M.S. IN INDUSTRIAL ENGINEERING

OVERVIEW

The occupation of industrial engineering involves the optimization of complex systems, processes or organizations. Industrial engineers develop integrated systems by using mathematical and social sciences, and engineering analysis. Their work may be in areas of operations research, production and supply chain engineering, management engineering, ergonomics and human factors engineering, safety engineering, or financial engineering.

ADMISSIONS REQUIREMENTS

Applicants must hold a bachelor of science in mechanical or industrial engineering, or a closely related field, from an accredited engineering program. If the baccalaureate is in a non-engineering or science area, students may be required to complete prerequisite courses without graduate degree credit. For transfer credit, students should refer to the general policies of the College of Graduate Studies. GRE is not required. Refer to the College Policies (Graduate Handbook) entry for additional admissions requirements.

PROGRAM REQUIREMENTS

The Master of Science degree program may be pursued with thesis, project and non-thesis options. Degree requirements for thesis, project, and coursework-only capstone options are provided in the table below. The department may specify additional credit or non-credit requirements for satisfactory completion as well as enhancement of degree objectives. The plan of study for the Master of Science degree must be filed before 16 hour of academic coursework has been completed. For full-time students, this normally will required that the plan of study be filed before registration for the second term.

A minimum of 12 cr hr of required or elective coursework must be at the 6000-level. A student may be required to complete more than the required minimum hours to satisfy prerequisite deficiencies specified as provisional admission conditions and/or to fulfill educational requirements for the program as specified by the advisor or department.

Code	Title	Hours
Mathematics core		**3**
MIME 6000	Advanced Engineering Mathematics I	3
or other graduate level math course with prior advisor approval		
Focus area core (2 courses)		**6**
MIME 5060	Manufacturing Engineering	3
MIME 6720	Design of Experiments	3
Elective coursework - cr hr requirement depends on capstone option		**12-21**
MIME 5060	Manufacturing Engineering	3
MIME 5070	Computer-Aided Manufacturing	3
MIME 5080	Operations Research I	3
MIME 5100	Manufacturing Systems Simulation	3
MIME 5230	Dynamics Of Human Movement	3
MIME 5280	Cad - Finite Element Methods	3
MIME 5300	Advanced Mechanics Of Materials	3
MIME 5350	Advanced Ceramics	3
MIME 5410	Alternative Energy	3
MIME 5690	Reliability	3
MIME 5800	Design For Manufacturability	3
MIME 5820	Sustainability Analysis and Design	3
MIME 5830	Additive Manufacturing	3
MIME 6650	Advanced Material Science and Engineering	3
MIME 6720	Design of Experiments	3
MIME 6800	Advanced Manufacturing Systems Engineering	3
MIME 6810	Assembly And Joining Processes	3
MIME 6910	Engineering Analysis of Smart Material Systems	3
or other graduate level engineering course with prior advisor approval		
Capstone option		**21**
MS thesis		
MIME 6960	Graduate Research and Thesis	9
Elective coursework		12
MIME 6930	Graduate Seminar (every semester)	0
MS Project		
MIME 6920	Special Projects	6
Elective coursework		15
MIME 6930	Graduate Seminar (every semester)	0
Coursework only		
Elective coursework		21
MIME 6930	Graduate Seminar (every semester)	0

1) Demonstrate technical proficiency in their focus area topics
2) Apply advanced engineering mathematics and/or statistical principles to solve engineering problems in one of the IE specialty areas
3) Demonstrate ability to conduct a literature review
4) Explain course projects in one of the IE specialty areas clearly and concisely in written and oral formats
5) Thesis or project option: explain their research clearly and concisely in written and oral formats
6) Thesis or project option: generate high quality engineering research