

# AUTOMATION & ROBOTICS ENGINEERING TECHNOLOGY



**“The new trend in our field is the integration of computer science, robotics and controls engineering, and this degree will undoubtedly help meet this trend.”**

– Chris Roush, VP of Business Development, Multi-Dimensional Integration

## DEGREES/MINOR

### BACHELOR OF SCIENCE (B.S.)

#### **Automation & Intelligent Robotics Engineering Technology (AURO)**

Students in the AURO degree program are introduced to the fundamentals of power, electronic systems and formal programming techniques common in industry. The curriculum, supported jointly by the departments of Applied Engineering, Safety & Technology and Computer Science, includes in-depth technical content of electronics, control systems, mechanical systems, and computer programming and applications to prepare professionals equipped to design, improve, maintain, and manage robotic and automated process and control systems. Laboratory courses require students to design, program, develop and construct projects independently and in small teams. The study of robotics and controls involves the design, modeling, optimization, documentation and automation of advanced control problems. This major is designed to produce graduates prepared to work with multiple types of technology to design and implement projects that have advanced programming needs. Typical entry-level professions include software engineers, research and development engineers, systems engineers, computer engineers, process engineers, control systems engineers, controls technicians, field engineers, manufacturing engineers, robotics programmers and technicians.

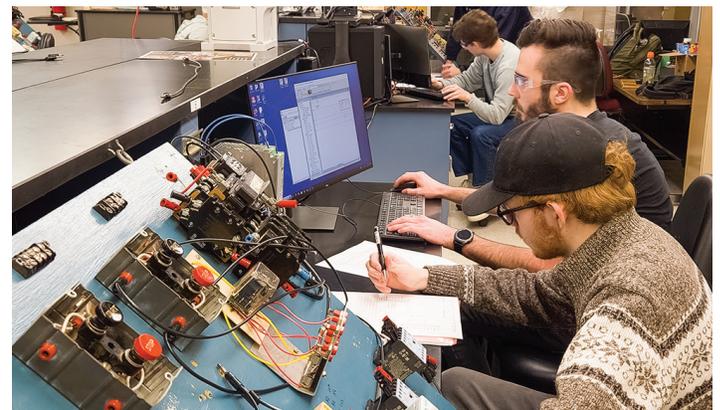
### ASSOCIATE OF TECHNOLOGY (A.T.)

#### **Control Systems Technology (AET-CST)**

The AET-CST is a two-year degree program that shares many of its technical courses with the AURO degree. This abbreviated program is for individuals who need the hands-on experience with the devices, tools and technology related to automation and robotics, but don't need the computer science or management preparation. The AET-CST program is designed to get students the education they need in a hurry, and it seamlessly can be applied towards a bachelor's degree in Automation & Robotics Engineering Technology in the future.

### MINOR IN CONTROL SYSTEMS TECHNOLOGY

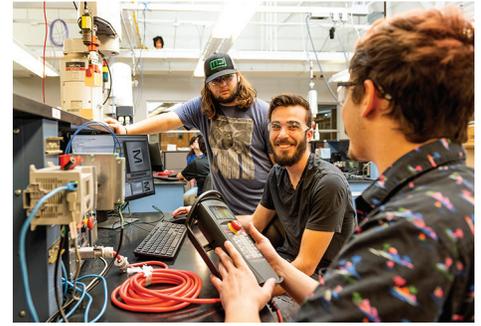
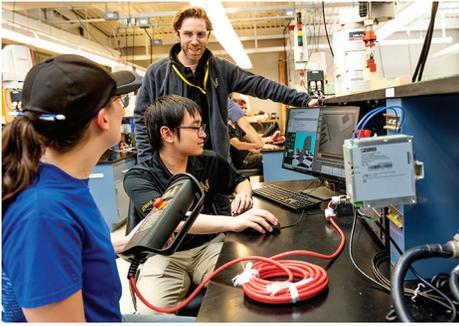
A minor in **Control System Technology** is available to students who complete 18 credits of technical courses related to the study of Robotics and Control Systems.



## TOP 3 REASONS TO CHOOSE AUTOMATION & ROBOTICS ENGINEERING TECHNOLOGY

1. Learn relevant, in-demand automation, robotics, artificial intelligence, computer programming and systems control engineering skills.
2. “[The] demand for robots has never been stronger, as more industries look to automation to increase productivity and alleviate ongoing labor shortages.”<sup>1</sup>
3. Excellent starting salaries for automation/controls/robotics engineers (**\$65,000–\$75,000 per year**).

<sup>1</sup> Source: John Lewis. Apr. 18, 2022. *What's needed to get started for an automation career.* Industry Insights, A3 Association for Advancing Automation.



## CLUBS AND ACTIVITIES

The AEST department has 10 student organizations, each offering motivated students opportunities to gain experience in the technical areas they are studying. AURO students may choose to get involved with the following:

**'Ville Robotics Team – Association of Technology, Management & Applied Engineering.** 'Ville Robotics is a widely respected student organization that has earned more than 45 top awards in national or international robotics competitions. The team boasts winning six national championship titles to date. Team members participate in all aspects of robotics, from ideation and design through fabrication and testing. All team members are welcome to travel to national and international events to compete in top-level competitions.

**Epsilon Pi Tau (EPT) – Beta Phi Chapter.** EPT is an international honor society for professions in technology. At Millersville, this includes Technology & Engineering Education, Applied Engineering & Technology Management, Automation & Robotics Engineering Technology, Manufacturing Engineering Technology, and Occupational Safety & Environmental Health majors.



Above: 'Ville Robotics 2023 Intelligent Ground Vehicle Competition Team.

## FACILITIES FOR AURO

AURO students learn in state-of-the-art facilities as they complete their degrees. Some of the facilities for AURO students are:

- Adaptive Computing
- Automation & Robotics
- CADD
- Electronics
- Fluid Power
- Intelligent Machines
- Materials Processing
- Rapid Prototyping
- Robotics R&D



**Dr. John Haughey** is the program coordinator for the Automation & Intelligent Robotics Engineering Technology degree.

For more information or if you have questions about this program, email [John.Haughey@Millersville.edu](mailto:John.Haughey@Millersville.edu).

## OUR GRADUATES SAY...



"MU has done a great job preparing me for the challenges I face in my career. The expectations of the professors and their drive to develop 'out of the box' and analytical thinking skills are what I believe to be one of the biggest takeaways. The individualized attention that the professors provide is invaluable when developing the necessary skill sets required for the real world."

– Gilbert Ramos '14



"My classes prepared me by stretching me to learn more quickly and efficiently. The experience in my classes gave me an advantage over the traditional electrical engineer graduating from a traditional program. The background I received with robotics and controls has proved to be invaluable, and I will continue to become a greater asset for my employer."

– Jordan Drexel '15

## TITLES OF RECENT AURO GRADS

When AURO graduates complete their studies at Millersville University, they embark on careers that have limitless potential. Here are some of the job titles AURO graduates reported in a 2021 survey of recent department graduates:

- Applications Engineer
- Automation Engineer
- Control Systems Engineer
- Design Engineer
- Engineering Technician
- IT Project Specialist
- Plant Services Engineer
- Process Engineer
- Product Manager
- Program Engineer
- Project Manager
- Quality Manager
- Robotics Engineer
- Sales Engineer
- Site Supervisor
- Solutions Engineer
- Senior Engineer
- Support Engineer
- Team Supervisor
- Validation Lead

## FOR INFORMATION, CONTACT...

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