

ENGINEERING TECHNOLOGY

ST. JOHNS RIVER STATE COLLEGE



ENGINEERING TECHNOLOGY

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MECHATRONICS

ROBOTICS AND SIMULATION TECHNICIAN

ENGINEERING TECHNOLOGY SUPPORT SPECIALIST

ENGINEERING TECHNOLOGY (4300)

ASSOCIATE IN SCIENCE DEGREE

The purpose of this program is to prepare students for employment in advanced manufacturing as process and production technicians, industrial machinery mechanics, quality assurance technicians, programmable logic control technicians and operators, and industrial engineering technicians. This program focuses on broad, transferable skills and stresses understanding and demonstration of the following elements of Engineering Technology and Industrial Applications: Production materials and processes, quality, electronics, mechanics, robotics applications, hydraulics/pneumatics, instrumentation and safety. Laboratory investigations benefit all students by developing the skills required to manage, operate, calibrate, and troubleshoot equipment/tools used to make observations.

The core classes align with the national Manufacturing Skill Standards Council (MSSC) Production Technician Certification. If you have already earned the MSSC-CPT, you can receive 15 articulated credit hours towards this Engineering Technology degree. The following courses will be satisfied by completion of the MSSC Production Technician Certification: ETI 1110, ETI 1420C, ETI 1701, ETI 1949, ETM 1010C.

For additional information, visit our website at SJRstate.edu/engineering or send an email to BCInfo@SJRstate.edu.

GENERAL EDUCATION COURSES:

+ ENC	1101	Composition I.....	3
+*	_____	General Education Core Humanities	3
*	_____	General Education Core Mathematics	3
PHY	1020	Introduction to Physics.....	3

Choose one of the following Social Science courses:

AMH	2010	United States History to 1877	3
		OR	
AMH	2020	United States History Since 1877.....	3
		OR	
POS	1041	United States Federal Government.....	3

TECHNICAL COURSES:

EET	1084C	Introduction to Electricity & Electronics.....	3
EGN	1111	Engineering Graphics.....	3
ETI	1110	Introduction to Quality Assurance	3
ETI	1420C	Manufacturing Processes & Materials	3
ETI	1701	Industrial Safety	3
ETM	1010C	Mechanical Measurement & Instrumentation	3

TECHNICAL SPECIALIZATION:

+ ETI	1843C	Motors and Controls.....	3	
	ETM	2315C	Hydraulics and Pneumatics.....	3
+ ETS	1535C	Automated Process Control.....	3	
	ETS	1542C	Introduction to Programmable Logic Controllers.....	3
	ETS	1603C	Fundamentals of Robotics.....	3
	ETS	2527C	Electromechanical Components and Mechanisms	3
+ ETS	2544C	Programmable Logic Controllers II.....	3	

ELECTIVES (CHOOSE ANY 6 CREDIT HOURS):

	ETI	1060	Mathematical Applications in Engineering Technology.....	3
+ ENC	2210	Technical and Professional Report Writing.....	3	
+ ETS	2604C	Robotics Applications	3	
	ETI	1622	Concepts of Lean and Six Sigma	3
	ETI	1949	Manufacturing Special Topics.....	3

REQUIRED TOTAL CREDIT HOURS

60

* Refer to A.S. degree general education core requirements on page 80.

+ Qualifying placement score or prerequisite course may be required. See course descriptions in catalog.

MECHATRONICS (4301)

COLLEGE CREDIT CERTIFICATE

This certificate program is part of the Engineering Technology degree program under the Advanced Manufacturing specialization designed to prepare students for positions in industrial engineering, maintenance and technology. The content includes instruction in maintenance techniques, technical communications, maintenance and operation of various industrial components, quality and control testing, material handling protocols, and proper usage of tools and instrumentation. Laboratory investigations benefit all students by developing the skills required to manage, operate, calibrate, and troubleshoot equipment/tools used to make observations.

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CERTIFICATE SPECIFIC COURSES:

	EET	1084C	Intro to Electricity and Electronics.....	3
	EGN	1111	Engineering Graphics.....	3
	ETI	1420C	Manufacturing Processes & Materials	3
+	ETI	1701	Industrial Safety	3
+	ETI	1843C	Motors and Controls.....	3
	ETM	1010C	Mechanical Measurement & Instrumentation	3
	ETM	2315C	Hydraulics and Pneumatics.....	3
	ETS	1542C	Introduction to Programmable Logic Controllers.....	3
	ETS	1603C	Fundamentals of Robotics.....	3
	ETS	2527C	Electromechanical Components and Mechanisms.....	3

REQUIRED TOTAL CREDIT HOURS **30**

+ Qualifying placement score or prerequisite course may be required. See course descriptions in catalog.

ROBOTICS AND SIMULATION TECHNICIAN (4128)

COLLEGE CREDIT CERTIFICATE

This program prepares students for employment as entry level robotics technicians in the areas of electronics and manufacturing or to provide supplemental training for persons previously or currently employed in these occupations. The content prepares individuals in the areas of robotic applications, modeling and simulation, and virtual reality environments. Upon completion of this technical program, the student will be able to install, maintain and troubleshoot general robot systems and simulators.

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DEGREE SPECIFIC COURSES:

ETS	1603C	Fundamentals of Robotics	3	
ETS	1542C	Introduction to Programmable Logic Controllers.....	3	
+	ETS	2544C	Programmable Logic Controllers II.....	3
+	ETS	2604C	Robotics Application	3

REQUIRED TOTAL CREDIT HOURS **12**

+ Qualifying placement score or prerequisite course may be required. See course descriptions in catalog.

Note: Courses are listed alphabetically. This is not the order in which the courses should be taken. Please see the program plan/course rotation to see the order in which courses should be taken. This will ensure that you complete prerequisite courses and are prepared for additional courses when they are offered.

ENGINEERING TECHNOLOGY SUPPORT SPECIALIST (4302)

COLLEGE CREDIT CERTIFICATE

This certificate program is the core of the Engineering Technology degree program and prepares students for initial employment as process and production operators and technicians, and industrial engineering technicians. The program focuses on broad, transferable skills and stresses understanding and demonstration of the following elements of the Engineering Technology and Industrial Applications: production materials and processes, quality, electronics, mechanics, instrumentation and safety. Laboratory investigations benefit all students by developing the skills required to manage, operate, calibrate, and troubleshoot equipment/tools used to make observations.

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CERTIFICATE SPECIFIC COURSES:

EET	1084C	Introduction to Electricity and Electronics	3
EGN	1111	Engineering Graphics.....	3
ETI	1110	Introduction to Quality Assurance	3
ETI	1420C	Manufacturing Processes and Materials	3
ETI	1701	Industrial Safety	3
ETM	1010C	Mechanical Measurement and Instrumentation.....	3

REQUIRED TOTAL CREDIT HOURS **18**