Triton College 2021-22 Catalog

Area of Study: **Science and Engineering**
Pathway: **Engineering Technology: Mechatronics**
Degree Type: **Associate in Applied Science**
Curriculum Code: **ENT.MEC.AAS (C249V)**

(Total Program Credits: 60-62)

The Engineering Technology curriculum provides the learner with working knowledge of engineering technology, including basic and advanced drafting and design principles using various 2D and 3D Computer Aided Drafting (CAD) systems, integrating lean principles in the design process and knowledge of working with various measurement devices used in determining quality assurance of prototypes and finished goods. While in the program, the learner will be able to seek out entry-level and internship opportunities in engineering departments, plant maintenance, production departments and technical sales and support.

PROGRAM LEARNING OUTCOMES:

At the successful completion of the Associate in Applied Science Degree in Engineering Technology/Mechatronics program, the graduate will be able to:

- identify electronic and mechanical parts of an automated system;
- use electrical wiring diagrams and symbols in making a mechatronics product;
- install, program, and troubleshoot Programmable Logic Controllers (PLCs);
- implement safety regulations required for operation of the system;
- resolve equipment problems;
- differentiate between thermal, mechanical, fluid and electrical power systems in a variety of settings;
- measure in inches and metric system; and
- present as part of a design team, the ethics that should be practiced in designing a product.

Placement Measures MAT, RHT, and COL sequence placement will be determined by an Academic Advisor. Contact your Academic Advisor or Transfer Specialist (if transferring), before registering for courses.
Developmental education courses do not transfer. They assist students in the path towards college credit.

Program Map for Full-Time Students

Semester One: Fall	**Category**	**Next Steps**
ENT 104 ◊ Electricity Basic Fundamentals (3)	*Required*	Meet with your Academic Advisor to create an academic plan. Explore transfer institutions and admissions requirements by attending transfer events (if intending to transfer).
ENT 110 ◊ Engineering Design Graphics/CAD (4)	*Required*	
ENT 252 ◊# Introduction to Mechanical AutoCAD (3)	*Required*	
RHT 101 ◊# Freshman Rhetoric & Composition I (3)	*Communications*	
Program Elective (3)	*Program Elective*	

16 Credit hours

Note: Grade of "C" or higher is an IAI requirement for RHT 101 and RHT 102.

Semester Two: Spring	**Category**	**Next Steps**
ENT 115 ◊ Fluid Power (3)	*Required*	Meet with your Academic Advisor to update your academic (and transfer plan, if intending to transfer). If intending to transfer, create a Transferology account to explore how coursework transfers and attend a Transfer 101 Workshop.
ENT 204 Programmable Logic Controllers I (3)	*Required*	
ENT 205 Robotics I (4)	*Required*	
MAT 111 ◊# Pre-Calculus (5) OR MAT 114 ◊# Plane Trigonometry (3)	*Mathematics*	

13-15 Credit hours

MAT 111◊ or MAT 114◊: meets the Mathematics and/or Science general education requirement.

Semester Three: Fall	**Category**	**Next Steps**
ENT 202# Electricity Sustainable Applications (4)	*Required*	Meet with your Academic Advisor to update your academic (and transfer plan, if intending to transfer). Attend a Ready to Apply Workshop.
ENT 260 ◊# Jig & Fixture Design (3)	*Required*	
RHT 102 ◊# Freshman Rhetoric & Composition II (3) OR SPE 101 ◊# Principles of Effective Speaking (3)	*Communications*	
Program Electives (6)	*Program Elective*	

16 Credit hours

Note: Grade of "C" or higher is an IAI requirement for RHT 101 and RHT 102. RHT 101◊: RHT 102◊, SPE 101◊. Students must complete RHT 101◊ with SPE 101◊, or RHT 101◊ with RHT 102◊. Students intending to transfer are encouraged to complete all three courses: RHT 101◊, RHT 102◊ and SPE 101◊ to meet university requirements.

Semester Four: Spring	**Category**	**Next Steps**
ENT 206# Programmable Logic Controllers II (4)	*Required*	Meet with your Academic Advisor to finalize your transfer plan and apply to your transfer institution(s) if intending to transfer. Submit graduation petition by deadline (check for the specific date in catalog or syllabi.)
ENT 207# Robotics II (4)	*Required*	
HTH 104 ◊ Science of Personal Health (2) OR HTH 281 ◊ First Aid CPR AED (1)	*Required*	
General Education/Social and Behavioral Science (3)	*Social and Behavioral Science*	
General Education/Humanities (3)	*Humanities*	

15-16 Credit hours

Social or Behavioral Science recommended electives: PSC 1500 or HIS 1510.

Humanities recommended electives: PHL 1030 or PHL 1050. PHL 1050 fulfills the Human Diversity requirement for general education.

Program Electives (9)
ENT 100 Introduction to Manufacturing (4)
ENT 103 Introduction to Automation (3)
ENT 116 Fabrication Processes (4)
ENT 117 Computer Numeric Controls I (4)
ENT 118 Computer Numeric Controls II (4)
ENT 127 Materials Manufacturing & Test Processes (3)
ENT 255 Autodesk Inventor Design and Rendering (3)
ENT 280 Solidworks Design and Rendering (3)
ENT 290 Cooperative Work Experience (2)
ENT 291 Cooperative Work Experience (2)
ENT 295 Applied Statics (3)
ENT 296 Special Topics in Engineering Technology (1-4)

Program Electives should be chosen with your advisor.

Graduation requirements:

Total semester hours required in *general education* toward the AAS Degree	**15**
Total semester hours for program *required courses, program specific electives and other electives* toward the AAS Degree in Mechatronics	**45**
Minimum total semester hours required for the AAS Degree	**60**

General Education requirements:

- **Communications:** Two courses (six semester hours). Department choice of RHT 101 and RHT 102 or RHT 101 with SPE 101. If transferring, it is suggested to take all three courses.
- **Social and Behavioral Sciences or Humanities or Fine Arts:** Two courses (six semester hours are required for graduation; department choice whether courses are taken from each discipline or two courses from same discipline, to include one approved Human Diversity course.
- **Mathematics or Physical or Life Science:** One course (three semester hours); review specific program requirements for your selected curriculum.

See ENT course descriptions (p. **Error! Bookmark not defined.**).

See Humanities General Education requirements.

Coordinator: Antigone Sharris, Ext. 3622; email: antigonesharris@triton.edu; Cell Phone: (773) 580-8807