MANUFACTURING ENGINEERING TECHNOLOGY, BS

Program Description

Manufacturing engineering technology (MfgET) is a multi-disciplinary field that integrates knowledge from areas of study such as science, math, computers, mechanical engineering, electronics engineering, management and economics. MfgET is a profession that gives you the expertise to develop tools, processes, machines and equipment to make quality products at a reasonable cost. The profession also involves working with and coordinating people from several other fields.

In addition to providing a strong background in the fundamentals of manufacturing engineering technology, t*he program places an emphasis on the application of computer systems to modern manufacturing technologies*. This includes topics such as robotics, computer-aided design (CAD), programmable logic controllers (PLC), computer-aided manufacturing (CAM),and simulation of manufacturing systems. The classes and labs in the curriculum average about 12 students and are taught by faculty who are dedicated to undergraduate teaching excellence.

Students pursuing the B.S. degree in manufacturing at LSSU have the option to minor in robotics technology. LSSU is one of a few universities in the U.S. to offer the robotics minor in the TAC of ABET-accredited* manufacturing engineering technology B.S. degree. LSSU is home to one of the best robotics educational facilities in North America. Graduates with this emphasis have had nearly 100 percent job placement with high and competitive starting salaries. Your minor in robotics will be identified on your transcripts.

A scientific "high technology" basis in the field of manufacturing engineering technology is evolving. The MfgET program is designed to place LSSU graduates at the leading edge of this evolution.

Program Learning Outcomes

- Apply knowledge, techniques, skills and modern tools of mathematics, science, engineering, and technology to solve broadly defined engineering problems appropriate to the discipline
- Design systems, components, or processes meeting specified needs for broadly defined engineering problems appropriate to the discipline
- Apply written, oral, and graphical communication in broadly defined technical and non-technical environments; and an ability to identify and use appropriate technical literature
- Conduct standard tests, measurements, and experiments and to analyze and interpret the results to improve processes
- Function effectively as a member as well as a leader on technical teams

Degree Requirements

Code	Title	Hours
Departmental Requirements		
EGEE 125	Digital Fundamentals	4
EGET 270	Applied Electricity	4
EGET 275	Applied Electronics	4
EGME 110	Manufacturing Processes	3
EGME 141	Solid Modeling	3
EGME 240	Assembly Modeling and GD&T	3
EGME 275	Engineering Materials	3
EGME 276	Strength of Materials Lab	1
EGMT 216	CAM with CNC Applications	3
EGMT 225	Statics, Strength of Materials	4
EGNR 101	Introduction to Engineering	2
EGNR 140	Linear Alg Num Apps Engineers	2
EGNR 245	Calculus Applications For Tech	3
EGNR 265	C Programming (C or better required)	3
EGNR 310	Quality Engineering	3
EGRS 325	Industrial Control Systems	3
EGRS 365	Programmable Logic Controllers	3
EGRS 380	Robotics Technology	2
EGRS 381	Robotics Technology Lab	1
EGRS 480	Manufacturing Automation [1]	3
EGRS 481	Manufacturing Automation Lab [1]	1
CHEM 108	Applied Chemistry	3
CHEM 109	Applied Chemistry Lab	1
ECON 302	Managerial Economics	4
MATH 111	College Algebra (C or better required)	3
MATH 112	Calculus Business/Life Science (C or better required)	4
MATH 131	College Trigonometry (C or better required)	3
MATH 207	Prin of Statistical Methods	3
MGMT 360 or MGMT 371	Management Concepts & Apps Operations/Business Analytics	3
PHYS 221	Principles of Physics I	4
Total Hours		**86**

Senior Sequence

Select a Senior Engineering Project Sequence:

Code	Title	Hours
Industrial Project		
EGNR 491	Engineering Design Project I	3
EGNR 495	Engineering Design Project II	3
Co-op Project		
EGNR 250	Cooperative Education	2
EGNR 450	Cooperative Educ Project I	4
EGNR 451	Cooperative Educ Project II	3
EGNR 491	Engineering Design Project I	3
Research Project		
EGNR 260	Engineering Research Methods	2
EGNR 460	Engineering Res Project I	4
EGNR 461	Engr Research Project II	2

Code	Title	Hours
Technical Electives		
(10 Credits Required)		10
CSCI 265	Int to Artificial Intelligence	
ECON 307	Environmental Economics	
EGEE 250	Microcontroller Fundamentals	

EGME 310	Vehicle Engineering
EGNR 261	Energy Systems/Sustainability
EGNR 496	Senior Directed Project [1]
EGRS 215	Introduction to Robotics [1]
EGRS 235	Industry 4.0
EGRS 305	Robot Safe/Collabtive Robotics
EGRS 372	Mobile Robotics
EGRS 375	Cyber-Physical Sys & Security
EGRS 430	Sys Integration/Machine Vision [1]
MATH 215	Fund Concepts of Mathematics (or higher level MATH course)

Students wishing to complete the Robotics Technology minor should take the following as technical or free electives: EGRS 215, EGRS 430, EGRS 480, EGRS 481 and EGNR 496. The advanced courses will provide you with a strong background in systems integration, machine vision, sensors and automation. LSSU is one of a few universities in the USA that offer you this option to specialize in robotics in the manufacturing program. LSSU is home to one of the best robotics educational facilities in North America. Graduates with this emphasis have had nearly 100-percent job placement with high and competitive starting salaries. Your completion of study in the robotics minor will be identified on your transcript.

General Education: All LSSU bachelor's degree candidates must complete the LSSU General Education Requirements.

A minimum of 124 credits (at the 100 level or higher) must be earned for graduation with a cumulative gpa of 2.00 or higher. A gpa of 2.00 or higher is also required in your Major, as well as in your General Education Requirements.