

ENGINEERING TECHNOLOGY

Engineering Technology with Specializations in

- Advanced Manufacturing
- Supply Chain Automation

Associate in Science Degree (CIP# 1615000001)

The **Engineering Technology** Associate in Science (A.S.) degree is designed to train you to become a skilled technician capable of installing, repairing and maintaining equipment and systems used in operations that involve manufacturing and production, logistics, and supply chain automation technology.

This state-of-the-art program offers a broad background in electronics, industrial components, computer control software and hardware applications, industrial control circuits, programmable logic controllers (PLCs), hydraulics, pneumatics, welding and robotics. You will also receive specialized courses in automated manufacturing and material handling distribution systems, including automated process control—preparing you to work in trades such as manufacturing, food production, supply chain and distribution industries, as well as servicing and maintaining amusement park rides.

Students are strongly encouraged to consult a career program advisor in the department office for assistance in determining the best education plan for their career goals.

Although scheduling may not always provide for the following progression of courses, students should use the foundation, intermediate and advanced course sequence as a guide in program planning.

All degree-seeking students must satisfy entry testing requirements and satisfactorily complete all mandatory courses in reading, student success, mathematics, English, and English for Academic Purposes in which the student is placed.

Alternative Ways to Earn Credit toward this Degree

Graduates of specific programs at Orange Technical College and Osceola Technical College, as well as other institutions may be eligible to receive college credit for courses in this program. You may also be eligible to receive credit toward this degree if you have earned one of the approved Gold Standard industry certifications or Career Pathways credit. To learn more about Valencia's award of credit options, visit <https://valenciacollege.edu/academics/programs/as-degree/alternative-award-of-credit-agreements.php>. Eligible students should contact the Career Program Advisor in their academic department for more information about the requirements for the award of credit.

Start Right

Degree-seeking students enrolling at Valencia for the first time will have a limited range of courses from which to choose for their first 18 college-level credits. Within the first 18 college credit hours, you will be required to take ENC1101 (3 credits), and if applicable, SLS 1122 (3 credits) and a mathematics course appropriate to your selected meta-major (3 credits). The remaining courses will be chosen from the General Education Core Courses in humanities (3 credits), science (3 credits), or social science (3 credits), and/or the introductory courses within the A.S.

degree programs. For specific courses see the *Foundation Courses* on the “Program Requirements” tab. For course sequencing recommendations, see your Career Program Advisor or create an education plan by logging into Atlas, clicking on the LifeMap tab and clicking My Education Plan.

Potential Careers

- Industrial Technician
- Automation Technician
- Maintenance Technician
- Mechanic
- Machinery Maintenance Worker
- Millright
- Supply Chain Automation Technician

Salary & Earnings Information

For career information related to this program, please visit **O*Net OnLine**.

Contacts

Future Students

To learn more about this program, contact Enrollment Services at enrollment@valenciacollege.edu or 407-582-1507 or visit <https://net1.valenciacollege.edu/future-students/degree-options/associates/engineering-technology/>

Current Students

Contact the Career Program Advisor below for more information.

Kevin Curley, Program Chair, Osceola Campus Campus:
kcurlay4@valenciacollege.edu

Roxana Boulos, Career Program Advisor, Osceola Campus: 321-682-4231
rboulos1@valenciacollege.edu

Internship and Workforce Services

If you need assistance with job resources or in locating an internship, please visit: valenciacollege.edu/internship (<https://valenciacollege.edu/internship/>)

Program Outcomes

1. Apply basic mathematical and engineering concepts to technical problem solving appropriate to the discipline;
2. Demonstrate proficiency in print reading and interpreting industrial diagrams and blueprints;
3. Conduct standard tests and measurements, and to conduct, analyze, and interpret experiments;
4. Understand, operate, troubleshoot, and maintain electrical, pneumatic, hydraulic, and electromechanical components and/or systems;
5. Demonstrate strategies and technologies used to collect, analyze, record, and share information in manufacturing and supply chain automation;
6. Apply written, oral, and graphical communication effectively in both technical and non-technical environments; and an ability to identify and use appropriate technical literature.

Program Requirements

Foundation Courses

SLS 1122	NEW STUDENT EXPERIENCE ~	3
ENC 1101	FRESHMAN COMPOSITION I ^{++*}	3

Humanities	See Gen. Ed. Core or Institutional Hours ~	3
Mathematics/ Science	See Gen. Ed. Core or Institutional Hours ~	3
Social Science	See Gen. Ed. Core or Institutional Hours ~	3
Intermediate Courses		
MTB 2321C	TECHNICAL MATH	3
EET 1084C	FUNDAMENTALS OF ELECTRONICS	3
ETI 1110	INTRODUCTION TO QUALITY ASSURANCE	3
ETI 1701	INDUSTRIAL SAFETY	3
ETI 2420	MANUFACTURING MATERIALS AND PROCESSES	3
ETM 2010C	MECHANICAL MEASUREMENT AND INSTRUMENTATION	3
ETM 2315C	HYDRAULICS AND PNEUMATICS *	3
ETS 2542C	PROGRAMMABLE LOGIC CONTROLLERS I *	3
ETI 2644	PRODUCTION AND INVENTORY CONTROL	3
ETS 2535	AUTOMATED PROCESS CONTROL *	3
Advanced Courses		
See Advanced Specialization Courses Listed Below		15
Total Credit Hours		60

Advanced Specialization Courses

Advanced Manufacturing Specialization

Program Outcomes

1. Assist in the design, operation, and troubleshooting of Advanced Manufacturing systems.
2. Identify lean and six sigma concepts in manufacturing environments.
3. Operate and troubleshoot industrial automation systems.

ETD 1103C	ENGINEERING GRAPHICS WITH CAD	3
ETI 1622	CONCEPTS OF LEAN MANUFACTURING AND SIX SIGMA *	3
ETS 2511C	ELECTROMECHANICAL SYSTEMS *	3
Electives	See Selected Engineering Technology Electives Listed Below	6

Supply Chain Automation Specialization

Program Outcomes

1. Demonstrate proficiency in automated warehousing and materials handling;
2. Demonstrate an understanding of machine fundamentals, components, maintenance, and mechanical troubleshooting;
3. Demonstrate proficiency in troubleshooting of Automated Controls Systems.

ETI 1151C	PRINT READING FOR TRADES	3
ETI 1486C	INTRODUCTION TO AUTOMATED WAREHOUSING	3
ETI 2501C	MECHANICS AND MECHANICAL SYSTEMS *	3

ETI 2843C	MOTORS AND CONTROLS *	3
Electives	See Selected Engineering Technology Electives Listed Below	3

Selected Engineering Technology Electives

ETI 2401C	MACHINING FUNDAMENTALS *	3
ETI 2408C	SURVEY OF WELDING *	3
ETS 2531C	HUMAN MACHINE INTERFACES	3
ETS 2544C	PROGRAMMABLE LOGIC CONTROLLERS II *	3
ETM 2607C	TROUBLESHOOTING AUTOMATION AND CONTROL SYSTEMS *	3
ETS 1603C	FUNDAMENTALS OF ROBOTICS AND SIMULATION *	3
ETS 2604C	ROBOTICS APPLICATIONS *	3
CET 2178C	COMPUTER HARDWARE	3
CET 2486C	LOCAL AREA NETWORKS	3
CNT 2417C	CYBERSECURITY OPERATIONS *	3

+ This course must be completed with a grade of C or better.

* This course has a prerequisite; check description in Valencia catalog.

~ This course is a general education course.