

# ADVANCED MANUFACTURING SPECIALIZATION - ENGINEERING TECHNOLOGY, ASSOCIATE IN SCIENCE

**Program Code:** ETASADM

**Meta-Major:** STEM

**Location(s):** Cocoa, Palm Bay

**Delivery Method(s):** On-Campus, Hybrid

**Previous Degree Required:** HS Diploma

**Eligible for Financial Aid:** Yes

**Additional Limited Access Application Process Required:** No

**Program Testing Requirements:** CPT - Common Placement Test (PERT, ACCUPLACER, SAT, ACT)

**Classification of Instructional Programs (CIP) Code:** 15.0000

**Florida Department of Education CIP Code:** '1615000001

Students can only select one major and one specialization.

The Specialization in Advanced Manufacturing prepares students to support the installation and operation of high-tech, automated electro-mechanical systems for manufacturing applications. Through course work and hands-on lab exercises, students understand and develop skills in electronics, hydraulics, pneumatics, programmable logic controllers, and robotic systems used by today's manufacturing industries. [Visit the program page for more details and how to apply.](#)

## Specialization Requirements

Code	Title	Credit Hours
<b>General Education Courses</b>		
ENC 1101	Composition 1	3
MAC 1105	College Algebra	3
<a href="#">Humanities Requirement</a>		3
<a href="#">Natural Science Requirement</a>		3
<a href="#">Social/Behavioral Science Requirement</a>		3
<b>Major Courses</b>		
EET 1084	Introduction to Electronics	3
ETDC 2364	SolidWorks Fundamentals	3
ETI 1420	Manufacturing Processes and Materials	3
ETI 1701	Industrial Safety	3
ETI 2110	Introduction to Quality Assurance	3
ETIC 2001	Applied Manufacturing Mechanics	3
<b>Advanced Manufacturing Specialization</b>		<b>18</b>
CETC 1123	Microprocessor Fundamentals	
ETMC 1010	Mechanical Measurement	
EETC 1025	Circuit Fundamentals	
ETMC 2315	Hydraulics and Pneumatics	
ETSC 1542	Programmable Logic Controllers (PLC)	
ETSC 1603	Fundamentals of Robotics and Simulation	

### Technical Electives

<a href="#">Select nine Technical Elective credits</a> <sup>1</sup>	9
<b>Total Credit Hours</b>	<b>60</b>

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Courses in the specializations above may be used as technical electives as long as they are not being used to fulfill the specialization requirement. Students may take any technical elective they choose. See instructor for additional approved electives.

Course	Title	Credit Hours
<b>Year 1</b>		
<b>Term 1</b>		
ENC 1101	Composition 1	3
<b>Credit Hours</b>		<b>3</b>
<b>Term 2</b>		
MAC 1105	College Algebra	3
EET 1084	Introduction to Electronics	3
ETI 1701	Industrial Safety	3
ETMC 1010	Mechanical Measurement	1
<b>Credit Hours</b>		<b>10</b>
<b>Term 3</b>		
ETDC 2364	SolidWorks Fundamentals	3
ETI 1420	Manufacturing Processes and Materials	3
ETI 2110	Introduction to Quality Assurance	3
ETIC 2001	Applied Manufacturing Mechanics	3
EETC 1025	Circuit Fundamentals	4
<b>Credit Hours</b>		<b>16</b>
<b>Year 2</b>		
<b>Term 4</b>		
<a href="#">Social/Behavioral Science Requirement</a>		3
<b>Credit Hours</b>		<b>3</b>
<b>Term 5</b>		
ETMC 2315	Hydraulics and Pneumatics	3
CETC 1123	Microprocessor Fundamentals	4
<a href="#">Humanities Requirement</a>		3
<a href="#">Natural Science Requirement</a>		3
<b>Credit Hours</b>		<b>13</b>
<b>Term 6</b>		
ETSC 1542	Programmable Logic Controllers (PLC)	3
ETSC 1603	Fundamentals of Robotics and Simulation	3
Technical Electives		9
<b>Credit Hours</b>		<b>15</b>
<b>Total Credit Hours</b>		<b>60</b>

## Learning Outcomes: Engineering Technology A.S.

- Demonstrate proficiency using engineering drafting software.
  - Supports Core Ability: Think Critically and Solve Problems
- Demonstrate industrial safety, health, and environmental requirements.
  - Supports Core Ability: Process Information
- Demonstrate methods of quality assurance in manufacturing.
  - Supports Core Ability: Process Information

4. Demonstrate modern industrial processes and materials.
  - *Supports Core Ability: Process Information*
5. Demonstrate proficiency using tools, instruments and testing devices
  - *Supports Core Ability: Think Critically and Solve Problems*