

FACILITY MANAGEMENT TECHNOLOGY



WHAT IS THE BACHELOR OF SCIENCE IN FACILITY MANAGEMENT TECHNOLOGY?

Facility Managers are responsible for managing the most efficient, humane and productive work environment possible. The applied principles of management, human behavior, mathematics and science are linked to provide functionality to a building environment by integrating people, places, processes and technology.

This program leads to a Bachelor of Science degree upon the completion of 127 credits. The 127 credits consist of 60 credits in Liberal Arts and Science courses and 67 credits in business, graphics, human behavior, management, manufacturing and mechanical courses taught in a theory and laboratory setting.

CURRICULUM SUMMARY

Degree Type:B.A.
Total Required Credits:127

Admission Requirements:
Mathematics: 2 Units of Defined Math
Science: 1 Unit of Laboratory Science

For additional information:
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Mechanical Technology
631-420-2046

School of Engineering Technologies
Dean's Office:631-420-2115
Office of Admissions:631-420-2200

PROGRAM OF STUDY

Liberal Arts and Sciences (60 credits)

EGL 101 Composition:Rhetoric	3
EGL 102 Composition:Literature	3
EGL 209 Technical Communication.....	3
Arts Elective	3
Mod Languages Elec Lev II	3
PSY 101 Introduction to Psychology	3
PSY 331 Industrial Organizational Psychology.....	3
HIS 121/122/125 Amer His Elec	3
HIS 126 The West and the World.....	3
ECO 321 Engineering Economics	3
BIO 120/130 General Biology Elective.....	4
CHM124/152 General Chemistry Elective	4
PHY 135 College Physics I	4
PHY 136 College Physics II	4
MTH 110 Statistics	3
MTH 129 Precalculus with Applications	4
MTH 130 Calculus w Applications.....	4
Math Elective	3

Industrial Technology Common Core (9 credits)

BUS 101 Accounting I	3
BUS 102 Accounting II	3
IND 301 Operations Management.....	3

Required Facility Management Technology Courses (58 credits)

IND 308 Occupational Safety	3
IND 309 Security and Fire Protection Systems	3
IND 310 Industrial Hygiene.	3
IND 315 Facilities Planning	3
IND 402 Facility Maintenance Management	3
IND 405 Heating Ventilating and Air Cond	3
IND 406 Energy Management	3
GPH 103 Technical Drafting	1
GPH 104 Introduction to Computer Graphics.....	1
MET 109 Computer Programming and Applications ..	2
MET 117 Manufacturing Processes	2
MET 205 Material Science.	3
MET 210 Applied Thermodynamics.....	3
MET 211 Advanced Computer Graphics	1
MET 212 Applied Fluid Mechanics	3
MET 230 Electrical Principles	3
MET 307 Electromechanical Control Systems	3
MET 411 Applied Heat Transfer.....	3
Electives	12
(AET,BCS,BUS,CON,EET,HOR,IND,MET courses)	

Total Credits: 127

IND 308 Occupational Safety

This course introduces the fundamentals of occupational safety and examines potential accidents, which may occur in the modern work environment that employs complex materials, processes and technologies. We will review the history and safety legislation of the regulatory agency OSHA. Acquiring and analyzing hazard information, organizing and setting up occupational safety programs, accident causes, their control and accident record keeping will be addressed.

(3,0) 3 credits

Fall, Spring, Summer

IND 309 Security and Fire Protection Systems

Assessing a facility's need for an recommending as well as managing the design, procurement, installation, and operation of access intrusion detection, closed circuit television (CCTV), security lighting, fire alarms, and fire suppression systems; establishing policies, procedures, and practices for systems operations and maintenance, monitoring and evaluating systems performances; researching and assessing technical developments in the security and fire protection fields.

(3,0) 3 credits

Spring

IND 315 Facilities Planning

This course is designed to introduce a comprehensive overview of the concepts and techniques to generate facility plans. The course includes the determination of the requirements for people, equipment, space, and material in the facility along with the evaluation, selection, preparation, presentation, implementation and maintenance of the facility plans. An overview of the components of a building structure, its envelope and related items are also discussed.

(3,0) 3 credits

Fall

IND 402 Facility Maintenance Management

The objective of this course is to present a comprehensive overview of the management, administration and control of a facilities maintenance department, including an overview of business and financial issues work order systems; prioritizing, planning and scheduling of maintenance, construction, custodial and groundskeeping work; evaluating and control techniques; in-house vs contracting work; the contract cycle and components.

Prerequisite: IND 301 Operations Management

(3,0) 3 credits

Fall

IND 405 Heating, Ventilating, & Air Conditioning Systems

The objective of this course is to present a comprehensive treatment of Heating, Ventilating and Air Conditioning Systems. This course covers boilers, air handling units, refrigeration systems, chemical treatment, distribution systems, terminal equipment, fans, pumps, compressed air, solar systems, maintenance and indoor air quality for commercial, industrial and institutional buildings.

Prerequisites: MET 210, MET 212, MET 230

(3,0) 3 credits

Spring

IND 406 Energy Management

The objective of this course is to present a comprehensive treatment of various forms of energy on the market today and their relative costs. This course covers utility rate structures, power reduction, wheeling and rebates. It will also review various energy alternatives such as purchased steam, cogeneration and solar systems. It will cover life cycle costing and energy conservation programs. In addition such items as the intelligent building, load management and miscellaneous means to increase efficiency will be covered. In addition energy conservation will be covered with respect to its affect on indoor air quality and other environmental issues.

Prerequisites: MET 210, MET 212, MET 230

(3,0) 3 credits

Spring

GPH 103 Technical Drafting

A traditional manual drafting course including ortho-graphic projection, dimensioning, auxiliary projection and pictorial representation. Emphasis will be placed on drafting techniques including lettering, line quality, accuracy and appearance.

(0,3) 1 credit

Fall, Spring

GPH 104 Introduction to Computer Graphics

Students will learn how to run Computer Aided Drafting (CAD) software on PCs to produce mechanical drawings. They will be taught commands and concepts, and develop the skills required. Some of the topics covered include: setup, drawing, erasing, saving, printing, lines, geometric construction, object snap, text, editing and basic dimensioning.

(0,2) 1 credit

Fall, Spring

MET 205 Material Science

This is a theory and laboratory course designed to give students a basic understanding of crystal structures, effects of cold work and annealing on metal structures and properties, phase diagrams, heat treatment of steel, corrosion of materials, failure analysis of ferrous and non-ferrous alloys, ceramics, plastics and composite materials. Laboratory experiments are associated with the topics covered in the theory.

(2,2) 3 credits

Fall, Spring

MET 210 Applied Thermodynamics

This course lays the groundwork for the student's future studies in the area of thermal design, encompassing the fields of power, heating, air conditioning and refrigeration. Topics covered include basics such as the first and second laws of thermodynamics, equations of state for gases and vapors, and psychometrics. Building on this foundation, thermodynamic processes and cycles will be introduced, including the Carnot, and Vapor Compression refrigeration cycles. Thermal equipment such as boilers, turbines, evaporators, condensers, compressors and heat exchangers will be analyzed.

Prerequisite: MET 109, PHY 136, MTH130

(3,0) 3 credits

Spring

MET 211 Advanced Computer Graphics

This is a laboratory course which introduces advanced topics in computer graphics including advanced dimensioning and tolerancing, 3-D wire frame, surface of revolution, solids, and multiview drawing with layer control. Laboratory exercises will be assigned to the students for hands-on experience with the related topics.

Prerequisites: GPH 103 & GPH 104

(0,2) 1 credits

Fall, Spring

MET 212 Applied Fluid Mechanics

The objective of this course is to present the basic principles of fluid mechanics and the application of those principles to practical, applied problems. Primary emphasis is on the topics of fluid statistics, flow of fluids in piping systems, flow measurement, -and forces developed by fluids in motion. The course is directed to anyone in a technical field where the ability to apply the principles of fluid mechanics is desirable.

Prerequisite: MTH 130

Corequisite: PHY 136

(3,0) 3 credits

Fall