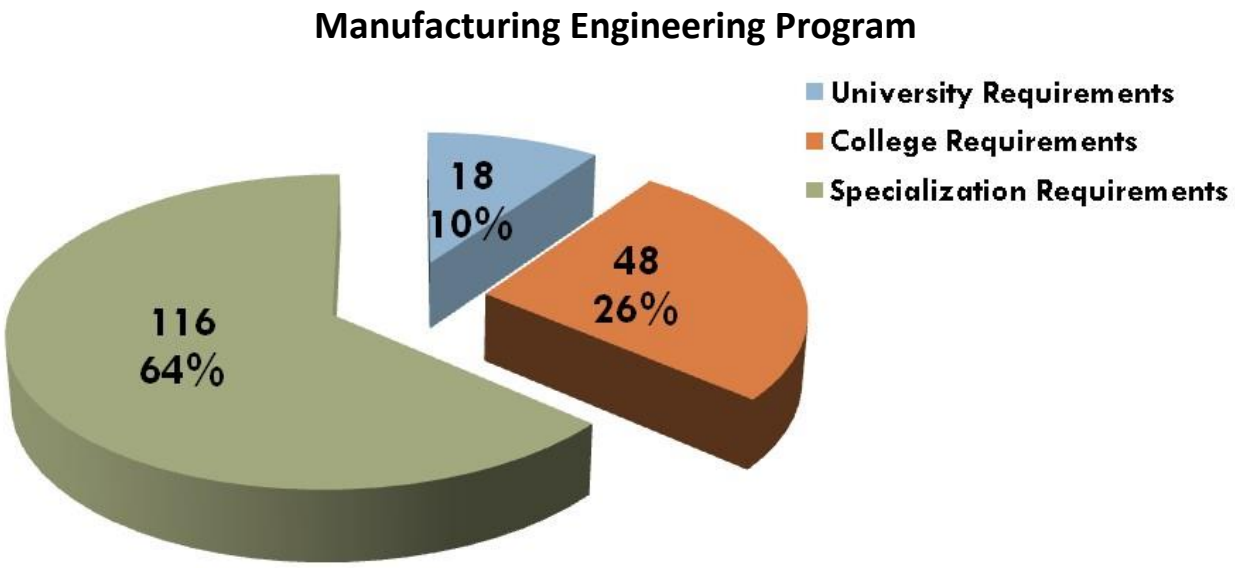

Manufacturing Engineering Program Mission and Goals

Program Mission

The manufacturing engineering program graduates engineers with the ability to deal with the latest developments in the fields of advanced manufacturing, various fields of mechanical, mechatronics and electronic to meet nowadays moral and professional requirements both theoretically and practically. This is done by creating appropriate environment for the development of different skills of students and faculty members and cooperation with competent industrial and research bodies locally and internationally.

Program Goals

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University Requirements

The student will study (6) General Education Elective Courses (humanities) selected by him from the following list of courses, with a total of (18) credit hours.

Course Code	Course Title	Credit Hours
HUM 011	English Language	0
HUM 012	German Language	3
HUM 013	Technical Writing and Communication	3
HUM 014	Engineering Profession, Practice, and Responsibilities	3
HUM 111	Engineering Economy	3
HUM 112	Health and Wellness	3
HUM 211	Impact of Technology on Society	3
HUM 212	Introduction to Marketing	3
HUM 311	Engineering Management	3
HUM 312	Human Resource Management	3
HUM 313	Engineering Law	3

College Requirements

Basic Science Courses

Student must study the following list of courses as basic science requirements:

Course Code	Course Title	Credit Hours
PHM 012	Calculus for Engineering (1)	3
PHM 013	Calculus for Engineering (2)	3
PHM 014	Linear Algebra and Analytical Geometry	3
PHM 022	Waves, Electricity, and Magnetic Fields	3
PHM 032	Engineering Mechanics (1) - Statics	3
PHM 033	Engineering Mechanics (2) - Dynamics	3
PHM 042	General Chemistry	3
PHM 113	Calculus for Engineering (3)	3
PHM 114	Statistics and Probability for Engineering	3
PHM 115	Differential Equations and Partial Differential Equations	3

Basic Engineering Courses

Student must study the following list of courses as Basic Engineering requirements:

Course Code	Course Title	Credit Hours
CSE 012	Engineering Computation	3
MDP 024	Production Engineering	3
MDP 061	Engineering Design and Graphics	4
MEP 112	Thermodynamics	3
MDP 132	Structures and Properties of Materials	3

General Specialization Courses for Manufacturing Engineering Program

Course Code	Course Title	Credit Hours
MDP 121	Manufacturing Technology (1)	3
MDP 134	Mechanical Behavior and Testing of Materials	3
MDP 141	Mechanical Engineering Measurements	3
MDP 162	Mechanical Engineering Drawing	3
MDP 164	Mechanical Design (1)	3
PHM 210	Modeling and Numerical Solutions	3
MEP 213	Thermodynamics (2)	3
EPM 214	Electrical Power Engineering	3
MEP 232	Fluid Mechanics	4
ECE 234	Electronics and Instrumentation	3
MDP 240	Metrology Lab (1)	3
MDP 253	Stress Analysis	3
MDP 254	Theory of Machines	3
MDP 264	Mechanical Design (2)	3
MDP 265	Mechanical Design (3)	3
MDP 273	Metal Removal Processes	3
MEP 321	Heat Transfer	3
MDP 340	Metrology Lab (2)	3
MDP 350	Industrial Robots	3
MDP 365	Mechanical Vibrations	3
MDP 366	Automatic Control	3
MDP 367	Finite Element Applications	3
MDP 373	Numerical Control Machines	3
MDP 374	Metal Forming Processes	3
MDP 375	Production Facilities	3
MDP 389	Selected Topics in Manufacturing Engineering	2
MDP 410	Properties and Processing of Composites & Ceramics	3
MDP 417	Processing Techniques of Polymers	3
MDP 419	Manufacturing Technology (2)	3
MDP 459	Mechatronics	2
MDP 472	Non-Conventional Material Fabrication and Heat-Treatment Processes	3
MDP 473	Computer Aided Manufacturing (CAM)	3
MDP 481	Industrial Organization	3
MDP 493	Graduation Project (1)	3
MDP 494	Graduation Project (2)	3
	Total Credit Hours	104

Technical Electives for Manufacturing Engineering Program

Student studies (4) elective courses selected from the following list with a total of (12) credit hours:

Course Code	Course Title	Credit Hours
MDP 418	Materials Selection and Processing Techniques	3
MDP 420	Quality Systems	3
MDP 456	System Modeling	3
MDP 457	Noise Analysis and Control	3
MDP 461	Computer Applications in Industry	3
MDP 465	Computer Aided Design (CAD)	3
MDP 476	Non-Conventional Machining	3
MDP 482	Reliability Engineering	3
MDP 483	Work Study	3
MDP 484	Operation Research	3
MDP 485	Mechatronics Applications	3
MDP 486	Ergonomics	3
MDP 487	Computer Integrated Manufacturing (CIM)	3

Course Tree of Manufacturing Engineering Program