

**Mechatronics AAS – (768A)**  
Requirements Effective Fall 2017  
Program Planning Guide

**Program Description:** Mechatronics is a two-year program that prepares students for immediate employment and future advancement in companies or government organizations that manufacture, service, sell, design or support electro-mechanical systems that control machinery, automation, and/or processes. This degree is offered jointly with Shoreline Community College. Students must take classes at both North Seattle College and Shoreline Community College in order to complete this degree.

**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 degree with pre-requisites are marked with an asterisk (\*). See catalog for more information.

**Mechatronics AAS 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 (20 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 Elective	BUS 236 Interpersonal Communications for the Workplace (North Seattle College) or BUS 104 Human Relations in Business (Shoreline Community College) or approved Human Relations Elective	5
EET 109* or MATH&141*	Mathematical Applications for Circuit Analysis (North Seattle College) or Pre-Calculus or higher	5
US Cultures/Global Studies Elective	BUS 112 Multi-Cultural Communication in the American Workplace (North Seattle College) or BUS 103 Multiculturalism in the Workplace (Shoreline Community College) or approved US Cultures/Global Studies Elective	5
<b>Course Number</b>	<b>Degree Requirements (79-85 credits)</b>	
EET 106	Introduction to Soldering (North Seattle College)	1
EET 112 or MFGT 247	Fluid Power & Alternative Energy Sources (North Seattle College) or Motive Maintenance (Shoreline Community College)	5
EET 131	IT Essentials – A+ Certification (North Seattle College)	5
EET 137*	Introduction to Robotics (North Seattle College)	5
EET 138* or MFGT 280	Robotic Applications (North Seattle College) or Robot Certification (Shoreline Community College)	5
EET 160	Introduction to Electricity and Electronics (North Seattle College)	5
EET 161	D.C. Principles of Electronics (North Seattle College)	5

EET/EEL 201*	Energy Generation, Conversion, & Sustainability (North Seattle College)	5
EET/EEL 202*	Industrial Motors Controls (North Seattle College)	5
EET/EEL 203	Programmable Logic Controllers (North Seattle College)	5
MFGT 105	Basic Manufacturing (Shoreline Community College or South Seattle College)	20
MFGT 244	Preventative Maintenance (Shoreline Community College)	3
MFGT 245	10-Hour OSHA (Shoreline Community College)	1
MFGT 246	Mechanical Maintenance (Shoreline Community College)	5
EET 291 or MFGT 196 or EET 108 and EET 170	Electronics Externship (North Seattle College) or Advanced Manufacturing Internship (Shoreline Community College) or Intro to Fiber Optics and Digital Electronics & PLCs I (North Seattle College)	4-10
		Total Credits: 99-105 (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, mechanics, sensor or feedback systems, hydraulics, or pneumatics.
- Ability to repair, maintain and install industrial production or processing machinery or equipment- both electrical and mechanical.
- 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 <https://www.onetonline.org/link/summary/49-9041.00>
- 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>
- Electro-Mechanical Technicians <https://www.onetonline.org/link/summary/17-3024.00>
- Millwright <https://www.onetonline.org/link/summary/49-9044.00>

### 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. The internship/externship requirement (EET 291 or MFGT 196) is the preferred selection for this degree. Students not able to meet this requirement may substitute EET 108 and EET 170 in lieu of the internship/externship requirement.

## North Seattle College Start

**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

**3<sup>rd</sup> quarter:** EET/EEL 201, EET 137, EET 112, BUS 236

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

**5<sup>th</sup> quarter:** MFGT 105

**6<sup>th</sup> quarter:** MFGT 245, MFGT 246, MFGT 244, BUS 103

**7<sup>th</sup> quarter:** MFGT 196

## Shoreline Community College Start

**1<sup>st</sup> quarter:** MFGT 105

**2<sup>nd</sup> quarter:** MFGT 245, MFGT 246, MFGT 244, BUS 104

**3<sup>rd</sup> quarter:** MFGT 247, MFGT 280, ENGL&101

**4<sup>th</sup> quarter:** MFGT 196

**5<sup>th</sup> quarter:** EET/EEL 203, EET 109 or MATH 141 (or higher), EET 161, EET 106

**6<sup>th</sup> quarter:** EET/EEL 202, EET 137, EET 160

**7<sup>th</sup> quarter:** EET/EEL 201, EET 131, BUS 112

**8<sup>th</sup> quarter:** EET 291 or EET 108 & EET 170 (only if MFGT 196 not completed at Shoreline)

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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>		

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