

MECHATRONICS

Course Code:

8554/8555/8556

Course Description:

In this one year program, students will learn and build knowledge of mechatronic systems. These systems are electrical, mechanical, pneumatic, hydraulic, and software systems, and typically include sensors feeding data to a computer/controller, which determines how to energize a motor/actuator. Mechatronics systems form the foundation of robotics, automation, and advanced manufacturing. Students will apply systems principles as well as basic digital logic and programmable logic controllers (PLC's) in a complex mechatronic system. Students earn dual enrollment credit with Virginia Peninsula Community College and a Mechatronics Career Studies Certificate.

Topics of Study:

Engineering Design
Sensors & Actuators
Digital Electronics
Robotics Programming
Mechanical Drives
Pneumatics & Hydraulics
Programmable Logic Controls
Mechatronic Systems

Campus Location:

Butler Farm, Hampton

Sessions:

AM and PM

Class Size:

16 students

Credentials:

Siemens Level 1 Mechatronics Certification
Numerous FESTO Industry 4.0 Certifications

Career & Technical Student Organization:

SkillsUSA

Work-Based Learning Opportunities:**Course Prerequisites:**

Completed 10th grade English with a grade of “C” or better
Completed Algebra I with a grade of “B” or better

Instructor Bio:

Mechatronics program courses are taught by Virginia Peninsula Community College instructors

Projected Employment:

About 1,300 openings for electro-mechanical and mechatronics technologists and technicians are projected each year, on average, over the decade. “Mechatronics Technologists” Occupational Outlook Handbook, US Bureau of Labor Statistics, 11 October, 2023.

<https://www.bls.gov/ooh/architecture-and-engineering/electro-mechanical-technicians.htm#tab-6>

Career Pathways:

Mechatronics Technician

Machinist

Electrical Engineer

Mechanical Engineering Technology

Industrial Engineer

Program Flyer: (linked)