



## ENGINEERING TECHNOLOGY (A.S.)

SPECIALIZATIONS: ADVANCED MANUFACTURING

### PROGRAM DESCRIPTION:

The Engineering Technology Associate in Science degree programs prepares students for employment or provides additional training for persons employed in manufacturing and high technology industries. Florida State College at Jacksonville offers the Advanced Manufacturing specialization along with four college credit certificates: Engineering Technology Support, Advanced Manufacturing/Automation, CNC Machinist, and Hydraulics, Pneumatics and Motors for Manufacturing,

The 18 credit hour technical core of this degree is closely aligned with the national Manufacturing Skill Standards Council (MSSC) Certified Production Technician (CPT) industry certification which is endorsed by the National Association of Manufacturers' Skills Credential System. After completing this core, students will be prepared to take the MSSC assessment for the CPT Certification. Students who have already earned the MSSC-CPT will receive 15 articulated credit-hours towards the Engineering Technology degree. The Engineering Technology Associate in Science degree program is fully transferable to four year degree granting institutions.

### ASSOCIATE IN SCIENCE (A.S.)

#### General Education & Engineering Technology Courses

GENERAL EDUCATION (15 credits)	Cr.	ENGINEERING TECHNOLOGY CORE (18 credits)	Cr.
English Composition I	3	<b>CAD</b> CGS 2470 Computer Aided Drafting and Design	3
Humanities	3	<b>ELECTRONICS</b> EET 1084 Survey of Electronics	3
Mathematics	3	<b>MEASUREMENT</b> ETS 1520 Basic of Instrumentation	3
Communications (Category B)	3	<b>PROCESSES</b> ETS 1352 Intro to Man. Processes	3
Social and Behavioral Science	3	<b>QUALITY</b> ETI 2622 Intro to Lean Manufacturing	3
		<b>SAFETY</b> BCN 2732 OSHA Safety	3

#### Specialized Track Courses

##### ADVANCED MANUFACTURING (27 Cr.)

EST 1511	Motors and Controls	3	EST 1700	Hydraulics and Pneumatics	3
ETS 1603	Robotics, Mechanics, & Control	3	<i>Technical Electives (18 Cr from list below)</i>		18

##### Technical Elective Courses

PMT 1103	Introduction to Welding	3	PMT 1203	Introduction to Machining	3
PMT 2213	Advanced Machining I	3	PMT 2214	Advanced Machining II	3
PMT 2250	CNC Programming I	3	PMT 2254	CNC Programming II	3
PMT 2261	CAD/CAM I	3	PMT 2262	CAD/CAM II	3
PMT 2205	Measuring Devices & ISO Inspection	3	EDT 1100	Engineering Drawing	3
EST 1540	Industrial Applications using PLCs & Robotics	3	ETS 1531	Human Machine Interface	3
ETS 1535	Automated Process Control	3	ETS 1542	Intro to Programmable Logic Controllers	3
EST 1632	Computer Integrated Manufacturing	3	ETS 2527	Electromechanical Components & Mechanism	3
ETM 2315	Mechanical Devices & Systems	3	ETM 2317	Drives and Pumps	3





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ETS 2527	Electromechanical Components and Mechanism	3	MAN 2125	Supervision and Performance Improvement	3
ETS 1941	Internship	1			

### COLLEGE CREDIT CERTIFICATES

#### **ENGINEERING TECHNOLOGY SUPPORT CERTIFICATE (18 credits)**

This certificate focuses on broad, transferable skills and stresses understanding and demonstration of Engineering Technology and Industrial Applications.

Course Title	Cr.	Course Title	Cr.
EET 1084 Survey of Electronics	3	EST 1352 Introduction to Manufacturing Processes	3
CGS 2470 Computer Aided Drafting & Design	3	EST 1520 Basics of Instrumentation	3
ETI 2622 Intro to Lean Manufacturing	3	BCN 2732 OSHA Safety	3

#### **ADVANCED MANUFACTURING/ AUTOMATION (12 Cr.)**

This program focuses on broad, transferable skills and stresses understanding and demonstration of the following elements of Engineering Technology: Programmable Logic Controllers (PLC), industrial automation, robotics, human machine interfacing, and troubleshooting.

Course Title	Cr.	Course Title	Cr.
EST 1511 Motors and Control Circuits	3	EST 1531 Human Machine Interface & Systems Graphics	3
EST 1540 Industrial Applications	3	EST 1603 Robotics, Mechanics and Controls	3

#### **HYDRAULICS, PNEUMATICS and MOTORS FOR MANUFACTURING (12 credits)**

This program focuses on broad, transferable skills and stresses understanding and demonstration of the following elements of the Engineering Technology: Motor and Controls, Hydraulics, Mechanical Systems, and Drive and Pumps.

Course Title	Cr.	Course Title	Cr.
EST 1511 Motors and Control Circuits	3	ETM 2317 Drives and Pumps	3
ETM 2315 Mechanical Devices & Systems	3	EST 1700 Hydraulics and Pneumatics	3

#### **CNC MACHINIST (12 credits)**

This certificate focuses on broad, transferable skills and stresses understanding and demonstration of the following elements of the Engineering Technology: Basic and Advanced Machining and Basic CNC programming.

Course Title	Cr.	Course Title	Cr.
PMT 1202 Intro to Machining	3	PMT 2213 Advanced Machining I	3
PMT 2214 Advanced Machining II	3	PMT 2250 CNC Programming I	3

