificate** for those with transferrable life experience, continuing education interest/employer requirements, or for students at aligned CTCs
- **Applied Associate in Science transfer degree (AAS-T) with emphasis in Bioenergy** through articulation with regional 4-year institutions
- **Certificate in Biomass Feedstock Management**



For More Information

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Walla Walla Community College ... *Your Best Choice*

Plant Operations

Required Coursework for Plant Operations Certificate and AAAS Degree

The actual order and specific coursework may vary depending on student placement, start date, and quarter. Please check with your advisor prior to any substitutions.

Fall Quarter

Course #	Course Name	Credits
EST 100	Refrigeration Basics I	4
EST 104	Introduction to Plant Operations	2

EST 165	Rigging, Equipment Operation and Material Handling	4
WTM 135	Issues in Agriculture and Natural Resources (R)	5
AGPR 121	Biomass Feedstock Management	3

Total Credits		18

Winter Quarter

EST 105	Applied Thermodynamics of Unit Operations****	3
OCSUP 107	Quantitative Problem Solving for the Trades II (M) or ***OCSUP 105 or ***OCSUP 106	5
EST 109	Job Seeking Skills for Energy and allied industries (J)	3
EST 131	Principles of Electricity Theory	5
EST 144	Industrial Safety in Workplace	3
IFA 022	AHA Heartsaver First Aid	0.4
Total Credits		19.4

Spring Quarter

EST 106	Process Control Instrumentation and Troubleshooting	3
EST 132	Principles of Electricity AC Application	5
WTM 190	Water Quality and Environmental Chemistry	5
WRITE 100	Written Communication in the Workplace (W)	3
Total Credits		16
Total Certificate Credits		53.4

Summer Quarter

Course #	Course Name	Credits
EST 191	Cooperative Work Experience*	0-10*
EST 299	Leadership Seminar for Co-op (L) ****	2
Total Credits		2-12

Fall Quarter

Course #	Course Name	Credits
EST 133	Introduction to Controls	5
EST 150	Electric Motors and Motor Maintenance	5
EST 201	Plant Operations: Process Improvement	4
WTM 215	Basic Fluid Dynamics of Piping Systems	3
Total Credits		17

Winter Quarter

EST 202	Bio-Chemical Conversion	5
EST 250	Intro. to PLCs and DDC	5
WTM 205	Wastewater Treatment Plant Operations	3
WTM 221	Pump Applications	3
CMST 102	Interpersonal Communication (O)	3
Total Credits		19

Spring Quarter

EST 203	Applied Controls and Operations	5
EST 204	Resource Recovery Operations	3
**EST 255	Advanced PLCs and Integrated Architecture	5
**EST 285	Advanced Instrumentation and SCADA	5
Total Credits		18
Year Two Credits		56-66
Total Degree Credits		109.4-119.4

Certificate can be earned by completing first 3 quarters of program.

Degree can be earned after completing all identified courses.

*** For Certificate completion only, not for degree completion.

****For Short Certificate in Bioproducts, can substitute equivalent course from Plant Operations, Ag, Wastewater, Mechatronics, or Process Technology.

* One 12 credit commercial truck driving (TRK) course in summer may substitute by EST instructor, advisor or dean permission.

** EST 255 and EST 285 can be taken in place of – or in addition to – EST 191 with instructor and dean permission.

The following courses can be substituted for identified related instruction courses.

(W) Written Communications:	ENGL 087 or higher
(M) Computation / Mathematics:	MATH& 141 or higher
(O) Oral Communications:	CMST& 220 or OCSUP 102
(J) Job Seeking Skills:	AGPR 100 or OCSUP 103
(R) Human Relations:	Any 192 series
(L) Leadership:	Any 292 series