Program Catalog Information

Admissions:

To be admitted to the MEM program, applicants must:

1. Possess an undergraduate degree in engineering, science, business or other related discipline;
2. Have satisfactorily completed: (MATH 144 or MATH 242) and (IME 255 or FIN 340);
3. Have a minimum GPA of 3.000 on a 4.000 scale. (Students with a lower GPA may be considered only for probationary or nondegree admission.);
4. Applicants whose native language is not English must submit official, acceptable scores for either the TOEFL, the Academic Module of the IELTS examination, or the PTE-Academic. Please visit the Graduate School website to check English proficiency requirements (https://www.wichita.edu/GradEnglishProficiency/)[1]; and
5. Department prefers and strongly encourages the submission of GRE scores.

[1]   Link opens new window.

Requirements:

Program Requirements

Please note that:

- Some of the IME courses may require programming skills as a prerequisite.
- Some of the IME courses may require Linear Algebra or Calculus III as a prerequisite.
- Some of the other program courses may require additional prerequisites.
- Course distribution (at least 33 credit hours with no more than 9 credit hours at 500-600 levels and at least 15 credit hours from the ISME department).

Course	Title	Hours
Core Courses (An individual course cannot be used to satisfy more than one area: i.e. engineering/computing, management, concentration and electives)		
IME 777	IME Colloquium (one semester)	
Engineering/Computing Courses (select a minimum of 6 credit hours; excluding independent study courses)		*6*
Any IME course at 500+ level (Excludes courses restricted for undergraduate students including IME 590 and IME 690)		
Any AE course at 700+ level		
Any BME course at 700+ level		
Any CS course at 700+ level		
Any ECE course at 700+ level		
Any ME course at 700+ level		
Management Courses (select a minimum of 6 credit hours; excluding independent study courses)		*6*
Any ACCT course at 700+ level		
Any BLAW course at 700+ level		
Any DS course at 700+ level		
Any ECON course at 700+ level		
Any FIN course at 700+ level		
Any HRM course at 700+ level		
Any IB course at 700+ level		
Any MGMT course at 700+ level		
Any MBA course at 700+ level		
Any MKT course at 700+ level		
Concentration Courses (select a minimum of 6 credit hours; excluding independent study courses; see the table below for available concentrations)		*6*
Electives		**15**
Any IME course at 500+ level		
Other courses at 700+ level from the College of Engineering and/or business school programs with the written preapproval of the chair or graduate coordinator of ISME department		
Additional Requirements		
ISME department courses	Must have a minimum of 15 credit hours of IME courses at 500+ level	
Applied Learning	See applied learning requirements below	
IME 872; or		
At least one of the following courses: IME 734, IME 767, IME 764 or IME 664; or		
1 credit hour of cooperative education (or 0 credit hour cooperative education for students working full time).		
Total Credit Hours		**33**

- A plan of study should be submitted during the first year of enrollment and at least 21 credit hours in a plan of study must be 700 or higher level WSU courses;

- The professional and scholarly integrity training requirement must be completed, preferably during the first semester of the program.

Concentrations

Students must select one of the following concentrations and complete at least 6 credit hours in that concentration:

Course	Title	Hours
Data Analytics		
IME 734	Introduction to Data Mining and Analytics	
IME 780AN	Big Data Analytics in Engineering	
IME 780AP	Neural Networks and Machine Learning	
IME 794	Applied Quantum Computation	
IME 869	Bayesian Statistics and Uncertainty Quantification	
IME 880Y	Forecasting and Analytics	
BSAN 775	Introduction to Business Analytics	
BSAN 875	Advanced Business Analytics	
CS 770	Machine Learning	
CS 746	Perspectives on Data Science	
CS 771	Artificial Intelligence	
CS 898AS	Deep Learning: Theory, Algorithms and Applications	
CS 898AX	Foundations of Data Science	
CS 898BE	Advanced Topics in Machine Learning	
CS 898BD	Deep Learning	
CS 898D	Data Mining	
Operations Research and Systems Engineering		
IME 550	Operations Research I	
IME 650	Operations Research II	
IME 780AG	Nonlinear Programming	
IME 851	Stochastic Modeling and Analysis	
IME 664	Engineering Management	
IME 764	Systems Engineering and Analysis	
IME 765	Modeling and Analysis of Manufacturing Systems	
IME 780AL	Energy Analytics & Management	
Production and Supply Chain Analytics		
IME 553	Production Systems	
IME 563	Facilities Planning and Design	
IME 783	Supply Chain Management	
IME 767	Lean Manufacturing	
IME 880K	Advanced Facilities and Material Handling	
IME 883	Supply Chain Analytics	
Quality and Reliability		
IME 754	Reliability and Maintainability Engineering	
IME 755	Design of Experiments	
IME 854	Quality Engineering	
IME 960F	Statistical Process Control	
Manufacturing Engineering and Automation		
IME 561	Applied Control Systems	
IME 558	Manufacturing Methods and Materials II	
IME 676	Aircraft Manufacturing and Assembly	
IME 758	Analysis of Manufacturing Processes	
IME 761	Robot Programming and Applications	
IME 762	Smart Manufacturing	
IME 775	Computer Integrated Manufacturing	
IME 780AM	Advanced Cyber-Physical Systems	
IME 788	Rapid Prototyping and 3D Printing	
Human Systems Engineering		
IME 549	Industrial Ergonomics	
IME 749	Ergonomic Assessment Methods	
IME 759	Ergonomic Interventions	
BME 752	Applied Human Biomechanics	
BME 757	Clinical Biomechanics Instrumentation	
ME 709	Injury Biomechanics	
PHS 808	Principles of Epidemiology	
PHS 816	Environmental Health	