

Sustainable & Conventional Energy & Control Technology (SCEC) Certificate – 657C

Requirements Effective Fall 2015

Program Planning Guide

Program Description: The Sustainable and Conventional Energy and Control Technology (formerly, Industrial Power & Control) Certificate prepares students for immediate employment, and future advancement, in companies or government organizations that manufacture, service, sell, design or support electrical and electronic systems that control machinery, automation, and/or processes.

Prerequisites: Many classes have prerequisites. Prerequisites are those classes that prove eligibility for entry-level classes by testing or by having satisfied prior course work. Course work earned at other institutions must be unofficially evaluated or approved by a program advisor before registering. Courses in this certificate with pre-requisites are marked with an asterisk (*). See catalog for more information.

SCEC Certificate Prerequisites: Placement into ENGL 097/098 (or higher), Placement into MATH 084 or successful completion of equivalent or higher class and BUS 169 or equivalent computer experience.

Note: Advanced placement testing, work experience, and transfer of credits may result in course waivers, credit transfer, and advanced placement.

Program Requirements		
Course Number	General Education/Related Instruction Requirements (13-15) credits)	Credit Hours
ENGL&101 or ENGL&230* or ENGL&235*	Composition or Technical Writing	3-5
Human Relations	Choose one of the following: BUS 236 preferred, HUM 105, ISP 101, ISP 110, POLS 112, SOC& 101	5
EET 109* or MATH 141*	Mathematical Applications for Circuit Analysis or Pre-Calculus I (or any higher MATH)	5
Course Number	Certificate Requirements (58 credits)	
EET 105	Introduction to Technology	2
EET 106	Introduction to Soldering	1
EET 137*	Intro to Robotics	5
EEL 201*	Energy Generation, Conversion, & Sustainability	5
EEL 202*	Industrial Motors Controls	5
EEL 203*	Industrial Motors Drives	5
EET 112	Fluid Power & Alternative Energy Sources	5
EET 114	Applied Physics	5
EET 161	D.C. Principles of Electronics	5
EET 162*	A.C. Principles of Electronics	5
EET 163*	Solid State Electronics	5
EET 165*	Analog Circuits & Devices I	5
EET 170*	Digital Circuits I	5
Total Credits: 71-73 (excluding pre-requisites)		

Program Outcomes:

- Identify and apply technical concepts and terms used in industrial energy and control.
- Analyze and troubleshoot industrial energy generation, conversion and control systems.
- Use electronic circuit simulation software for circuit design and analysis.
- Repair, maintain and install electronic and electrical control systems.
- Locate, evaluate, and apply relevant information from various sources to address workplace problems.

What Skills do I need to be successful in this field?

- <http://www.onetonline.org/link/summary/49-9041.00>

What are some potential job titles?

- Industrial Machinery Mechanic
- Industrial Electrician

Wages, employment trends and pathways

- <http://www.onetonline.org/link/summary/49-9041.00#WagesEmployment>

Course Sequence: This program of study is outlined by quarter, and courses should be taken in the indicated sequence. However, it should not be concluded that students will always proceed through their program of study exactly as prescribed here. The number of quarters listed here is minimal. Not all courses are offered every quarter. Individual student experiences, educational and training background, and personal schedules and demands all may affect the time it takes to finish this program. Also, in general, summer quarter is not considered one of the full-time quarters in the program.

1st quarter: EET 105, EET 109 or MATH 141 (or higher), EET 161

2nd quarter: EET 162, ENGL& 101 or ENGL&230 or ENGL&235

3rd quarter: EET 137, EET 163, EET 170

4th quarter: EET 112, EEL 201, EET 165

5th quarter: EEL 202, EET 114, EET106

6th quarter: EEL 203, Human Relations

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NSC Advising Office: (206) 934-3658 <https://northseattle.edu/advising>

Program Website: <https://northseattle.edu/certificates/sustainable-conventional-energycontrol-certificate>