



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, 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**
- **Short Certificate Series** 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 Bioenergy***	2
EST 165	Rigging, Equipment Operation and Material Handling	5
WTM 135	Issues in Agriculture and Natural Resources (R)	5
Total Credits		16

Summer Quarter

Course #	Course Name	Credits
EST 191	Cooperative Work Experience*	10*
EST 292	Cooperative Seminar II (L)***	2
Total Credits		12

Fall Quarter

Course #	Course Name	Credits
EST 133	Introduction to Controls	5
EST 201	Plant Operations	4
EST 150	Electric Motors and Motor Maintenance	5
WTM 215	Basic Fluid Dynamics of Piping Systems	3
TST 152 (or equivalent)	Forklift Safety Training/Cert.	1
Total Credits		18

Winter Quarter

Course #	Course Name	Credits
IFA 022	AHA Heartsaver First Aid	0.4
OCSUP 107	Quantitative Problem Solving for the Trades II (M) or **OCSUP 105 or **OCSUP 106	5
EST 131	Principles of Electricity Theory	5
EST 105	Process Support Systems***	3
EST 144	Industrial Safety in Workplace	3
EST 109	Orientation to Energy Industry (J)	3
Total Credits		19.4

Winter Quarter

Course #	Course Name	Credits
EST 202	Bio-Chemical Conversion	5
WTM 205	Wastewater Treatment Plant Operations	3
WTM 221	Pump Applications	3
EST 250	Introduction to PLC & DDC Control	5
CMST 102	Interpersonal Communication (O)	3
Total Credits		19

Spring Quarter

Course #	Course Name	Credits
EST 106	Plant Equipment and Controls	3
EST 132	Principles of Electricity AC Application	5
WTM 190	Water Quality and Environmental Chemistry	5
WRITE 100	Writing in the Workplace (W)	3
Total Credits		16
Total Certificate Credits		51.4

Spring Quarter

Course #	Course Name	Credits
EST 203	Thermo-Chemical Conversion	5
AGPR 121	Biomass Feedstock Management***	3
EST 255	Advanced PLCs and Integrated Architecture; and/or	5
EST 285	Intro to Instrumentation	5
EST 204	Solid Waste Management	3
Total Credits		21
Year Two Credits		60-70
Total Degree Credits		111.4-121.4

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

Degree can be earned after completing all identified courses.

* EST 255 and EST 285 can be taken in place of – or in addition to – EST 191 with Instructor and Dean's permission.

** 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.

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

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

Walla Walla Community College does not discriminate on the basis of race, color, national origin, sex, disability or age in programs and activities