MANUFACTURING ENGINEERING TECHNOLOGY (BACHELOR OF SCIENCE, B.S.)

Overview

Manufacturing Engineering Technology is the profession in which an understanding and application of a broad range of technologies is necessary for production and control of manufacturing processes. Manufacturing includes methods of production of industrial commodities and consumer products. The manufacturing professional must be able to plan, design, and implement a sequence of operations using current technologies to produce products at competitive prices. Four-year B.S. degree graduates qualify for jobs related to production, productivity improvement, and process design. They also qualify for supervisory and managerial positions in plant engineering. The Manufacturing Engineering Department has three concentration Bio-Manufacturing, Design & Technical Graphics and Manufacturing Engineering (General). These concentrations will enable our students to focus on separate career paths in our region.

Program Educational Objectives (BS MET)

1. Possess the general knowledge of the manufacturing industry such as concepts, terminologies, basic and standard problem-solving techniques.
2. Demonstrate the ability to analyze and implement production systems in a manufacturing setting.
3. Function effectively in a group environment in the industrial workplace through demonstration of technical and communication skills.
4. Understand professional, ethical, and social responsibilities.

Requirements

Students who choose this bachelor degree program will have no more than 6 years from admission or subsequent declaration to meet the requirements listed below. If certification, accreditation or statutory requirements change and additional requirements become effective during this time, the new requirements take precedence.

Code	Title	Credit Hours
General Studies		**42**
Students must complete General Studies courses (https://catalog.missouriwestern.edu/undergraduate/university-information/academic-standards-regulations/baccalaureate-degree/#bachelor-general-studies) [1]		
Core Requirements		**40**
EGT 205	Computer-Aided Drafting I	3
EGT 220	Engineering Materials	3
EGT 260	Statics	3
EGT 356	Fluids and Hydraulics	3
EGT 490	Engineering Technology Internship	1
MAT 116	College Algebra	3
MAT 119	Trigonometry	2
MET 100	Electrical Circuits for Manufacturing	3
MET 111	Manufacturing Processes	2
MET 315	Mechanical Systems	3
MET 322	Advanced Electrical Circuits for Manufacturing	4
MET 325	Machine Parts and Mechanical Design	3
MET 462	Production Planning and Control	3
PHY 110	College Physics I	4
Select one of the following concentrations:		
Bio-Manufacturing		46
Design & Technical Graphics		38
General		42

[1] Courses in general studies may also be required within the major. While the course(s) may satisfy both requirements, the credit hours will count only one time in the overall hours earned.

Concentrations:
Bio-Manufacturing (p. 1)
Design and Technical Graphics (p.)
General (p. 2)

Bio-Manufacturing Concentration

Code	Title	Credit Hours
Concentration Requirements		
BIO 106	Principles of Cell Biology	4
BIO 205	Genetics	4
BIO 390	Microbiology	4
CHE 111	General Chemistry I	5
CHE 120	General Chemistry II with Qualitative Analysis	5
CHE 310	Organic Chemistry I	3
CHE 311	Organic Chemistry Laboratory I	2
EGT 440	Thermodynamics	3
MET 101	Electronic Instrumentation for Manufacturing	3
MET 132	Manufacturing Methods	3
MET 232	Computer Integrated Manufacturing	2
MET 372	Programmable Logic Controllers	4
MET 452	Automation and Process Control Technology	4
Total Credit Hours		**46**

Design and Technical Graphics Concentration

Code	Title	Credit Hours
Concentration Requriements		
ART 100	Introduction to Art	3
ART 110	Beginning Drawing I	3
CET 202	Surveying I	3
CET 270	Electrical Installations	3
CET 308	Analysis of Structures	3
CET 358	Structural Steel and Wood Design	3
EGT 215	Computer-Aided Drafting II	3
EGT 345	3D Modeling and Design Processes	3
EGT 350	Engineering Documentation	3

EGT 370	Financial Aspects of Engineering Projects	2
MAT 147	Applied Calculus	5
MET 260	Mechanics of Materials	4
Total Credit Hours		**38**

General Concentration

Code	Title	Credit Hours
Concentration Requirements		
CHE 101	Introductory Chemistry	4
EGT 215	Computer-Aided Drafting II	3
EGT 350	Engineering Documentation	3
EGT 370	Financial Aspects of Engineering Projects	2
MAT 147	Applied Calculus	5
MET 101	Electronic Instrumentation for Manufacturing	3
MET 132	Manufacturing Methods	3
MET 232	Computer Integrated Manufacturing	2
MET 242	CNC Machining Processes	2
MET 260	Mechanics of Materials	4
MET 372	Programmable Logic Controllers	4
MET 422	Electrical Power Technology	3
MET 452	Automation and Process Control Technology	4
Total Credit Hours		**42**

Program Graduation Requirements

1. Earn a grade of C or higher in all EGT and MET and CET prefix major coursework.
2. Earn an overall GPA of at least 2.0 and a major GPA of at least 2.0.

University Graduation Requirements

1. Earn a minimum of 120 credit hours (100 level and higher, maximum of 6 continuing education credit hours applicable).
2. Earn a minimum of 30 credit hours in upper-division courses. Lower-division transfer courses accepted as meeting upper-division departmental course requirements cannot be used to fulfill this requirement.
3. Earn 30 of the last 45 credit hours at MWSU in institutional coursework (exclusive of credit by examination).
4. Participate in required departmental and campus wide assessments.
5. Fulfill the Missouri Constitution requirement.
6. Successfully pass the Missouri Higher Education Civics Achievement exam.