ENGINEERING SYSTEMS TECHNOLOGY, MECHANICAL - ASSOCIATE IN SCIENCE

ETMT

Knight Campus, Warwick only

Developing the skills and knowledge to support today's complex technology requires a shift to a systems engineering approach. Systems engineering is an interdisciplinary view of complex systems that considers customer needs, product functionality, operation, performance, testing and manufacturing. This program incorporates system modeling, simulation, automation, robotics, electronics, digital systems, networking, machine design and electrical power. Emphasis is placed upon understanding the principles of electromechanical systems, automation, system control, machine design, manufacturing and energy systems. Students will develop skills in creative problem solving, design principles, computer networking and system troubleshooting.

Throughout the program, students will be required to produce written reports, verbal presentations and portfolio entries; function in teams and complete a capstone project. The program is structured around a set of core technology courses and three concentration areas – electrical, mechanical or energy utility technology. The program will prepare students to be employed in a variety of technical support positions in the fields of electronics, electromechanical systems, automation, renewable energy technologies and the energy utility industry.

A certificate and three concentration tracks can lead to the Engineering Systems Technology Associate Degree. All certificate courses map to the degree concentration track with no credit loss. This gives students the opportunity to start at the certificate level, increase employment opportunities while attending classes, and work toward the associate degree on a full or part-time basis.

Note: Many courses require prerequisites, corequisites and/or testing. See course descriptions for details (https://catalog.ccri.edu/course-descriptions/).

Requirements

Code	Title	Hours
General Education Requirements		
ENGL 1010	Composition I	3
MATH 1179	Applied Technical Mathematics I	3
MATH 1181	Applied Technical Mathematics II	3
PHYS 1000	Conceptual Physics/Physical Science	4
General Education Electives (https://catalog.ccri.edu/academic-information/general-education/courses-approved-general-education-credits/)		3
Social Science Electives (https://catalog.ccri.edu/academic-information/general-education/courses-approved-general-education-credits/#ssci/)		6
Subtotal		22
Core Requirements		
ETEE 1050	Introduction to Electromechanical Systems	3
ETEE 1800	Introduction to Digital Systems	3
ETME 1010	Robotics and Control	3
ETME 1020	Introduction to Manufacturing Processes	3
ETME 2310	Automation Systems	3
Subtotal		15
Mechanical Concentration (ETMT)		
ENGR 1020	Introduction to Engineering & Technology	3
ENGR 1030	Engineering Graphics	3
ENGT 2090	Advanced Solid Modeling	3
ETCN 2300	3D-Modeling and Prototyping	3
ETME 1500	Mechanical Systems I	3
ETME 1510	Engineering Mechanics Technology	3
ETME 2930	Industrial Materials	3
ETME 2500	Mechanical Systems II (Capstone)	3
INST 1010	Introduction to Instrumentation Technology	3
Subtotal		27
Total Hours		64

Recommended Course Sequence

Course	Title	Hours
Year 1		
Semester 1		
Fall:		
ENGR 1020	Introduction to Engineering & Technology	3
ENGR 1030	Engineering Graphics	3
ETEE 1800	Introduction to Digital Systems	3
ETME 1010	Robotics and Control	3
MATH 1179	Applied Technical Mathematics I	3
	Hours	15
Semester 2		
Spring:		
ENGL 1010	Composition I	3
ETEE 1050	Introduction to Electromechanical Systems	3
ETME 1020	Introduction to Manufacturing Processes	3
ETME 2310	Automation Systems	3
MATH 1181	Applied Technical Mathematics II	3
Social Science Elective (https://catalog.ccri.edu/academic-information/general-education/courses-approved-general-education-credits/#ssci/)		3
	Hours	18
Year 2		
Semester 1		
Fall:		
ENGT 2090	Advanced Solid Modeling	3
ETME 1500	Mechanical Systems I	3
INST 1010	Introduction to Instrumentation Technology	3
PHYS 1000	Conceptual Physics/Physical Science	4
Social Science Elective (https://catalog.ccri.edu/academic-information/general-education/courses-approved-general-education-credits/#ssci/)		3
	Hours	16

Semester 2

Spring:

ETCN 2300	3D-Modeling and Prototyping	3
ETME 1510	Engineering Mechanics Technology	3
ETME 2500	Mechanical Systems II (Capstone)	3
ETME 2930	Industrial Materials	3
General Education Electives (https://catalog.ccri.edu/academic-information/general-education/courses-approved-general-education-credits/)		3
	Hours	15
	Total Hours	64