

**Industrial Automation and Electronic Controls Certificate –  
(768B) Requirements Effective Spring 2018  
Program Planning Guide**

**Program Description:** The Industrial Automation and Electronic Controls 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 prerequisites are marked with an asterisk (\*). See catalog for more information.

**Industrial Automation and Electronic Controls Certificate Prerequisites** Placement into ENGL 097/098 (or higher) or successful completion of ABE 050, Placement into MATH 084 or successful completion of ABE 031 or 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.

<b>Program Requirements</b>		
<b>Course Number</b>	<b>General Education/Related Instruction Requirements (12-15) credits)</b>	<b>Credit Hours</b>
ENGL&101* or ENGL&235* or BTWERT 215	Composition Technical Writing Composition, Business Communications (Shoreline Community College)	5
Human Relations	BUS 236 Interpersonal Communications for the Workplace or BUS 104 Human Relations in Business or BUS 105 Essentials of Human Relations (Shoreline Community College) or approved Human Relations elective	2-5
EET 109* or MATH 141*	Mathematical Applications for Circuit Analysis or Pre-Calculus I or higher	5
<b>Course Number</b>	<b>Certificate Requirements (46 credits)</b>	
EET 106	Introduction to Soldering	1
EET 112 or MFGT 247	Fluid Power & Alternative Energy or Motive Maintenance (Shoreline Community College)	5
EET 131	IT Essentials – A+ Certification	5
EET 137*	Introduction to Robotics	5
EET 138* or MFGT 280	Industrial Robotics or Robot Certification (Shoreline Community College)	5
EET 160	Introduction to Electricity and Electronics	5
EET 161	D.C. Principles of Electronics	5
EET/EEL 201*	Energy Generation, Conversion, & Sustainability	5
EET/EEL 202*	Industrial Motors Controls and Drives	5
EET/EEL 203*	Programmable Logic Controllers	5
		Total Credits: 58-61 (excluding pre-requisites)

**Program Outcomes:**

- Identify and apply technical concepts and terms used in industrial energy and control.
- Ability to troubleshoot robotic systems, using knowledge of microprocessors, programmable controllers, electronics, circuit analysis, sensor or feedback systems, hydraulics, or pneumatics.
- 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/49-2094.00>

**What are some potential job titles?**

- Electrical and Electronics Repairers, Commercial and Industrial Equipment  
<http://www.onetonline.org/link/summary/49-2094.00>
- Robotics Technician <https://www.onetonline.org/link/summary/17-3024.01>

**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.

**1<sup>st</sup> quarter:** EET/EEL 203, EET 109 or MATH 141 (or higher), EET 161

**2<sup>nd</sup> quarter:** EET/EEL 202, EET 160, ENGL&101 or ENGL&235 or BTWERT 215

**3<sup>rd</sup> quarter:** EET/EEL 201, EET 137, EET 112 or MFGT 247, BUS 236 or BUS 104 or BUS 105

**4<sup>th</sup> quarter:** EET 138 or MFGT 280, EET 131, EET 106

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<b>NSC Advising Office:</b>		(206) 934-3658	<a href="https://northseattle.edu/advising">https://northseattle.edu/advising</a>
<b>Program Website:</b>	<a href="https://northseattle.edu/programs/mechatronics">https://northseattle.edu/programs/mechatronics</a>		

**CIP 47.0303**