MECHATRONICS ENGINEERING TECHNOLOGY
Eberly College of Science and Technology

Degree Benefits
Mechatronics is an emerging field that blends mechanical engineering, electrical engineering and computer science. The mechatronics degree at Cal U is the ONLY four-year degree of its kind offered by the State System of Higher Education, your most affordable choice for higher education in Pennsylvania. The program is based on a rich history of providing students with relevant, hands-on activities. Many courses include laboratory-based activities that allow students to work with components, systems and technology to reinforce concepts covered in class lectures.

Cal U already has established partnerships with two international firms: Siemens AG, a multinational powerhouse in electronics and electrical engineering; and FESTO, a leading supplier of pneumatic and electrical automation technology.

Job Options
Mechatronics engineering technologists work with “smart” devices that incorporate mechanical, electrical, computer and software components, such as robots, automated guided systems and computer-integrated manufacturing equipment. Mechatronics is a high-tech field – and it’s growing fast. The Pennsylvania Department of Labor & Industry has identified mechatronics as a “high-priority” occupation. It projects as many as 300-600 job openings per year through 2020.

Educational Program Objectives
Upon successful completion of this program you will have learned to:
1. Communicate effectively in the professional environment in individual and group situations.
2. Translate customer requirements and effectively integrate multiple mechanical and electrical systems.
3. Participate in lifelong learning to maintain technically current in the profession.
4. Specify, design, deploy, implement, troubleshoot and maintain mechatronic systems.
5. Apply appropriate strategies to maintain professional, ethical, and social responsibilities in the workplace, including a respect for diversity.
6. Work effectively in individual and group-oriented settings.
7. Analyze the produced system and formulate its economic impacts on the overall organization.
8. Apply safety to all aspects of work.

How Long Does it Take to Complete the Mechatronics Degree at Cal U?
In just four year, students can earn a bachelor’s degree in mechatronics engineering technology, or students can transfer credits from Cal U’s associate degree program in robotics engineering technology or from other associate degree programs that provide appropriate preparation in math and science. Cal U has articulation and transfer agreements with a number of regional community colleges.

How Do I Join the Program?
Contact the Cal U Office of Admissions at inquiry@calu.edu or 724-938-4404 (toll-free 888-412-0479).

We’re ready to talk with you about joining the new mechatronics engineering technology program at Cal U!

Apply online:
www.calu.edu/mechatronics

Bachelor of Science in Mechatronics Engineering Technology: Mechatronics — 120 credits
The following eight-semester schedule of courses provides a recommended framework for completing this program of study in four years. To ensure that they are making satisfactory academic progress, students should consult with their faculty advisor, ensure that they complete necessary prerequisites and required courses in sequence, and complete a minimum of 15 credits each semester.
**MECHATRONICS ENGINEERING TECHNOLOGY**

### Freshman Year

**First Semester** .................................................................17 credits
- CSC 120 Problem Solving & Programming Constructs ........3 crs.
- ENG 101 English Composition I .....................................3 crs.
- GET 130 Intro To Engineering Technology ..................3 crs.
- MAT 199 Pre-Calculus .......................................................3 crs.
- PHY 121 General Physics I ...............................................4 crs.
- UNI 100 First Year Seminar ...........................................1 crs.

**Second Semester** ...............................................................16 credits
- CSC 124 Computer Programming ..................................3 crs.
- ENG 217 Science and Tech Writing ...............................3 crs.
- ITE 215 CAD I .................................................................3 crs.
- MAT 281 Calculus ..............................................................3 crs.
- PHY 122 General Physics .................................................4 crs.

### Sophomore Year

**Third Semester** .................................................................17 credits
- CET 235 Digital Electronic Design .................................4 crs.
- EET 110 Electric Circuits I .............................................4 crs.
- MAT 282 Calculus II .........................................................3 crs.
- MTR 300 Manufacturing Processes ..............................3 crs.
- General Education ..........................................................3 crs.

**Fourth Semester** ...............................................................16 credits
- ECO 201 Intro to Economics ..........................................3 crs.
- EET 160 Electric Circuits II ...........................................4 crs.
- MTR 310 Principles of Automatic Control ....................3 crs.
- MTR 320 Statics ..............................................................3 crs.
- General Education ..........................................................3 crs.

### Junior Year

**Fifth Semester** .................................................................16 credits
- EET 215 Intro to Instrumentation ..................................3 crs.
- EET 325 Intro to Electric Power .....................................4 crs.
- MTR 330 Dynamics ..........................................................3 crs.
- MTR 325 Fund. Programmable Logic Controllers ..........3 crs.
- General Education ..........................................................3 crs.

**Sixth Semester** .................................................................13 credits
- MTR 335 Advanced PLCs and Integration .......................3 crs.
- MTR 340 Fluid Power .......................................................3 crs.
- MTR 370 Properties and Strength of Materials ..............4 crs.
- Technical Elective ...........................................................3 crs.

### Senior Year

**Seventh Semester** .............................................................13 credits
- MTR 400 Machine Design Elements and Kinematics ....3 crs.
- MTR 410 Process Control ...............................................3 crs.
- MTR 445 Senior Project Proposal ..................................1 crs.
- ITE 305 OSHA General Industrial Safety .....................3 crs.
- ITE 375 Principles of Production ....................................3 crs.

**Eighth Semester** ...............................................................12 credits
- MTR 420 Computer Integrated Manufacturing .............3 crs.
- MTR 450 Senior Project ..................................................3 crs.
- General Education ..........................................................3 crs.

### Program Contact Information

Contact the Department of Applied Engineering and Technology by phone at 724-938-4085.

### Department Website

www.calu.edu/academics/colleges/eberly/aet

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**QUESTIONS ABOUT ADMISSIONS?**

Office of Admissions
California University of Pennsylvania
250 University Ave.
California, PA 15419-1394

Phone: 724-938-4404
Toll-free: 888-412-0479
Fax: 724-938-4564
E-mail: inquiry@calu.edu

**ABOUT US**

California University of Pennsylvania is a proud member of the Pennsylvania State System of Higher Education. Located in the borough of California, just 35 miles from Pittsburgh, Cal U serves about 8,200 undergraduate and graduate students.

- Cal U’s main campus houses academic buildings, dining and recreation facilities, and six suite-style residence halls.
- Cal U’s upper campus includes the Vulcan Village apartments, athletic facilities at Roadman Park, and space for student meetings and outdoor recreation at SAI Farm.
- Cal U Global Online is the University’s virtual campus, offering degree and certificate programs 100% online.

**FINANCIAL AID**

For information on student loans and undergraduate scholarships, visit www.calu.edu or call 1-888-412-0479.

**www.calu.edu**

A proud member of the Pennsylvania State System of Higher Education.

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Policies and Procedures: Note that the policies and procedures described above may be reviewed and revised at any time. This fact sheet should be used as an informational guide. For details on current policies and procedures, contact the Provost/Vice President of Academic Affairs at 724-938-4407.

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