

ENERGY SYSTEMS MAINTENANCE, CERTIFICATE

Program Code: CC.ENSYSMAIN

This certificate provides students with the basic technical skills and principles to support manufacturing, installation and maintenance, and electronics and communication engineers related to renewable energy.

For information contact the Industrial Technology Department at 503-594-3318.

Outcomes

Program Outcomes

Upon successful completion of this program, students should be able to:

- communicate effectively through technical drawings to determine product and customer specifications in building systems, energy products and thermal components;
- diagnose and repair electromechanical systems;
- design, install and troubleshoot electrical and fluid power controls related to energy system integration;
- analyze potential energy sources and select appropriate technologies;
- perform a residential energy audit, recommend and implement remediation measures;
- communicate the pros and cons of renewable energy technologies to a diverse user base.

Requirements

Code	Title	Credits
IMT-104	Reading Schematics and Symbols	2.00
IMT-111	Introduction to Renewable Energy and Industrial Systems	2.00-3.00
or RET-200	Renewable Energy Systems	
MFG-107	Industrial Safety & First Aid	3.00
MFG-131	Basic Electricity II	3.00
MFG-129	Basic Electricity	3.00
or MFG-130	Basic Electricity I	
MTH-050	Technical Mathematics I	4.00
or MTH-065	Algebra II	
Electives (p. 1)		12.00
Total Credits		29-30

Electives

Code	Title	Credits
Select one of the following:		
CDT-103	Computer-Aided Drafting I	2.00-3.00
CDT-108A	Introduction to SolidWorks	
CDT-130	Introduction to Fusion	
CDT-223	Inventor Fundamentals	
CDT-240	Revit for Architecture	
IMT-120	Industrial Machinery I	3.00
IMT-220	Industrial Machinery II	3.00

Code	Title	Credits
MFG-103	Machining for Fabrication & Maintenance	3.00
MFG-140	Principles of Fluid Power	3.00
MFG-218	Lean Manufacturing and Quality Systems	3.00
RET-209	Renewable Energy I: Energy Efficiency	3.00
RET-211	Renewable Energy II: System Fundamentals	3.00
RET-213	Renewable Energy III: Installation & Maintenance	3.00
RET-215	Renewable Energy IV: Systems Design	3.00
WLD-150	Welding Processes	4.00

Careers

Career opportunities include:

- employment in the field of manufacturing
- installation and maintenance of renewable energy production