

Industrial Power and Control Certificate – IETSCC45, 657C

Requirements Effective Spring 2024

Program Planning Guide

Program Description: The Industrial Power and Control certificate program emphasizes a practical, hands-on approach to the field of industrial power and control and prepares students for a career as an electronics technician in this field. Completion of this certificate opens doors to a variety of careers in specialties including aerospace, manufacturing, avionics, and industrial automation and robotics in the commercial and government sectors.

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 prerequisites are marked with an asterisk (*). See catalog for more information.

Industrial Power and Control 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 (15 credits)	Credit Hours
EET 109* or MATH& 142*	Mathematical Applications for Circuit Analysis or Pre-Calculus 2	5
ENGL& 101* or ENGL& 235*	Composition or Technical Writing	5
Human Relations Elective	BUS 236 Interpersonal Communication in the Workplace (preferred) or any approved Human Relations course	5
Course Number	Certificate Requirements (53 credits)	
EET 105	Introduction to Technology	2
EET 106*	Introduction to Soldering	1
EET 112*	Fundamentals of Fluid Power	5
EET 138	Industrial Robotics	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	5
EET 170*	Digital Electronics & PLCs I	5
EET/EEL 201*	Energy Generation and Conversion	5
EET/EEL 202*	Industrial Motor Controls and Drives	5
EET/EEL 203	Programmable Logic Controllers	5
Total Credits: 68		
(excluding prerequisites)		

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
- Robotics Technician

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. Summer quarter is included in the sequence below for this program.

1st quarter: EET 105, EET 109 or MATH& 142, EET 161	12 credits
2nd quarter: EET 162, EET 170, EET 202	15 credits
3rd quarter: EET 138, EET 163, EET 201	15 credits
4th quarter: BUS 236 (or approved Human Relations elective), EET 106, ENGL& 101	11 credits
5th quarter: EET 112, EET 165, EET 203	15 credits

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Electronics Department Website: <https://northseattle.edu/electronics>

Program Website: <https://northseattle.edu/programs/industrial-power>

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