

# The Master of Science in Engineering-Industrial and Systems Engineering & The Master of Business Administration

## Dual Degree Program

Dept. of Industrial and Mfg. Systems Eng.  
College of Engineering and Computer Science  
**PH:** 313-593-5361; **FAX:** 313-593-3692  
**E-mail:** [imsedep@engin.umd.umich.edu](mailto:imsedep@engin.umd.umich.edu)  
[www.engin.umd.umich.edu/IMSE/gradprog](http://www.engin.umd.umich.edu/IMSE/gradprog)

College of Business  
M.B.A. Program  
**PH:** 313-593-5460  
[www.gradbusiness.umd.umich.edu](http://www.gradbusiness.umd.umich.edu)

### Program

The University of Michigan-Dearborn's College of Business and College of Engineering & Computer Science, through the Horace H. Rackham School of Graduate Studies, offer an innovative graduate degree program on the University of Michigan-Dearborn campus. The combined programs allow for the award of dual degrees—a Master in Business Administration (MBA) and a Master of Science in Engineering-Industrial & Systems Engineering (MSE-ISE) upon completion of 66 credit hours of study.

**All students must meet entrance requirements for both programs and gain admission to each independently.**

Currently enrolled MBA students who wish to apply to the Rackham ISE portion of the dual degree program should contact the IMSE office at (313) 593-5361 to obtain application material. (Application material can also be obtain at [www.engin.umd.umich.edu/IMSE/grad\\_prog/appforms.php](http://www.engin.umd.umich.edu/IMSE/grad_prog/appforms.php)) If you need advising regarding the Industrial & Systems Engineering requirements, you should contact the IMSE Department Chair, Dr. A. Zakarian, at (313) 593-5361.

Currently enrolled ISE students who wish to apply to the MBA portion of the dual degree program should contact the College of Business at (313) 593-5460 to obtain application materials. If you need advising regarding the Master of Business Administration requirements you may contact Mary Howard, MBA Program Associate at (313) 593-5348.

The dual degree program has been carefully developed in direct response to requests from area employers and affords students the opportunity to earn two Master's degrees by completing 66 credit hours.

### Entrance Requirements for the Dual Program MBA/MSE-ISE Degree

1. Introductory courses in Probability and Statistics (IMSE 510 or equivalent), Operations Research (IMSE 500 or equivalent) and Human Factors and Ergonomics (IMSE 501 or equivalent)
2. Three letters of recommendation
3. A bachelor of science degree in engineering, physical science, computer science or applied mathematics
4. Completion of the Graduate Management Admissions Test (GMAT)

### Course Requirements

The dual degree program requires a minimum of 66 credit hours.

#### College of Business Course Requirements (36 hours):

##### **MBA Core Courses (9 courses/27 credits):**

ACC 505 Developing and Interpreting Financial Information  
OB 510 Organizational Behavior  
MKT 515 Marketing Management

MIS 525 Computer and Information Systems  
 BE 530 Economic Analysis: Firm and Consumer  
 FIN 531 Finance Fundamentals and Value Creation  
 LE 523 Legal Environment of Business  
 BE 580 Economic Analysis: National & International  
 BPS 535 Strategic Planning and Decision Making

If core courses are waived, students must choose replacement courses from Managerial Applications, Group A and/or B.

**MBA Managerial Applications Courses (2 courses/6 credits)**

Dual degree students are required to complete one course each from Group A and Group B

**Group A**

ACC 555 Cost Management  
 OM 571 Supply Chain Management  
 FIN 581 Topics in Corporate Finance

**Group B**

OB 560 Management Skills Development  
 HRM 561 Human Resources Management  
 MKT 565 Advanced Marketing Management  
 MIS 575 Information Management

**MBA Capstone Course (1 course/3 credits)**

BPS 585 Managing Strategic Information and Change

**Industrial and Systems Engineering Course Requirements (24 Hours)**

**Industrial and Systems Engineering Core Courses (4 courses /12 credits)**

IMSE 505 Optimization  
 IMSE 511 Design and Analysis of Experiments  
 IMSE 514 Multivariate Statistics  
 IMSE 580 Production Management

**Industrial and Systems Engineering Concentration Courses (4 courses /12 credits)**

The four required courses can be taken from one concentration area, or any combination of the four areas:

*A. Industrial & Systems Engineering Concentration*

*Human Factors and Ergonomics*

IMSE 543 Industrial Ergonomics  
 IMSE 545 Vehicle Ergonomics I  
 IMSE 546 Safety Engineering  
 IMSE 548 Human Factors  
 IMSE 577 User Interface Design and Analysis  
 IMSE 593 Vehicle Packaging Engineering  
 AE 546 Vehicle Ergonomics II

*Operations Research & Management Science*

IMSE 5205 Engineering Risk-Benefit Analysis  
 IMSE 5215 Program Budget, Cost Estimation & Control  
 IMSE 559 System Simulation  
 IMSE 605 Advanced Optimization  
 IMSE 606 Advanced Stochastic Processes

*B. Integrated Design and Manufacturing Engineering Concentration*

*Quality Systems Design*

- IMSE 513 Robust Design
- IMSE 519 Quantitative Methods in Quality Engineering
- IMSE 561 Total Quality Management
- IMSE 567 Reliability Analysis

*Advanced Manufacturing & Automation*

- IMSE 502 Computer-Integrated Manufacturing
- IMSE 538 Intelligent Manufacturing
- IMSE 5655 Supply Chain Management

*C. Information Systems Concentration*

*Information Systems Management*

- IMSE 553 Software Engineering
- IMSE 556 Database Systems
- IMSE 557 Computing Networks and Communication

*Enterprise Information Systems*

- IMSE 555 Decision Support and Expert Systems
- IMSE 5585 Electronic Commerce
- IMSE 564 ABAP/4 Programming
- IMSE 570 Enterprise Information Systems
- IMSE 5715 Modeling of Integrated Information Systems
- IMSE 5725 Object Oriented Systems Design
- IMSE 574 IS Based Production Planning and Control
- IMSE 579 Software Integrated Manufacturing and Logistic Management

*D. Program Management & Product Development Concentration*

- EMGT 580 Management of Product and Process Design
- IMSE 515 Fundamentals of Program Management
- IMSE 516 Project Management and Control
- IMSE 517 Managing Global Systems

**Electives (6 credits)**

Two courses with the approval of both graduate advisors from the graduate level offerings of Business, Industrial and Systems Engineering, Electrical and Computer Engineering, or Mechanical Engineering, with at least one course (three credit hours) from College of Business.

A thesis option may be elected which will count for six hours of the Electives requirement.

For further information please call Joey Woods (Graduate Program Assistant) at 313-593-5361, or e-mail [imsedep@engin.umd.umich.edu](mailto:imsedep@engin.umd.umich.edu).

Application can be obtained on line at [www.engin.umd.umich.edu/IMSE/grad\\_prog/appforms.php](http://www.engin.umd.umich.edu/IMSE/grad_prog/appforms.php) (you will need to print out application and all necessary forms). Dearborn campus does not accept graduate applications on line. Application instructions follow on the next page.

# Application Instructions For Domestic Students

We do not have a deadline date, but we strongly recommend that you apply at least one month before the semester start.

Semester	Classes Begin
Fall	September
Winter	January
Summer	May, July

We *recommend* that you apply as early as possible before the semester begins for registration purposes and the best course availability.

***Please follow the instructions below for submitting your application***

**DO NOT SEND APPLICATION TO RACKHAM**

**Please send the following materials directly to the IMSE Department:**

- **All pages of the application** (both copies)
- **\$60 application fee** (This fee is per application, for each department applied.) Payable by check, credit cards are not accepted at this time.
- **3 Letters of Recommendation** (one letter of recommendation must be from someone familiar with your academic background: a Professor or an advisor)
- **Statement of Purpose**
- **1 Official Transcript** -from each institution you have attended (transcripts must be sent directly to the IMSE department)

NOTE: The above materials can be mailed separately

**Mail All Application Materials To:**

University of Michigan-Dearborn  
IMSE Department (2340 EC)  
4901 Evergreen Road  
Dearborn, MI 48128-1491

If you have any questions regarding the application process, please call (313) 593-5361, or email [imsedep@engin.umd.umich.edu](mailto:imsedep@engin.umd.umich.edu)

**NOTE:** Application can be obtained on line at [www.engin.umd.umich.edu/IMSE/grad\\_prog/appforms.php](http://www.engin.umd.umich.edu/IMSE/grad_prog/appforms.php) (you will need to print out application and all necessary forms). You will need to print out the application and mail to the Department at the Dearborn Campus. We do not accept on-line graduate applications at this time.

# Application Instructions For International Students

## When to Apply?

Please Apply by the Required Date. If application is not submitted or completed before the deadline, it will be considered for the next term.

Semester	Deadline to Apply	Registration	Classes Begin
<b>Fall</b>	March 25	June	September
<b>Winter</b>	July 25	November	January
<b>Summer</b> (includes Spring-half & Summer-half, Spring/Summer -full)	November 25	April	May, July

*Please follow the instructions below for submitting your application*

**DO NOT SEND APPLICATION TO RACKHAM**

## **Please send the following materials directly to the IMSE Department:**

- **All pages of the application** (both copies)
- **\$75.00 application fee** (your application will not be evaluated unless the fee has been paid). This fee is per application, for each department applied. Payable by check, credit cards are not accepted at this time.
- **2 Official Transcripts** (Official not notarized transcripts in native language and official English translation.)
- **Financial Certification** – original affidavit of support, with original bank statements, showing the minimum amount needed for certification (must include dependent if there are any).
- **TOEFL, ME Lab, or IELTS Score** – an English proficiency score that meets the minimum requirement for admission.
- **2 Letters of Recommendation** (one must be from someone familiar with your academic background: a Professor or an advisor)
- **Statement of Purpose**

**NOTE:** Evaluation can not be done until application fee, application, transcripts, financial certification, and English proficiency score has been received.

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IMSE Department (2340 EC)  
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Dearborn, MI 48128-1491

If you have any questions regarding the application process, please call (313) 593-5361, or email [imsedep@engin.umd.umich.edu](mailto:imsedep@engin.umd.umich.edu)

**NOTE:** Application can be obtained on line at [www.engin.umd.umich.edu/IMSE/grad\\_prog/appforms.php](http://www.engin.umd.umich.edu/IMSE/grad_prog/appforms.php) (you will need to print out application and all necessary forms). You will need to print out the application and mail to the Department at the Dearborn Campus. We do not accept on-line graduate applications at this time.