

Advisor \_\_\_\_\_



Name \_\_\_\_\_

Assigned By \_\_\_\_\_

Date \_\_\_\_\_

# EDUCATIONAL PLAN

## Associate in Applied Science – Electronics, Robotics and Automation

Asset Scores/Course Placement Recommendations: English \_\_\_\_\_ Reading \_\_\_\_\_ Math \_\_\_\_\_

<b>Fall Quarter, First Year</b>			<b>Credits</b>
ERA	101	Electronics Assembly	5
MEC	105	Computer Operations	2
MEC	151	Mechanical Systems	5
MATH	098	Algebra 1 (pre-college)*	5
			12-17
<b>Winter Quarter, First Year</b>			<b>Credits</b>
CAD	110	CAD for Electronics	3
HR	110	Human Relations	5
MEC	116	AC/DC Electronics	4
TMATH	121	Electronics Math I	5
			17
<b>Spring Quarter, First Year</b>			<b>Credits</b>
ERA	117	Advanced AC/DC Electronics	4
ERA	170	Solid State Electronics	4
MEC	270	Industrial Robotics	5
WRT	105	Writing for the Workplace	5
			18
<b>Fall Quarter, Second Year</b>			<b>Credits</b>
ERA	212	Digital Electronics	4 OR
PPO	201	Plant Systems	5
MEC	220	Sensors and Instruments	5
MEC	250	Industrial Electronics	2
MEC	260	Allen Bradley PLCs	5
			16-17
<b>Winter Quarter, Second Year</b>			<b>Credits</b>
ERA	230	Robotic Controllers	4
ERA	240	Amplifiers	5 OR
PPO	202	Plant Maintenance	5
IT	201	Network Technology 1	4
MEC	155	Preventive Maintenance	3
			16
<b>Spring Quarter, Second Year</b>			<b>Credits</b>
ENGR	111	Engineering Graphics 1	2
PPO	130	Industrial Safety	5
ERA	235	Communication Systems	3 OR
PPO	203	Plant Operations	5
ERA	276	Robotics Capstone	3
HLTH	145	Safety & Fitness	3
			16-18
<b>Total Credits 95-98</b>			

\* Pre-college math if needed

Students interested in fulfilling BASM program admission requirements will also need to take ENGL& 101 instead of WRT 105; a Humanities course (speech) and a Natural Science with a lab.

QTR/YR _____	CREDITS _____
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**EMPHASIS:** Electronics, Robotics and Automation  
**DEGREE:** Associate in Applied Science

**Purpose:** The goal of this program is to provide a graduate with the skills needed to find a job at a company that uses high-end automation equipment. This equipment ranges from devices controlled by programmable logic controllers (industrial computers) to robotic devices. A successful student will have learned core electronics skills, characteristics and operation of various types of electric motors, pneumatics and embedded controllers.

**Program Outcomes:** Students who successfully complete this program will have demonstrated the ability to

1. Safe equipment operation and ability to evaluate situations for safety issues
2. Work as members of a team in an office or industrial setting
3. Determine quantitative solutions to AC/DC electronic circuits
4. Apply common theorems and instrumentation to safely troubleshoot complex circuits
5. Design, implement and maintain automated systems using Programmable Logic Controllers and industrial sensors
6. Integrate modern microcontrollers into robotic systems to retrieve data and produce specified results
7. Obtain, process and articulate visualizations of sets of data from industrial equipment, and use that data to propose logical system improvements
8. Think independently to obtain solutions, and to recognize the need to pursue results which exceed the minimum standards whenever possible

**Learning Themes:** General education outcomes at Centralia College help students, faculty, and the general public identify what learning is expected when a student has completed a degree or program. The administration, faculty, and staff have agreed upon the following five Learning Ability Themes which students can expect to encounter in most courses and by the completion of any degree or program.

**Reasoning:** The ability to extract information from data, develop ideas and solutions, establish logical progression in thinking, and problem solve using such procedures as literary analysis or the scientific methods.

**Written, Oral and Visual Communication:** The ability to make oneself understood in public, interpersonal, professional, artistic, and technical arenas.

**Exploration-Self and Others:** An awareness of the values, beliefs, customs, and contributions of persons from one's own and other traditions, ethnicities, classes, and genders.

**Resourcefulness:** The ability to adapt to change such as technological innovations or environmental conditions.

**Responsibility:** The ability to be accountable to self and society, and the natural world.

**Estimated Quarterly Program Costs (subject to change without notice)**

Tests: Accuplacer	\$15
Resident Tuition (15 credits) and fixed fees*:	\$1399
US Citizen Nonresident Tuition (15 credits) and fixed fees*:	\$1536
Non US Citizen Nonresident Tuition (15 credits) and fixed fees*	\$3202
*Tuition is subject to change due to State Legislative actions	
Books and supplies (estimate):	\$455
Lab fees:	\$100

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