M.S. in Manufacturing Systems Engineering

The MS program in Manufacturing Systems Engineering is designed to train and educate professionals for successful careers by providing them with skills in the areas of supply chain modeling and analysis, automation and computerized process control, planning and design of industrial process operations, advanced economic analysis and project management and implementation.

Degree Requirements

Students with a B.S. degree in an engineering, information technology, operations management or related technical degree may apply for admission. Other students may be admitted and required to complete the bridge program. Bridge courses do not count toward degree requirements. Bridge courses range between 3 to 9 credits and are selected by the advisor when the student is admitted.

A minimum of 30 credits beyond a baccalaureate degree is required. Students select an area of specialization and individually design their programs in consultation with the graduate advisor. A master's project/Thesis is optional and faculty advisor approval must be obtained by students before they are permitted to register for Master's Project/Thesis IE 700/701.

M.S. in Manufacturing Systems Engineering (courses only)

Code	Title	Credits
Core Courses		**12**
IE 659	Supply Chain Engineering	
MNE 601	Computerized Manufacturing Systems	
MNE 602	Flexible and Computer Integrated Manufacturing	
MNE 654	Design for Manufacturability	
Areas of Specialization		
Select one of the following:	Students may choose to specialize in any one of the following areas for 9 credits. Completion of all three courses in a specialization will qualify the student for a specialization certificate to be issued by the department. This will be awarded in conjunction with successful completion of the MS degree.	9
Quality Engineering		
IE 672	Industrial Quality Control	
IE 673	Total Quality Management	
IE 618	Engineering Cost and Production Economics	
Manufacturing Analytics		
IE 604	Advanced Engineering Statistics	
IE 621	Systems Analysis and Simulation	
EM 602	Management Science	
Process Automation		
ME 635	Computer-Aided Design	
ME 625	Introduction to Robotics	
IE 621	Systems Analysis and Simulation	
Supply Chain Operations		
EM 640	Distribution Logistics	
IE 618	Engineering Cost and Production Economics	
IS 665	Data Analytics for Info System (Electives)	
Electives		
Select three of the following courses	A total of 9 elective credits are required, these should be selected from the list below. Electives may also be taken outside the listed courses if they match program objectives, these electives will require department approval.	9
IE 604	Advanced Engineering Statistics	
IE 621	Systems Analysis and Simulation	
IE 618	Engineering Cost and Production Economics	
IE 655	Concurrent Engineering	
IE 672	Industrial Quality Control	
IE 673	Total Quality Management	
EM 602	Management Science	
EM 640	Distribution Logistics	
ME 635	Computer-Aided Design	

ME 625	Introduction to Robotics	
IS 665	Data Analytics for Info System	
Total Credits		**30**

M.S. in Manufacturing Systems Engineering (Master's thesis)

Code	Title	Credits
Core Courses		**18**
IE 659	Supply Chain Engineering	
MNE 601	Computerized Manufacturing Systems	
MNE 602	Flexible and Computer Integrated Manufacturing	
MNE 654	Design for Manufacturability	
IE 701C	Master's Thesis	
Areas of Specialization		
Select one of the following: Students may choose to specialize in any one of the following areas for 9 credits. Completion of all three courses in a specialization will qualify the student for a specialization certificate to be issued by the department. This will be awarded in conjunction with successful completion of the MS degree.		9
Quality Engineering		
IE 672	Industrial Quality Control	
IE 673	Total Quality Management	
IE 618	Engineering Cost and Production Economics	
Manufacturing Analytics		
IE 604	Advanced Engineering Statistics	
IE 621	Systems Analysis and Simulation	
EM 602	Management Science	
Process Automation		
ME 635	Computer-Aided Design	
ME 625	Introduction to Robotics	
IE 621	Systems Analysis and Simulation	
Supply Chain Operations		
EM 640	Distribution Logistics	
IE 618	Engineering Cost and Production Economics	
IS 665	Data Analytics for Info System	
Electives		
Select one of the following courses A total of 3 elective credits are required, these should be selected from the list below. Electives may also be taken outside the listed courses if they match program objectives, these electives will require department approval.		3
IE 604	Advanced Engineering Statistics	
IE 621	Systems Analysis and Simulation	
IE 618	Engineering Cost and Production Economics	
IE 655	Concurrent Engineering	
IE 672	Industrial Quality Control	
IE 673	Total Quality Management	
EM 602	Management Science	
EM 636	Project Management	
EM 640	Distribution Logistics	
ME 635	Computer-Aided Design	
ME 625	Introduction to Robotics	
IS 665	Data Analytics for Info System	
Total Credits		**30**