Engineering Technology

ASSOCIATE IN SCIENCE(AS)

2025 - 2026

Student's Name: _____

Student's ID Number: _____

Pathway Navigator: _____ **Faculty Advisor:** _____

General Education (15 hours)

The Associate in Science degree consists of a minimum of 60 college-level semester hours with at least 15 semester hours of General Education Core courses. The General Education Core courses are chosen for their appropriateness for each degree and represent courses from each of the following disciplines: humanities/fine arts, natural science/mathematics, behavioral science/ social science and communications. Consult with your Faculty Advisor if you have any questions.

Communications (3/4 credits)

- ☐ ENC1101 English Composition I●+* 3
- ☐ ENC1101C Enhanced English Comp. I●+* 4

Humanities (3 credits)
Select one Humanities course

Humanities 1–Visual & Performing Arts

- ☐ ARH2000 Understanding Visual Arts● 3
- ☐ MUL2010 Understanding Music● 3
- ☐ THE2000 Understanding Theater● 3

Humanities 2–Philosophy/Religion

Prerequisite ENC1101 or ENC1101C with grade "C" or higher.

- ☐ HUM2020 Introduction to Humanities●+* 3
- ☐ PHI2010 Intro. to Philosophy●+* 3

Humanities 3–Literature

Prerequisite ENC1102 with grade "C" or higher.

- ☐ LIT2000 Literature and Culture●+* 3

Mathematics (3 credits)
Select one Mathematics Course

- ☐ MAC1105 College Algebra●+* 3

Natural Sciences (3 credits)
Select one Science course

Physical Sciences

- ☐ AST1002 Descriptive Astronomy● 3
- ☐ CHM1045 General Chemistry●+ 3
- ☐ ESC2000 Earth & Space Science Survey● 3
- ☐ EVR1001 Intro. to Environmental Science● 3
- ☐ GLY1010 Physical Geology● 3
- ☐ OCE1001 Fundamentals of Oceanography● 3
- ☐ PHY1020 Basic Concepts of Physics● 3
- ☐ PHY2048 University Physics I●+ 4
- ☐ PHY2053 College Physics I●+ 3

Biological Sciences

- ☐ BSC1005 General Biological Science● 3
- ☐ BSC2010 Biology for Science Majors I●+ 3
- ☐ BSC2085 Anatomy & Physiology I●+ 3

Social Sciences (3 credits)
Select one Social Science Course

History

- ☐ AMH2010 United States History I●@ 3
- ☐ AMH2020 United States History II●@ 3

Government

- ☐ POS2041 American Nat'l Government●@ 3

Developmental Courses

- ☐ ENC0022 Dev. Writing I & II Combined* 3
- ☐ REA0019 Dev. Reading I & II Combined* 3
- ☐ MAT0012 Dev. Arithmetic with Algebra* 3

Major Courses

The purpose of the Engineering Technology A.S. program is to prepare students for employment or provide additional training for persons previously or currently employed in the manufacturing, electronics, aerospace, or other related industries. This degree is a planned sequence of instruction with one common core and three specializations: alternative energies, advanced manufacturing, and digital manufacturing. It is recommended that students complete the core before advancing to the courses in their specialization. Topics include communication skills, technical competency, safe and efficient work practices and a combination of theory and laboratory activities to gain the necessary cognitive and manipulative skills to support engineering design, processes,production, testing, and product quality.

The 18 credit hour technical core has also been aligned with the standards of the Manufacturing Skills Standards Council (MSSC). MSSC standards define the knowledge, skills, and performance needed for positions in manufacturing. After completing the technical core and General Education requirements, students will be eligible to take the exam for MSSC Production Technician Certification. Graduates of the Engineering Technology Program can transfer to universities offering the B.S. degree in Engineering Technology.

Technical Core (18 Credit Hours)

- ☐ EET1084C Introduction to Electronics#* 3
- ☐ ETD1320C Introduction to CAD# 3
- ☐ ETI1701 Industrial Safety# 3
- ☐ ETI2110 Intro. to Quality Assurance# 3
- ☐ ETI1420 Manufacturing Processes# 3
- ☐ ETI2001C Applied Mechanics#* 3

Select A Specialization Area

Alternate Energy Option (27 hours)

The purpose of this track is to prepare students to meet industry-specific educational needs for technicians in new and emerging alternative and renewable energy fields, including, but not limited to, occupational titles such as Electrical Engineering Technician, Industrial Engineering Technician, Solar Photovoltaic Installer and Solar Power Plant Technician, Solar Thermal Installer and Technician, Energy Auditor, and Smart Grid Technician. This program also provides supplemental training for persons previously or currently employed in occupations related to energy production and storage, manufacturing and construction.

- ☐ ETP1501 Intro. to Energy, Environment, & Society# 3
- ☐ ETP1500 Alter. Energy Inventory & Analysis# 3
- ☐ ETP1410C Solar Energy# 3
- ☐ ETP1510 Biofuels and Biomass+# 3
- ☐ ETP1550 Altern. Fuels & Elect. Vehicles+# 3
- ☐ EET2214C LavVIEW Instrumentation# 3
- ☐ EET1035C AC/DC Circuits+# 3
- ☐ ETS2542C Programmable Logic Controllers+# 3
- ☐ ETS2931 Special Projects in Com. Int. Manu.# 2
- ☐ ETI1949 Manufacturing Internship# 1

Advanced Manufacturing Option (27 hours)

This track specializes in automation, robotics, and process control with emphasis on computer-controlled systems for industrial manufacturing, system integration, instrumentation, simulation, and animatronics. The program skills used for careers in manufacturing, theme park industries, military applications, water filtration and purification plants, and much more. Graduates are prepared to work as controls engineers, system integrators, robotic technicians, industrial programmers, process control engineers, field service technicians, simulation technicians, industrial sales engineers, and industrial maintenance technicians.

- ☐ ETS2542C Program. Logic Controllers+# 3
- ☐ ETS2535C Process Control & Instrumentation+# 3
- ☐ ETS2700C Electro-Hydraulics & Pneumatics+# 3
- ☐ ETS2606C Robotics+# 3
- ☐ ETS2511C Motor & Motion Control+# 3
- ☐ EET1140C Electronic Devices and Circuits+# 3
- ☐ CET1112C Digital & Computer Circuits+# 3
- ☐ EET1035C AC/DC Circuits+# 3
- ☐ ETS2931 Special Proj. in Comp. Integr. Manufac.# 2
- ☐ ETI1949 Manufacturing Internship# 1

Digital Manufacturing Option (27 hours)

This track specializes in automation, robotics, and process control with emphasis on computer-controlled systems for industrial manufacturing, system integration, instrumentation, simulation, and animatronics. The program skills used for careers in manufacturing, theme park industries, military applications, water filtration and purification plants, and much more. Graduates are prepared to work as controls engineers, system integrators, robotic technicians, industrial programmers, process control engineers, field service technicians, simulation technicians, industrial sales engineers, and industrial maintenance technicians.

- ☐ ETD2383C Intermediate CAD/CAE/CAM#+* 3
- ☐ ETD2384C Advanced CAD/CAE/CAM#+* 3
- ☐ PMT2250C CNC Programming I# 3
- ☐ PMT2254C CNC Programming II+# 3
- ☐ ETI2460C Composites Fundamentals# 3
- ☐ ETI2464C Advanced Composites+# 3
- ☐ ETD2371C Intro. to 3D Printing+# 3
- ☐ ETD2372C Advanced Rapid Prototyping+# 3
- ☐ ETS2931 Special Proj. Comp. Integ. Manufact.# 2
- ☐ ETI1949 Manufacturing Internship# 1

Other AS Requirements

☐ **General Education Core Requirement**
Successful completion of at least one dotted core course from each of the five major general education areas: Communications, Humanities, Mathematics, Natural Sciences, Social Sciences

☐ **Civic Literacy Requirement (@)**
Successful completion of AMH 2010 OR AMH 2020 OR POS 2041 **AND** passing score on civic literacy exam (FCLE)

Key

+ = Prerequisite or co-requisite required
* = Minimum grade of "C" required
@ = Course meets Civic Literacy Requirement
●= General Education Core course
#=Applies to A.S. and Certificate Programs