

Mechanical Concentration (ETMT)

Associate in Science in Engineering Systems Technology (AS_ETST)

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 and energy systems. Students will develop skills in creative problem solving, design principles, machine programming, 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 four concentration areas – electrical, mechanical, energy or manufacturing technology. The program will prepare students to be employed in a variety of technical support positions in the fields of electronics, electromechanical systems, automation, manufacturing, renewable energy technologies and the energy utility industry.

Three certificates and four 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.](#)

General Education Requirements

COURSE NO.	COURSE TITLE	COURSE NOTES	CREDITS
MATH 1179	Applied Technical Mathematics I		3
MATH 1181	Applied Technical Mathematics II		3
ENGL 1010	Composition I		3
PHYS 1050	Physics for Technology I		4
PHYS 1070	Introduction to Renewable Energy		3
Social Science Electives		See this page for complete listing of courses that meet this requirement	6
Total General Education Requirements Credits			22

Core Requirements

COURSE NO.	COURSE TITLE	COURSE NOTES	CREDITS
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
Total Core Requirements Credits			15

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COURSE NO.	COURSE TITLE	COURSE NOTES	CREDITS
ENGR 1020	Introduction to Engineering & Technology		3
ENGR 1030	Engineering Graphics		3
INST 1010	Introduction to Instrumentation Technology		3
ETME 1500	Mechanical Systems I (Formerly MEET 2830)		3
ETME 1510	Engineering Mechanics Technology (Formerly MEET 1510)		3
ETME 2930	Industrial Materials (Formerly ENGT 2930)		3
ETME 2500	Mechanical Systems II (Capstone)		3
ENGT 2090	Advanced Solid Modeling		3
ETCN 2300	3D-Modeling and Prototyping		3
Total Mechanical Concentration (ETMT) Credits			27

Total Program Credits 64