

# ENGINEERING TECHNOLOGY

ST. JOHNS RIVER STATE COLLEGE

## ENGINEERING TECHNOLOGY

MECHATRONICS

ROBOTICS AND SIMULATION TECHNICIAN

ENGINEERING TECHNOLOGY SUPPORT SPECIALISTS

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, EET 1084C, ETM 1010C.

The technical courses will be offered at the Palatka campus.

For additional information after seeing an advisor, please contact 386-312-4259.

**GENERAL EDUCATION COURSES:**

ENC	1101	Composition I.....	3	
+	ENC	1102	Composition II .....	3
+	*	_____	General Education Humanities .....	3
+	*	_____	General Education Mathematics.....	3
*		_____	General Education Social Science.....	3

**TECHNICAL COURSES:**

EET	1084C	Introduction to Electricity & Electronics.....	3
ETI	1110	Introduction to Quality Assurance .....	3
ETI	1420C	Manufacturing Processes & Materials .....	3
ETI	1622	Concepts of Lean and Six Sigma .....	3
ETI	1701	Industrial Safety .....	3
ETM	1010C	Mechanical Measurement & Instrumentation .....	3

**TECHNICAL SPECIALIZATION:**

ETI	1843C	Motors and Controls.....	3	
ETI	1949	Special Topics in Manufacturing .....	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
+	ETS	2604C	Robotics Applications .....	3

**REQUIRED TOTAL CREDIT HOURS** **60**

\* Refer to A.A. degree general education requirements.  
 +Prerequisite course required. See course descriptions in catalog.

*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.*

*These courses will be offered at the Palatka campus.*

**If you need additional information after seeing an advisor, please contact 386-312-4259.**

**CERTIFICATE SPECIFIC COURSES:**

EET	1084C	Intro to Electricity and Electronics.....	3
ETI	1420C	Manufacturing Processes & Materials .....	3
ETI	1622	Concepts of Lean and Six Sigma .....	3
ETI	1701	Industrial Safety .....	3
ETI	1843C	Motors and Controls.....	3
ETM	1010C	Mechanical Measurement & Instrumentation .....	3
ETM	2315C	Hydraulics & Pneumatics (+lab).....	3
ETS	1542C	Introduction to Programmable Logic Controllers.....	3
ETS	1603C	Fundamental of Robotics ETS .....	3
ETS	2527C	Electromechanical Components and Mechanisms .....	3

**REQUIRED TOTAL CREDIT HOURS 30**

+Prerequisite course 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.*

*These courses will be offered at the Palatka campus.*

**If you need additional information after seeing an advisor, please contact 386-312-4259.**

**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**

+Prerequisite course 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.*

*These courses will be offered at the Palatka campus.*

**If you need additional information after seeing an advisor, please contact 386-312-4259.**

**CERTIFICATE SPECIFIC COURSES:**

EET	1084C	Introduction to Electricity & Electronics.....	3
ETI	1110	Introduction to Quality Assurance.....	3
ETI	1420C	Manufacturing Processes & Materials.....	3
ETI	1622	Concepts of Lean and Six Sigma.....	3
ETI	1701	Industrial Safety.....	3
ETM	1010C	Mechanical Measurement & Instrumentation.....	3

**REQUIRED TOTAL CREDIT HOURS** **18**

PROGRAMS OF STUDY

ENGINEERING TECHNOLOGY