

Industrial and Manufacturing Engineering Master's

Department Information

- **Department Web Site:**
ndsu.edu/ime/ (<http://ndsu.edu/ime/>)
- **Application Deadline:**
March 1 is the priority fall deadline for funding consideration; August 15 for spring and summer. Domestic applications due one month prior to start of semester.
- **Credential Offered:**
M.S., M. Engr
- **Test Requirement:**
GRE
- **English Proficiency Requirements:**
TOEFL ibt 71; IELTS 6.0; Duolingo 105
- **Program Overview:**
ndsu.edu/programs/graduate/industrial-and-manufacturing-engineering (<http://ndsu.edu/programs/graduate/industrial-and-manufacturing-engineering/>)

Apply Now (https://ndsugrad.my.site.com/Application/TX_SiteLogin/?startURL=/Application/TargetX_Portal_PB)

Master of Science Curriculum

A minimum of 15 credits from didactic IME courses (numbered IME 601-689 and IME 700-789) is required.

In addition, a minimum of 6 credits of other courses is required for a department-funded student (no matter GTA or GRA). This part of the course credits may come from approved graduate level courses of other departments. If a student is funded by himself/herself, then the minimum requirement of other courses is 8 credits.

A minimum of 3 credits (i.e., from three semesters) from IME graduate seminar (IME 790) is required for a department-funded student (no matter GTA or GRA). If a student is funded by himself/herself, then the minimum requirement of the graduate seminar is 1 credit.

In addition, a minimum of 6 credits of thesis (IME 798) is required and all graduate students are required to submit two articles to a refereed journal or refereed conference based on their thesis research.

Code	Title	Credits
IME Didactic course (601-689, 700-789)		15
IME 790	Graduate Seminar (3 credits for department-funded students, 1 credit for self-paying students)	
Additional course credits (6 credits for department-funded students, 8 credit for self-paying students)		
IME 798	Master's Thesis	6-10

Master of Engineering Curriculum

The Master of Engineering degree requires thirty credits of graduate-level study. All students are expected to demonstrate an acceptable level of achievement in the core competencies defined for the designated degree. This achievement may be demonstrated through coursework completed prior to admission or through courses successfully passed while attending North Dakota State University. All core competencies for the degree must be achieved prior to completion of the degree program. It is important to note that currently IME has limited scheduled 700 level classes and additional resources (instructors) may be required to expand the class offering. In summary, a Master of Engineering requires the completion of 30 credit hours of graduate level didactic classes.

Code	Title	Credits
Core Competencies		
IME 600-level courses		
IME 630	Process Engineering	3
IME 631	Production Engineering	3
IME 660	Evaluation of Engineering Data	3

IME 670	Operations Research I	3
IME 672	Simulation of Business and Industrial Systems	3
IME 700-level course (choose at least three credits from the following)		3
IME 765	Data Analysis	
IME 770	Quantitative Modeling	
IME 771	Probabilistic and Deterministic Methods	
Electives (choose a minimum of 12 credits from the following list)		12
IME 611	Human Factors Engineering	
IME 627	Packaging for Electronics	
IME 633	Additive Manufacturing	
IME 635	Plastics and Injection Molding Manufacturing	
IME 640	Engineering Economy	
IME 650	Systems Engineering and Management	
IME 651	Logistics Engineering and Management	
IME 653	Hospital Management Engineering	
IME 656	Program and Project Management	
IME 661	Quality Assurance and Control	
IME 662	Total Quality In Industrial Management	
IME 663	Reliability Engineering	
IME 664	Reliability Analysis	
IME 680	Production and Inventory Control	
IME 682	Automated Manufacturing Systems	
IME 685	Industrial and Manufacturing Facility Design	
IME 765	Data Analysis	
IME 770	Quantitative Modeling	
IME 771	Probabilistic and Deterministic Methods	
IME 774	Neural Networks	
IME 775	Data Driven Modeling and Optimization	
IME 777	Graph Data Analytics	
Total Credits		30

Notes

- Maximum of 9 transfer credits
- The selected IME 700-level core course(s) cannot be double counted as elective course(s).
- With approval, students may substitute up to 6 credits with graduate, didactic-level courses from other departments.

Admission and Application Requirements

- Graduate School admission and application requirements are found on the Admission Information (<http://catalog.ndsu.edu/graduate/admission-information/>) page.
- In addition, this program requires applicants to submit a GRE score that meets the following requirements:
 - 310 or higher (Verbal + Quantitative), 160 Quantitative minimum and Analytical Writing score of 3.5 or better
- International students must also meet the following English proficiency requirements:

• Minimums for admission:	TOEFL: 71	IELTS: 6.0	Duolingo: 105
• Minimums for TA Graders:	TOEFL: 79	IELTS: 6.5	Duolingo: 110
• Minimums for TA Instructors:	TOEFL: 81	IELTS: 7.0	Duolingo: 115