industrial & systems engineering

MASTER OF SCIENCE

HANDBOOK

TABLE OF CONTENTS

BUILDING DIRECTORY # 07

ADMISSIONS # 08

REGISTRATION # 09

CPT, OPT, F-1 EXCEPTION INFORMATION # 10

GRIEVENCES AND APPEALS # 14

CONTACTS # 16

OISS AND HOUSING # 19

CPT, OPT, etc. FORM COMPLETION PROCESS # 20

APPLY FOR GRADUATION # 24

MASTER'S CONCENTRATIONS # 25

FAQS # 45

Industrial engineers are the innovators solving the world's problems

View ISE MS Bulletin

See the complete MS Program Overview online on the University Bulletin

ISE Master's Degree Programs offer the flexibility of full or part-time study. Most of the courses are offered in the evening, allowing students to continue full-time employment at local industries. Courses may be offered at off-campus sites. To further accommodate the working student population, several engineering courses are offered online (refer to the schedule of classes to determine availability).

All incoming M.S. students must demonstrate competency in undergraduate probability and statistics, through successful completion of BE 2100, or equivalent courses. If the student fails to show competency or does not have a STEM related degree, he or she may be required to complete a pre-requisite course in probability and statistics.

ISE DEPARTMENT
INTRODUCTION

We have a long history of helping our students achieve their educational and professional goals. Our personal approach to the entire university experience – from admission to job placement – is designed to provide students with the resources and support to become successful. Industrial and systems engineers, like other engineers, are problem solvers. ISEs uniquely design, streamline and improve complex processes and systems for maximum efficiency, whether the goal is to save time, save money, improve quality — or all three. Industrial and systems engineers are in high demand in nearly every sector of the economy, from manufacturing, service industries and energy, to Big Data, Supply Chain, and Healthcare.

Our Mission is to foster an exceptional learning environment where aspiring industrial & systems engineers can develop practical and applied research regarding complex systems that will positively impact in our metropolitan and global community. We believe that by doing this, we will set a global standard for industrial & systems engineering programs that advance knowledge and solve challenges, while developing a vibrant and diverse student body.

Faculty in the ISE Department have established research strengths in areas such as supply chain management, freight logistics, product design, product life-cycle modeling, end-of-life product value recovery, sustainability, business analytics and big data, healthcare systems engineering, and smart engineering systems.

Wayne State's Manufacturing Engineering Building (home to the ISE Department) houses many state of the art laboratories, classrooms, and resources. The 25,000-square-feet high bay area of the building is where our Smart Manufacturing Demonstration Center (SMDC) is located. The SMDC is a hub focused on developing the next generation of digital manufacturing professionals and leaders in automation and robotics. It houses a variety of equipment and software, connected with Cisco's secured systems infrastructure, that will enable research and education in such domains as collaborative robots, additive manufacturing, computed tomography (CT) scanning, automated laser scanning, and resistance spot welding. The lab allows researchers to explore aspects of the Internet of Things (IoT), including data management, storage, infrastructure and security.

VISION

To set a global standard for industrial & systems engineering programs that advance knowledge and solve challenges, while developing a vibrant and diverse student body.

MISSION

To foster an exceptional learning environment where aspiring industrial & systems engineers can develop practical and applied research regarding complex systems that will create impact in our metropolitan and global community.

VALUES

1. **Foster Experiential Learning**
2. **Cultivate Engagement**
3. **Demonstrate Proactivity and Agility**
4. **Develop Global Mindsets**
5. **Seek Continuous Improvement**
6. **Advance Sustainability**
7. **Support Entrepreneurial Projects**

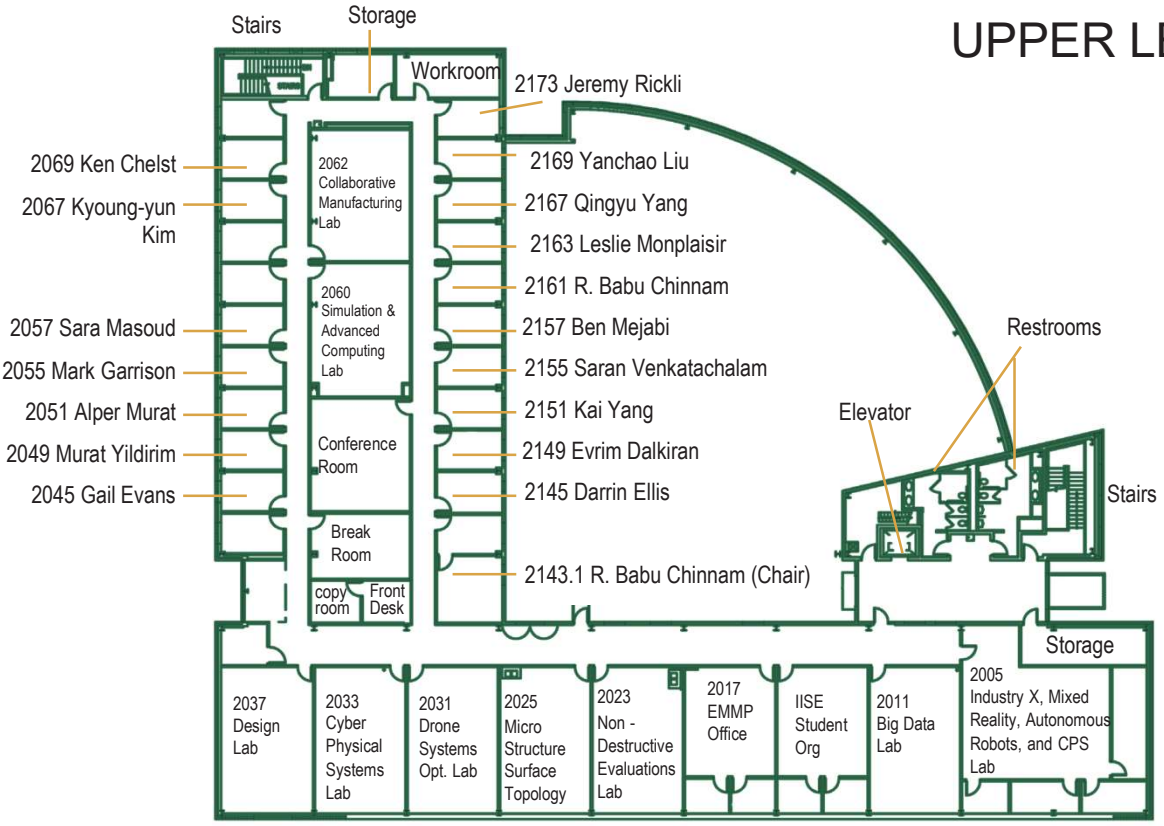
ISE BUILDING
DIRECTORY

Once you have found our building at 4815 Fourth Street, Detroit, Michigan 48201 - tucked behind the Engineering Technology and Bioengineering Buildings, you still might be a little lost. The Manufacturinig Engineering Building we call home has 2 floors, multiple labs and offices. We are a department within the College of Engineering, which is located across Warren Ave. on the corner of Anthony Wayne Drive.

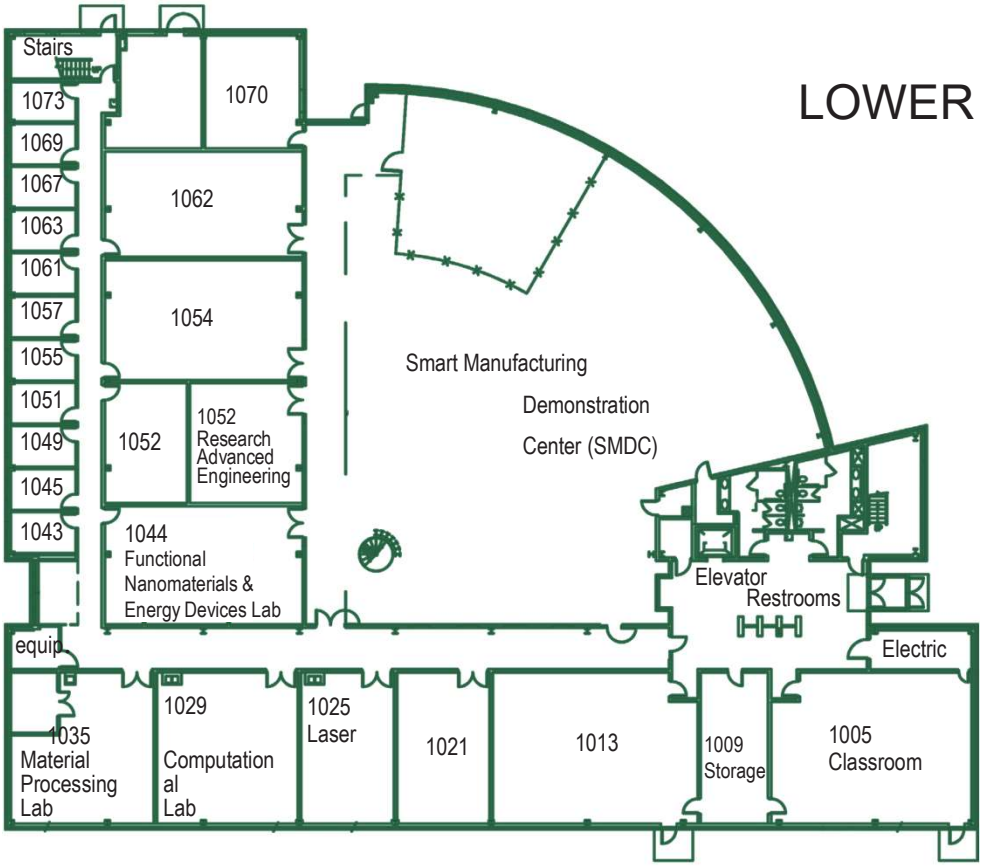
BUILDING ADDRESS - 4815 Fourth Street, Detroit, MI 48201

Check out the campus map online!
Campus Map: http://maps.wayne.edu/all/?q=Industrial+engineering#ise

UPPER LEVEL



LOWER LEVEL



MS PROGRAM
ADMISSIONS

Please find admissions information at engineering.wayne.edu/admissions/graduate.php.

The application for admissions consideration is available online. Please email the appropriate MS program director or admissions coordinator via engineeringgradadmissions@eng.wayne.edu to contact the department with general admissions related inquiries.

Further program-specific contacts can be found on individual program websites and later in this handbook. Detailed information regarding international student requirements is found on the Graduate School's website and the Office of International Students and Scholars website.

You must have a bachelor's degree from a regionally accredited institution in the United States or a comparable degree from an officially recognized institution outside the United States to apply for graduate admission.

Admission to ISE MS programs is contingent upon admission to the Graduate School. The MS in Industrial Engineering requires a baccalaureate degree in engineering and an approximate 2.8 GPA or its equivalent in the upper division of an undergraduate program. Conditions to admission or prerequisites may be assigned in the admissions process. The **GRE is NOT required**, however, high GRE scores will be considered in application evaluation. Students with degrees in related disciplines with a strong analytical base are also considered. Applicants whose undergraduate education is deficient in prerequisites for graduate courses may be required to take background courses that will NOT count toward degree requirements. Applicants can provide supplemental materials such as resume, personal statement, GRE scores, and letters of recommendation to support their application.

HOW TO REGISTER

Registration

Go to the Registration Portal at registration.wayne.edu

To look up classes before registration opens, or if you are not a current student, you can view the times and days classes are offered through Browse Classes. See "How to Browse for Classes."

View the Academic and Registration Calendar to see when registration is available for students.

- Select "Register for Classes"
- Log in using your WSU AccessID and password, then select your term.
- If you know your Course Reference Number(s), use the Enter CRNs tab. Enter the CRN and click Add to Summary to add the class to your schedule. Click Submit to register.

Late Registration

If a student needs to register for classes after the 2nd week of class, they will be unable to do so via Academica but will need the registrar's office to complete the action. All students should do the following:

Email ***registrationhelp@wayne.edu*** with the following information:

- Name
- Banner of Access ID
- Name of the Course
- Course Reference Number (CRN)
- Number of credit hours if the course is a variable

Please inform Registration of the class(es) you need to get into via late registration. The departmental advisor will have placed the appropriate overrides before you attempt to register. Should you require an override code that has not been placed; you will need to contact the advisor and submit an override request to ENG GR Central - Override Form - Wayne State University, then the process can continue.

Read and confirm the Financial Responsibility Agreement

for more on this, go to: Financial Responsibility Agreement - Office of the Bursar - Wayne State University)

Dropping and Adding

Through the first week of classes - start at the Registration Portal (registration.wayne. edu) and log into "Register for Classes." To adjust your schedule, use the Action menu in the Summary panel to select Drop with 100%tui- tion cancellation or Register.Click Submit to save changes.

Change Variable Credit

Once you have registered for a variable credit class, click on the "Schedule and Options" tab.Click on the Hours of a variable credit class and you will be allowed to change the number of credits. Click "Submit" to update your schedule..

Register for Text Alerts

There is a way to get a quick reminder right before academic cut-off dates. The Office of the Registrar can send text message reminders to students before deadlines, such as the last day to receive tuition cancellation. To take advantage of this service go to broadcastwayne.edu.

CPT, OPT, F-1
EXCEPTIONS

01. CURRICULAR PRACTICAL TRAINING (CPT) FORM

Curricular Practical Training (CPT) is defined as “employment which is an integral or important part of a student’s curriculum, including alternate work/study, internship, cooperative education, or any other type of required internship or practicum which is offered by sponsoring employers through cooperative agreements with the school.” Thus, CPT for F-1 students is intended to provide work experience in situations where the work serves as an integral part of a student’s academic program prior to completion of that program, and the credits earned will count toward the student’s degree credits. MS students may use a maximum of 6 credits of CPT IE6991, taken in blocks of 2 credits, towards degree requirements. This means that the proposed employment must be directly related to a student’s major and academic objectives.

CPT FORM

02. OPTIONAL PRACTICAL TRAINING (OPT) FORM

Optional Practical Training (OPT) for F-1 students is intended to provide hands-on practical work experience complementary to the academic program. An F-1 student is eligible for a MAXIMUM OF 12 MONTHS. However, if a student begins a new academic program at a higher level (masters after bachelor's degree or PhD after masters), the student is eligible for another 12 months of OPT. It is important to note, however, that part-time optional practical training (20 hours per week or less) is deducted from the available training at one-half the full-time rate. Thus, 2 months of part-time training would count as a 1 month deduction from the available 12months.

While on optional practical training, individuals are still considered to be F-1 students at Wayne State even though they may be working elsewhere in the United States.

OPT FORM

03. F1 FULL TIME ENROLLMENT EXCEPTION

F-1 visa holders are students who are permitted to enter the U.S. to pursue a full course of study. An international student can submit the Fulltime Enrollment Form to request to be considered a fulltime student in their first and last semester while taking less than 8 credits. After they complete the course of study, they are required to leave the U.S., unless they change their immigration status. In general, F-1 students who are in legal immigration status are eligible to work on-campus 20 hours per week during the Fall and Winter terms and 40 hours per week during annual vacations and official breaks, e.g., Spring Break/Winter break.

F-1 EXCEPTION FORM

GRADUATE
GRADING POLICY

To be awarded a graduate degree, a student must have achieved at least a 'B' (3.0) overall grade point aver- age. Grades of 'B-minus' and below are unsatisfactory for graduate level work. A limited number of 'B-minus', 'C-plus,' or 'C', though unsatisfactory, may be applied toward a graduate degree provided they are offset by a sufficient number of higher grades to maintain a grade point average of 3.0 Grades below 'B' can constitute reason for dismissal from a program at the department or program's discretion. Students should consult with their departments and advisors regarding unsatisfactory grades and their impact on good academic standing.
All graduate teaching assistants and graduate research assistants must maintain a minimum grade point aver- age of 3.0 in order to continue their assistantship appointments. Every effort is made to assist students whose work suffers as a result of a condition beyond their control, or interruption of study for military service.

The graduate grading system is intended to reflect higher standards of critical and creative scholarship than those applied at the undergraduate level. To receive a graduate grade in courses open to both undergraduate and graduate students, the graduate student is expected to do work of superior quality and is required to do any additional work specified by the instructor.

Students with **GPAs below 3.0 are placed on probation** systemically and automatically have a hold placed on their registration. Such students are required to confer with their advisor to develop a plan and timetable for elevating their GPA. If the advisor approves the plan, they should notify the school/college to release the GPA registration hold so the student can register for the agreed upon course(s).

The mark of I (Incomplete) is given to a student when he/she has not completed all the course work as planned for the term and when there is, in the judgment of the instructor, a reasonable probability that the student will complete the course successfully without again attending regular class sessions. The student should be passing at the time the grade of I is given. A written contract specifying the work to be completed should be signed by the student and instructor. Responsibility for completing all course work rests with the student.

The mark of I will be changed to a letter grade when the student completes the course work as arranged with the instructor or, if the instructor has left the University, with the Chairperson of the department or other instructional unit. Work must be completed within one calendar year. There are NO extensions.

The mark of I will not be awarded if, in the instructor's judgment, it is necessary for the student to attend subsequent sessions of the class. If regular attendance is necessary to complete coursework, the student must register for the class for the semester in which attendance is planned. The student will be assessed tuition and applicable fees for the second registration. If the student decides to register for the course, subsequent to the assignment of an I, then the mark of I for the original election will be changed to a Withdrawal/Passing (WP), and the student will be responsible for tuition and applicable fees for the second registration. Students are responsible for notifying their department and the department offering the course that they have reregistered for the course so that the I is not changed to an F.

The mark of WF (Official Withdrawal Failing) is given when the student withdraws from the course in accordance with University policy and the student had earned a failing grade as of the date the withdrawal is approved.

The mark of WN (Official Withdrawal No Basis for Letter Grade) is given to students when there is no basis for a letter grade.

The mark of WP (Official Withdrawal Passing) is given when the student drops the course in accordance with University policy and the student had earned a passing grade as of the date the withdrawal is approved.

The mark of Y (Deferred) is given when the student is up-to-date in the work of a course planned to continue beyond the semester (i.e., essay, thesis, dissertation and certain courses taken in sequence).

The mark of Z (Auditor) is given when the student has formally registered for the course for audit. The stu- dent's Academic Dean or his/ her designee must provide written audit authorization to the student at the time of registration.

ACADEMIC MISCONDUCT

Academic misconduct is any activity that tends to compromise the academic integrity of the institution or undermine the education process. Such activity may result in failure of a specific assignment, an entire course, or, if flagrant, dismissal from Wayne State University.

The instructor of record may report the alleged violation of the Student Code of Conduct using the referral form at the following link: Academic Misconduct Action.

The referral should be submitted as soon as possible after the event takes place or when it is reasonably discovered.

For a description of all student conduct policies and additional information about the conduct process, please refer to the Student Code of Conduct (https://doso.wayne.edu/conduct/pdf/student-code-of-conduct.pdf)

Examples of academic misconduct are continued on the following page.

NON-ACADEMIC MISCONDUCT

Any individual in the university community may report an alleged violation of the Student Code of Conduct using the referral form at the following link: Non-Academic Misconduct Referral.

The referral should be submitted as soon as possible after the event takes place or when it is reasonably discovered.

Plagiarism

To take and use another's words or ideas as your own without appropriate referencing or citation. Example: Failure to use appropriate referencing when using the words or ideas of persons. Altering the language, paraphrasing, omitting, rearranging, or forming new combinations of words in an attempt to make the thoughts of another person appear as your own.

Cheating

Intentionally using or attempting to use or intentionally providing unauthorized materials, information or assistance in any academic exercise. This includes copying from another student's test paper, allowing another student to copy from your test, using unauthorized material during an exam and submitting a term paper for a current class that has been submitted in a past class without appropriate permission.

Fabrication

Intentional or unauthorized falsification or invention of any information or citation, such as knowingly attributing citations to the wrong source or listing a fake reference in the paper or bibliography.

Other

Selling, buying or stealing all or part of a test or term paper, unauthorized use of resources, enlisting in the assistance of a substitute when taking exams, destroying an-other's work, threatening or exploiting students or instructors, or any other violation of course rules as contained in the course syllabus or other written information.

PROCESS OF GRIEVENCES & APPEALS

Several areas within the university have defined processes to respond to student concerns or complaints directly related to their area, including, but not limited to:

- **Grade Appeals (coe_grade_appeal.pdf (wayne.edu)) Student Code of Conduct**
- **Discrimination, Harassment and Sexual Misconduct**
- **Student Employee Grievances**
- **Enrollment Registration Questions**
- **Tuition and Fee Appeals**
-

Student complaints outside of the processes identified above, should follow the following steps:

01

Official FIle & Direct Communication

Once a formal student complaint under this process is received by the Dean of Students, an attempt will be made to resolve the issue in a timely manner by working with the student and the appropriate university employees and/or offices to assure a fair process. If the student making the complaint has not had any contact regarding the complaint within fifteen (15) business days of submitting a report, they should contact the Dean of Students Office at doso@wayne.edu.

02

Complaint Referred

When appropriate, a complaint may be referred directly to the department involved. Complaints related to a specific academic college may be forwarded to the appropriate college Dean or his/her designee.

Please note a student's complaint may be forwarded to the department it can best be addressed by. It is important to note after a complaint has been reviewed and an outcome determined, a complaint may be deemed "resolved" even though a student may not be satisfied with the outcome.

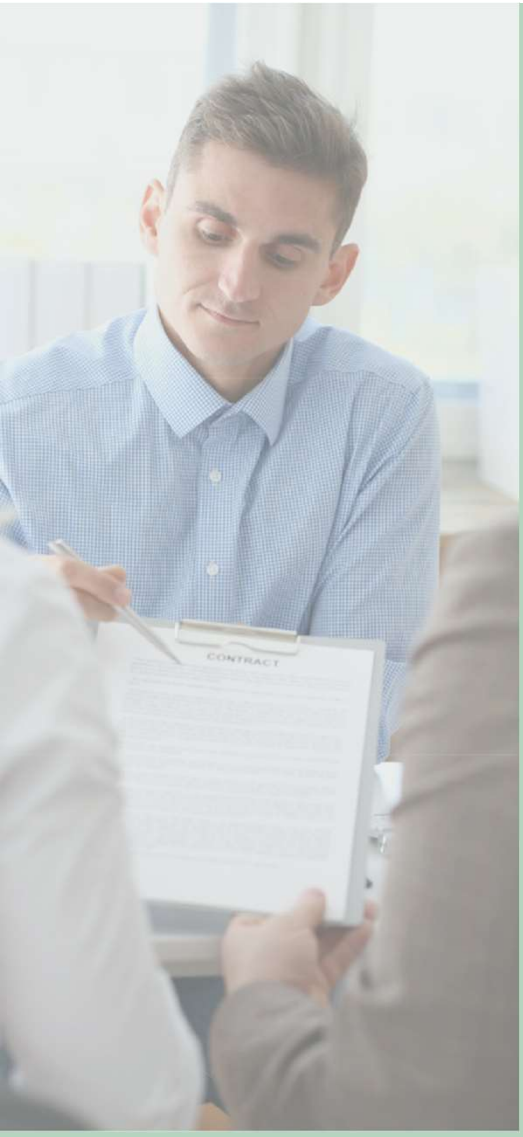
Our number one goal at Wayne State University is your success as a student. We have a student complaint process in place to assist you with any problems, issues, concerns, or help you need in pursuit of your Wayne State degree. The student complaint procedures outlined below are established to address concerns that may arise. In addition, the University has a federal obligation to track student complaints to help us monitor the quality of our operations and services.

When a student encounters a problem on campus or feels they have been treated unfairly, the student should first try to resolve the issue informally with the faculty/staff member or department directly involved. Many issues can be resolved by making an appointment with a faculty or staff member and calmly and honestly communicating the concern(s).

For more information on complaints in these areas, please visit: https://doso.wayne.edu/complaints

In accordance with the Higher Learning Commission Policy FDCR.A.10.030 - Institutional Records of Student Complaints

Wayne State University has established the above outlined student complaint procedures. Wayne State University is required by law to share information about the complaints with its accrediting agency, the Higher Learning Commission of the North Central Association of Colleges and Schools; however, individual identities will not be revealed without the express permission of the complainant or as required by law.



03

Review Conducted

The Dean of Students Office will annually review the data to identify any trends/issues that warrant further investigation, revision to existing policies, etc. Information on these issues shall be compiled into the Annual Institutional Summary of Student Complaints and shared with the appropriate university office(s) for action.

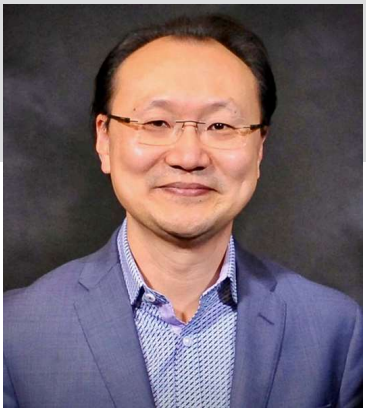
We have a team of faculty and staff to help you succeed in your graduate program! Please contact the people below to assit you along the way.

HELPFUL CONTACTS

Dr. Jeremy Rickli

Program Director, MS Industrial Engineering Program

313-577-1752
jlrickli@wayne.edu



Dr. Kyoung-Yun Kim

Program Director, MS Manufacturing Engineering Program

313-577-4396
kykim@wayne.edu

Dr. Yanchao Liu

Program Director, MS in Arificial Intelligence Program

313-577-3301
yanchaoliu@wayne.edu

Dr. Alper Murat

Program Director, Engineering Management Program

313-577-3872
ay7268@wayne.edu

Beth Madigan

Graduate Program Coordinator

313-577-0409
bethmadigan@wayne.edu

Dr. R. Babu Chinnam

Department Chair, Industrial and Systems Engineering & Program Chair, MS Data Science and Business Analytics Program

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Kai Yang
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Qingyu Yang
qyang@wayne.edu

Murat Yildirim
murat@wayne.edu

OFFICE OF INTERNATIONAL STUDENTS

The Office of International Students and Scholars (OISS) at Wayne State University supports and enhances your educational, cultural and social experiences. OISS collaborates with colleges, departments and the community to create and maintain an inclusive, global campus.

Vist the OISS website at https://oiss.wayne.edu

Whether it's a ride to the grocery store, help with your resume, academic support or assisting you to navigate through the university system, OISS can make it happen for you.

STUDENT HOUSING

For more information go to housing.wayne.edu Phone: (313)577-2116; Fax: (313)577-6644; or email: housing@wayne.edu. You can apply online at housing.wayne.edu. Make sure you read the information carefully before you apply. Please contact Housing and Residential Life for further information. OISS housing information can be found at oiss.wayne.edu/current-students/sr-housing

If you can't find housing on campus, you will need to look for off campus housing.

OFF CAMPUS HOUSING

University Cultural Center Association (UCCA)
David Mackenzie House
4735 Cass Avenue, Detroit 48201
www.detroitmidtown.com Phone:
(313)577-5088

Off-Campus Housing Opportunities

The Union at Midtown
4830 Cass Avenue, Detroit, MI 48201
(313)214-2015
1 bedroom starting at $945/month utilities included
2 bedroom starting at $755/month utilities included

Palmer Court Apartments & Townhomes 5721 St. Antoine, Detroit, MI 48202
(313)871-4621
2 bedroom spacious townhouses

University Club Apartments
4707 Third St., Detroit, Michigan 48201
(313)831-4336
1 and 2 bedroom apartments

Belcrest Apartments
5440 Cass Ave., Detroit, MI 48202
(313)831-5700
Email: office@belcrestapt.net

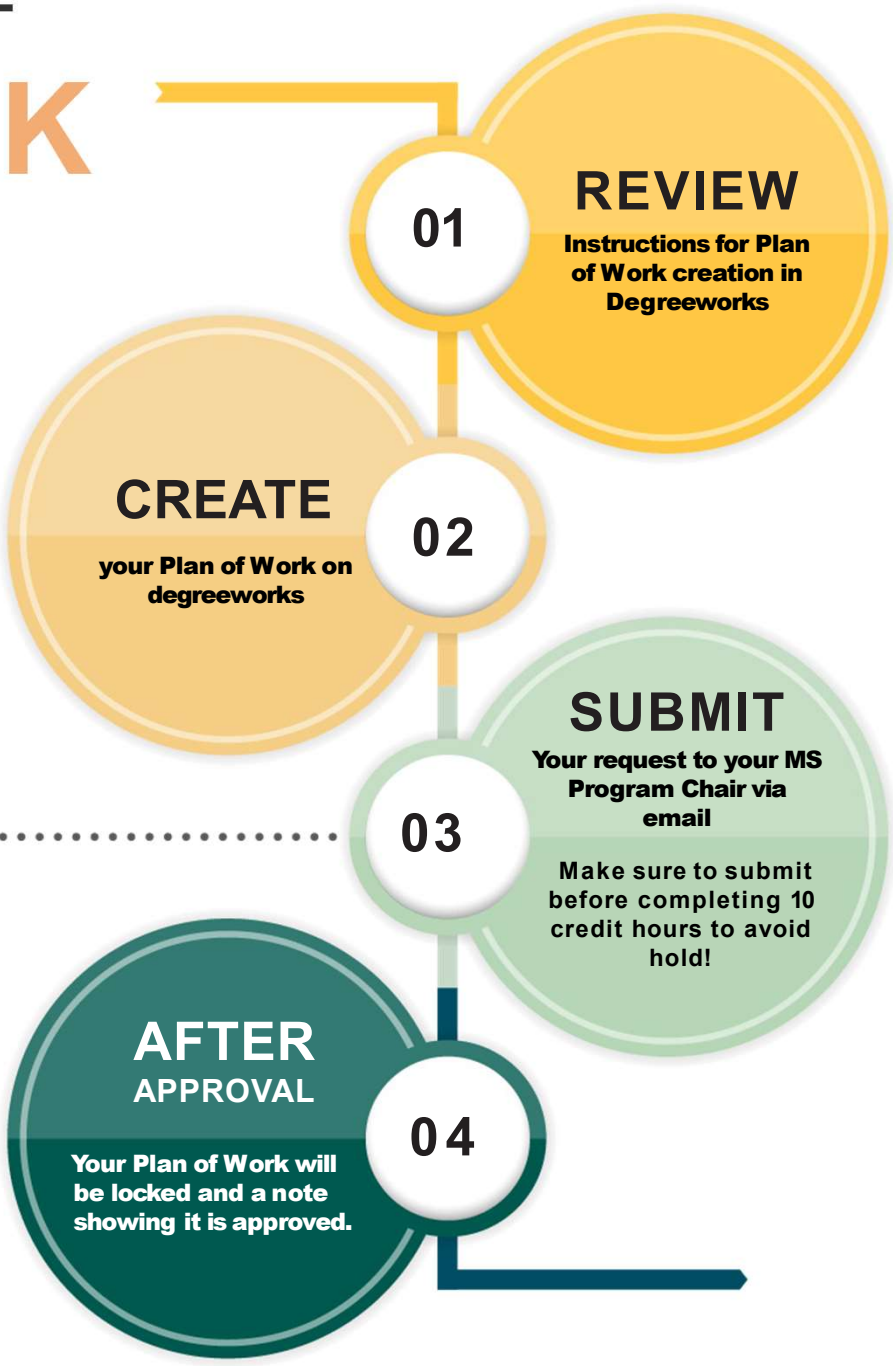
Studio One Apartments
4501 Woodward Ave., Detroit, MI 48201
(313)638-1746

Cass and Ferry Apartments
5538 Cass Ave., Detroit, MI 48202
(313)915-5533

The Scott
3150 Woodward Ave., Detroit, MI 48201
(313)818-3703
Numerous floor plan options.

FORM COMPLETION
PROCESSES

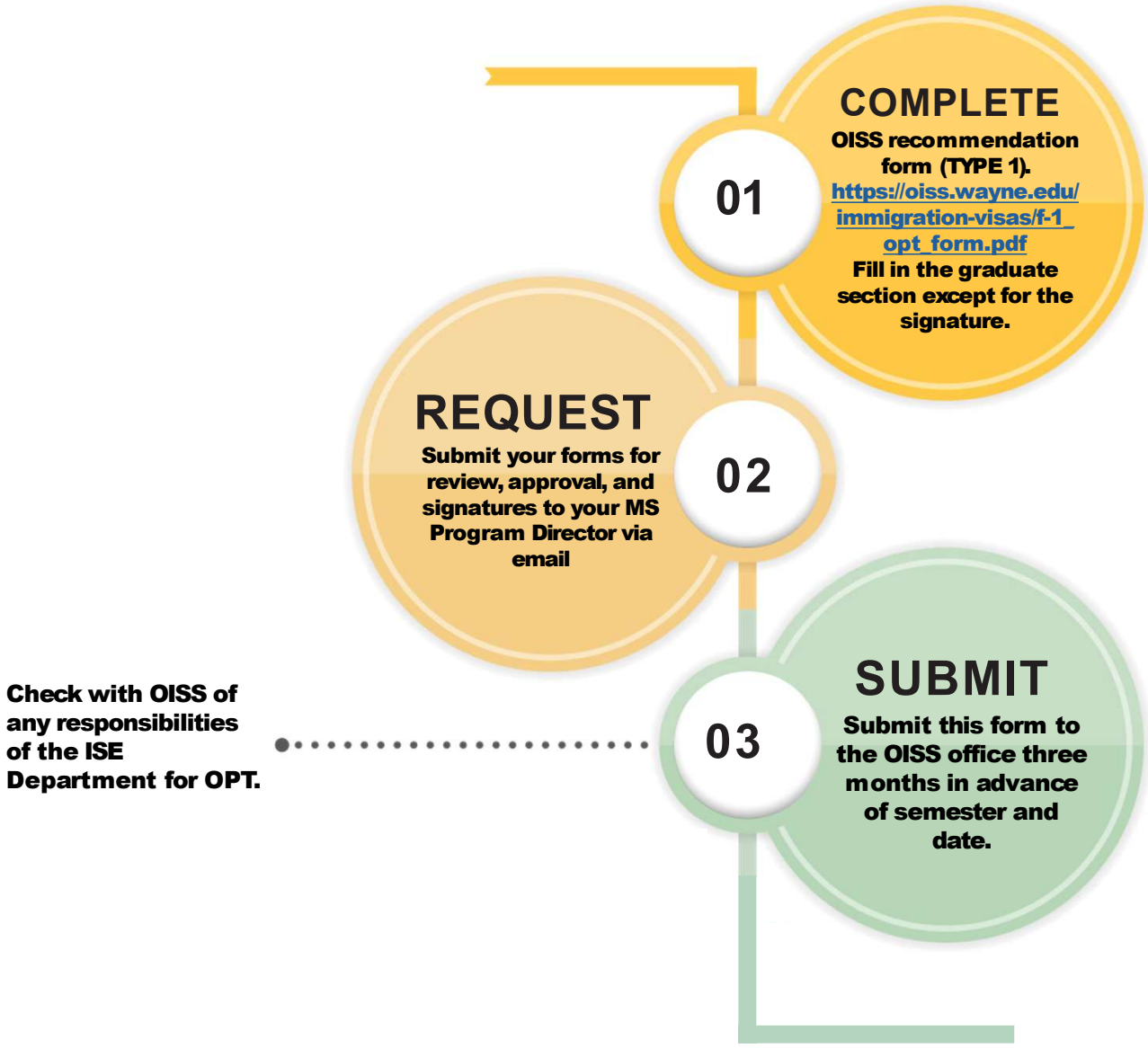
PLAN OF WORK



Original and revised POWs must be created and approved through DegreeWorks. If you do not have an approved POW prior to receiving 10 credits, you will have a candidacy hold and will be unable to register for courses

EXCEPTION TO FULLTIME

OPTIONAL PRACTICAL TRAINING (OPT)



CURRICULAR PRACTICAL TRAINING (CPT)

01 **Complete CPT training (online)**

1) Last day to register is the last day to register for courses (10 days).

2) Submit report on Canvas one week prior to end of semester.

Complete 2 semesters

02 **Obtain offer letter**

Dates must match OISS/academic calendar (can start after semester start date).

03 **Send offer letter, CPT form and POW to Program Chair**

Out of State/Area **– NOT ALLOWED**

Fall/Winter only**: Plan to comply with OISS 'physical presence policy' located at: oiss.wayne.edu/immigration-visas/j-1-2-home**

04 **Submit PDFs**

of POW, Grad CPT form, Offer letter, Supplemental letters, Signed statement of responsibilty, Complete section B in detail **via our "Request Portal".**

Get overide and then register for IE6991

05 **Take all forms to OISS for approval**

APPLY FOR
GRADUATION

One of the last steps to take before receiving your degree is to apply for graduation. Before you apply, you should review your Degreeworks progress to ensure you have completed all degree requirements.

How to apply

You must apply for graduation in Academica no later than the end of the fourth week of classes in the semester you plan on graduating. To submit an application, log into Academica and select Student Resources, then Student Records and then Apply for Degree or Certificate. It is imperative to complete the entire application, finalize payment (if applicable) and submit it or your application will not be processed. A confirmation notice will be sent to your WSU email address within 24 hours of submission.

Important: Please do not use a mobile device such as a tablet or smartphone, as they may cause an error to occur during the payment process. Use of a PC (set to accept all cookies) is highly recommended.

Graduation

Wayne State confers degrees in the winter, spring/summer and fall terms. Graduation ceremonies are held in December and May. Detailed information about applying for the degree and commencement procedures is available on the Commencement Office website.

Degree application

Degree applications are available via Academica on the Student tab, Student Self Service menu.

Application deadline

The deadline for applying is the Friday of the fourth week of class in the semester in which graduation is anticipated.

Caps, gowns, and tickets

Information concerning Commencement announcements, caps and gowns, tickets, and other relevant information will be mailed to the degree candidate by the Commencement Office prior to the event.

If you have any questions, email the graduation office at graduation@wayne.edu or call 313-577-2100.

MASTER'S
CONCENTRATIONS

The Department of Industrial and Systems Engineering has a continually expanding master's program, which is designed to help students excel in both industry and academia. ISE offers the following programs at the master's level:

Five degree concentrations for the Master of Science in Industrial Engineering (MSIE)

General option (Plan C)
Thesis option (Plan A) - view deadlines
Concentration: Lean systems (Plan C)
Concentration: Analytics (Plan C)
Concentration: Systems engineering (Plan C)

Five degree concentrations for the Master of Science in Manufacturing Engineering (MSMfgE)

General option (Plan C)
Thesis option (Plan A) - view deadlines
Concentration: Smart Mfg (Plan C)
Concentration: Quality Engineering (Plan C)
Concentration: Adv. Mfg. Systems (Plan C)

Master of Science in Engineering Management (MSEM)

General option (Plan B)

Master of Science in Data Science and Business Analytics (MSDSBA)

Business Program - Data-Driven Business Concentration
Engineering Program – Advanced Analytics Concentration Engineering Program – Data Computing Concentration

Master of Science in Artificial Intelligence

Industrial Engineering – Industrial AI Major

Engineering Management Master's Program (EMMP)

Closed registration. Nomination of Ford Motor Company employees only.

All master's level students must hold a bachelor's degree in engineering, or in a closely related analytical discipline. In addition, master's level students are expected to have a solid quantitative background with demonstrated competencies in probability and statistics.

INDUSTRIAL ENGINEERING

Program description

The M.S. program in industrial engineering is built on a core designed to provide breadth of experience in systems modeling, analysis, and applications common in industrial engineering and operations analysis

Program objectives

Graduates will be able to:

- Integrate, model, continuously improve, control, and redesign, enterprise activities
- Perform data analysis and optimization for enterprise decision making
- Develop business cases for justifying process, organizational and technological projects
- Support enterprise performance, quality, efficiency and productivity enhancement activities
- Facilitate systems engineering and project management
- Communicate effectively (written, verbal and presentation) across all levels in the enterprise
- Develop an ability to grow through life long acquisition of knowledge

Plan of Work

The Plan of Work is intended to assist the student in structuring the course work for the MS degree. Students are urged to discuss their program with the appropriate program coordinator (identified along with the program description). The Plan of Work should be filed in DegreeWorks by all students in the program before completing 12credits. Students will be notified by the Graduate School regarding the acceptance of the plan. The Plan of Work is a contract that describes all requirements to be met for the degree. The Plan of Work should be treated as a living document. If there are any changes to your program, you must file a revised Plan of Work and receive approval from department graduate program director. Failure to keep your Plan of Work updated can delay graduation. Please choose the appropriate Plan of Work from the list below.

General option (Plan C)
Thesis option (Plan A)
Concentration: Lean Systems (Plan C)
Concentration: Analytics (Plan C)
Concentration: Systems Engineering (Plan C)

Industrial Engineering (General)

Industrial Engineering (General)	**Description** The MS IE General Concentration is designed to provide students with maximum flexibility with regards to elective courses. Students complete three core courses and then have the freedom to create, within the policies of the ISE Master's program) a course of study that best fits their long-term goals.
Objectives & Aims	To give ISE master's students core industrial engineering knowledge that is broadly applicable to numerous careers while giving the student the control to design a course of study that is of most interest and best suited to their goals.
Prospective Jobs & Industries	All industrial engineering positions [manufacturing, healthcare, analytics, energy, supply chain, etc.]
Core Course Requirements 9 credits *** B grade minimum**	**IE 6210 Applied Engineering Statistics** **IE 6560 Deterministic Optimization** **IE 6315 Production Systems** **OR** **IE 6490 Introduction to Systems Engineering**
Concentration Course requirements	**None**
Elective Course requirements 21 credits	None required, elective courses are based on student interest/goals and can be discussed with student's program chair.

Industrial Engineering (Thesis)

Industrial Engineering (Thesis)

Description

The MS IE Thesis Concentration is designed for master's student looking to pursue academic research opportunities to dive deep into a singular theoretical or practical topic. Master's students interested in this concentration must identify, approach, and obtain a faculty member to advise their MS thesis research credits.

Objectives & Aims

To give ISE master's students core industrial engineering knowledge while providing an avenue for students to pursue advanced academic research with a faculty member.

Prospective Jobs & Industries

All industrial engineering positions [manufacturing, healthcare, analytics, energy, supply chain, etc.]. Performing master's thesis research is highly recommended if students are considering pursuing a PhD in the future.

Core Course Requirements 9 credits

*** B grade minimum**

IE 6210 Applied Engineering Statistics

IE 6560 Deterministic Optimization

IE 6315 Production Systems

OR

IE 6490 Introduction to Systems Engineering

Concentration Course Requirements 6-8 credits

IE 8999 Master's Thesis Research (6-8 credits required)

Elective Course requirements 13-15 credits

None required, elective courses are based on student interest/goals and can be discussed with master's thesis research advisors to identify courses most related to their master's research.

Industrial Engineering (Lean Systems)

Industrial Engineering (Lean Systems)	**Description** Application of Lean Systems for integrated management of organizations in all industrial segments, Manufacturing, Service, Healthcare, and beyond.
Objectives & Aims	Practical application of lean philosophies, tools, principles and practices to systematically improve business performance relative to customer satisfaction, quality, cost efficiency and productivity
Prospective Jobs & Industries	Lean Engineer | Business Process Analyst | Quality Engineer | Manufacturing Engineer | Consultant
Core Course Requirements (9 credits) *** B grade minimum**	**IE 6210-Applied Engineering Statistics** **IE 6560-Deterministic Optimization** **IE 6490-Introduction to Systems Engineering** **OR** **IE 6315-Production Systems & Service Systems**
Concentration Course requirements (9 credits) from this list	***REQUIRED:*** **IE 6310-Lean Operations and Manufacturing** **IE 6611 Fundamentals of Six Sigma** **IE 6220 Value Engineering (Value Methodology)** **IE 6430 Computer Simulation Methods** **IE 6442 Facilities Design and Materials Flow** **IE 6255 Quality Engineering** **IE 6325 Supply Chain Management** **IE 6422 Flexible Manufacturing & Service Systems**
Elective Course requirements (12 credits)	Elective courses are based on student interest/goals and can be discussed with student's program chair.

Industrial Engineering (Analytics)

Industrial Engineering (Analytics)

Description

The MS IE Analytics Concentration is designed to provide students with a disciplined course of training for applying IE expertise in business analytics. Students complete three core, required courses and select three analytics concentration courses from a prescribed list, then have the freedom to select electives that best fit their career goals.

Objectives & Aims

To give ISE master's students core industrial engineering knowledge and the needed skills for starting a career in the analytics field where the IE knowledge best applies.

Prospective Jobs & Industries

Business analyst, marketing analyst, quantitative analyst positions in insurance, finance, transportation and manufacturing industries as well as in the public services.

Core Course Requirements (9 credits)

*** B grade minimum**

IE 6210 Applied Engineering Statistics

IE 6560 Deterministic Optimization
OR
DSA 6200 Operations Research

IE 6315 Production Systems
OR
IE 6490 Introduction to Systems Engineering

Concentration Course requirements; select 3 courses (9 credits) from this list

REQUIRED: **DSA 6000 Data Science and Analytics**

CSC 5800 Intelligent Systems: Algorithms & Tools

IE 7860 Intelligent Analytics

CSC 6710 Database Management Systems I

IE 7511 Linear & Non-Linear Optimization

MAT 5750 Mathematics of Finance

IE 7535 Stochastic Programming & Robust Optimization

Elective Course requirements (12 credits)

None required, elective courses are based on student interest/goals and can be discussed with student's program chair.

Industrial Engineering (Systems Engineering)

Industrial Engineering (Systems Engineering)

Description

The MS IE General Concentration is designed to provide students with maximum flexibility with regards to elective courses. Students complete three core courses and then have the freedom to create, within the policies of the ISE Master's program) a course of study that best fits their long-term goals.

Objectives & Aims

To give ISE master's students core industrial engineering knowledge that is broadly applicable to numerous careers while giving the student the control to design a course of study that is of most interest and best suited to their goals.

Prospective Jobs & Industries

All industrial engineering positions [manufacturing, healthcare, analytics, energy, supply chain, etc.]

Core Course Requirements (9 credits)

*** B grade minimum**

IE 6210 Applied Engineering Statistics

IE 6560 Deterministic Optimization

IE 6315 Production Systems
OR
IE 6490 Introduction to Systems Engineering

Concentration Course requirements (9 credits)

Choose Three of the following:

IE 6840 Project Management

IE 6405 Integrated Product Development

IE 6720 Engineering Risk and Decision Analysis

IE 6270 Engineering Experimental Design

IE 6220 Value Engineering

IE 6240 Quality Management Systems

Elective Course requirements (12 credits)

None required, elective courses are based on student interest/goals and can be discussed with student's program chair.

MANUFACTURING ENGINEERING

Program description

The M.S. degree program in manufacturing engineering is built on a core designed to provide a firm foundation in the various elements of manufacturing and systems engineering. Building on this preparation, the student constructs a concentration in one of five areas.

Program objectives

Graduates will be able to:

- Understand and integrate the design, test and build product life cycle
- Model, analyze and control design and production activities
- Understand the impact of quality, cost and timeliness metrics on manufacturing performance
- Demonstrate a basic understanding of manufacturing processes and technologies
- Perform data analysis and optimization for decision making
- Develop business cases for justifying process, organizational and technological projects
- Support for systems engineering and project management
- Communicate effectively (written, verbal and presentation) across all levels in the enterprise
- Develop an ability to grow through life long acquisition of knowledge

Plan of Work

The Plan of Work is intended to assist the student in structuring the course work for the MS degree. Students are urged to discuss their program with the appropriate program coordinator (identified along with the program description). The Plan of Work should be filed in DegreeWorks by all students in the program before completing 12credits. Students will be notified by the Graduate School regarding the acceptance of the plan. The Plan of Work is a contract that describes all requirements to be met for the degree. The Plan of Work should be treated as a living document. If there are any changes to your program, you must file a revised Plan of Work and receive approval from department graduate program director. Failure to keep your Plan of Work updated can delay graduation. Please choose the appropriate Plan of Work from the list below.

General option (Plan C)
Thesis option (Plan A)
Concentration: Advanced Manufacturing Systems (Plan C)
Concentration: Quality Engineering (Plan C)
Concentration: SMART Manufacturing Systems (Plan C)

Manufacturing Engineering (General)

Manufacturing Engineering (General)	**Description** The MS MfgE General Concentration is designed to provide students with maximum flexibility with regards to elective courses. Students complete three core courses and then have the freedom to create, within the policies of the ISE Master's program) a course of study that best fits their long-term goals.
Objectives & Aims	To give ISE master's students core manufacturing engineering knowledge that is broadly applicable to numerous careers while giving the student the control to design a course of study that is of most interest and best suited to their goals.
Prospective Jobs & Industries	All industrial engineering positions [manufacturing, quality, analytics, energy, supply chain, etc.].
Core Course Requirements (12 credits) *** B grade minimum**	**IE 6210 Applied Engineering Statistics** **IE 6315 Production Systems & Service Systems** **IE 6240 Quality Management Systems** **OR** **IE 6611 Fundamentals of Six Sigma** **IE 6405 Integrated Product Development** **OR** **IE 6420 CAD/CAM**
Concentration Course requirements	**None**
Elective Course requirements (18 credits)	Elective courses are based on student interest/goals and can be discussed with student's program chair.

Manufacturing Engineering (Thesis)

Manufacturing Engineering (Thesis)	**Description** The MS MfgE Thesis Concentration is designed for master's student looking to pursue academic research opportunities to dive deep into a singular theoretical or practical topic. Master's students interested in this concentration must identify, approach, and obtain a faculty member to advise their MS thesis research credits.
Objectives & Aims	To give ISE master's students core manufacturing engineering knowledge while providing an avenue for students to pursue advanced academic research with a faculty member.
Prospective Jobs & Industries	All industrial engineering positions [manufacturing, quality, analytics, energy, supply chain, etc.]. Performing master's thesis research is highly recommended if students are considering pursuing a PhD in the future.
Core Course Requirements (9 credits) *** B grade minimum**	**IE 6210 Applied Engineering Statistics** **IE 6315 Production Systems & Service Systems** **IE 6405 Integrated Product Development** **OR** **IE 6420 CAD/CAM**
Concentration Course Requirements (6-8 credits)	**IE 8999 Master's Thesis Research (6-8 credits required)**
Elective Course requirements 13-15 credits	None required, elective courses are based on student interest/goals and can be discussed with master's thesis research advisors to identify courses most related to their master's research.

Manufacturing Engineering (SMART Manufacturing)

Manufacturing Engineering (SMART Manufacturing)	**Description** The MS MfgE Smart Manufacturing Engineering Concentration is designed for master's student to have knowledge and experience in Smart Manufacturing. Smart Manufacturing refers to a current trend, in which production activities (e.g., manufacturing, value network, distribution, business, customer service, etc.) are 'highly automated and intelligent' and 'decentralized and mutually connected'. Smart manufacturing is currently embraced by industry stakeholders to integrate manufacturing assets that support mass-customized production. The efficiency of smart manufacturing has been demonstrated by flexible manufacturing cell systems equipped with computer-integrated intelligent manufacturing.
Objectives & Aims	To give ISE master's students advanced manufacturing engineering knowledge while providing an avenue for students to pursue industry career in the track of smart manufacturing.
Prospective Jobs & Industries	Current manufacturing engineering positions [manufacturing, quality, analytics, artificial intelligence, automotive, energy, supply chain, etc.].
Core Course Requirements (9 credits) *** B grade minimum**	**IE 6210 Applied Engineering Statistics** **IE 6315 Production Systems & Service Systems** **IE 6405 Integrated Product Development** **OR** **IE 6420 CAD/CAM**
Concentration Course Requirements (9 credits)	***REQUIRED:*** **IE 6000 Digital Automation** **IE 6425 Product Lifecycle Management and Sustainable Design** **IE 6430 Computer Simulation Methods** **IE 6435 Fundamentals of Sustainable Manufacturing** **IE 6510 Information Systems for the Manufacturing Enterprise**
Elective Course requirements (12 Credits)	Elective courses are based on student interest/goals and can be discussed with student's program chair.

Manufacturing Engineering (Quality Engineering)

Manufacturing Engineering (Quality Engineering)	**Description** The MS IE Quality Engineering Concentration is designed to equip master's students with a firm foundation on various elements of quality management and engineering. Students are required to take three core courses, three concentration courses, and 12 credits of electives to complete the program.
Objectives & Aims	To provide a focused core on quality engineering that develop abilities for performing a variety of tasks in this concentration that include management of quality standards, coordination of quality assurance activities, control and monitoring for design and production systems, and implementation of six-sigma quality improvement programs.
Prospective Jobs & Industries	All industrial engineering positions [manufacturing, healthcare, analytics, energy, supply chain, etc.] with a particular emphasis on manufacturing. Prospective jobs include Quality Manager, Quality Department Supervisor, QS/ISO Auditor, Six Sigma Consultant, Quality Standards Trainer/Consultant, and Continuous Improvement Coordinator.
Core Course Requirements (9 credits) *** B grade minimum**	**IE 6210 Applied Engineering Statistics** **IE 6315 Production & Service Systems** **IE 6405 Integrated Product Development** **OR** **IE 6420 Computer Aided manufacturing and Lab**
Concentration Course Requirments (9 credits)	**IE 6611 Fundamentals of Six Sigma** **IE 6270 Engineering Experimental Design** **IE 6310 Lean Operations and Manufacturing**
Elective Course requirements (12 credits)	None required, elective courses are based on student interest/goals and can be discussed with student's program chair.

Manufacturing Engineering (Adv. Manufacturing Systems)

Manufacturing Engineering (Advanced Manufacturing Systems)	**Description** The MS Mfg Advanced Manufacturing Concentration provides the MS students with the skills to implement and develop cutting-edge manufacturing techniques for a wide array of industries and applications. Students are required to take three core courses, three concentration courses, and 12 credits of electives to complete the program.
Objectives & Aims	To provide a focused core on advanced manufacturing that develop abilities for performing a variety of tasks in this concentration that include automation engineering, predictive and prescriptive modeling, production and service systems modeling and control, and analysis of complex manufacturing systems.
Prospective Jobs & Industries	All industrial engineering positions [manufacturing, healthcare, analytics, energy, supply chain, etc.] with a particular emphasis on manufacturing. Prospective jobs include Manufacturing Systems Engineer, Plant Manager, Technical Consultant, Automation Engineer.
Core Course Requirements (9 credits) *** B grade minimum**	**IE 6210 Applied Engineering Statistics** **IE 6315 Production & Service Systems** **IE 6405 Integrated Product Development** **OR** **IE 6420 Computer Aided Manufacturing and Lab**
Concentration Course Requirements (9 credits)	***REQUIRED:*** **IE 7445 Manufacturing Analytics** **Choose at least 2 from the following:** **IE 6000 Digital Automation** **IE 6425 Product Lifecycle Management and Sustainable Design** **IE 6442 Facilities Design and Materials Flow** **IE 6422 Flexible Manufacturing & Service Systems** **IE 7435 Modeling Re-Manufacturing Systems** **ME 5995 Additive Manufacturing - Principles and Automation**
Elective Course requirements (12 credits)	None required, elective courses are based on student interest/goals and can be discussed with student's program chair.

ENGINEERING MANAGEMENT

Program description

The M.S. degree program in engineering management is designed to build both technical competence and business acumen. The program builds understanding and skills critical to the support of fast-to-market strategies, which also guarantee product quality and cost minimization. A systematic analytical framework is developed and coupled with tools for managing the engineering and technical functions within manufacturing-based companies.

This cross-disciplinary program draws from the expertise of the College of Engineering and School of Business Administration, and develops the engineering leader who is responsible for designing and implementing strategies to successfully compete in the 21st century.

The degree program is a 36-credit degree program. The program includes 18 credits of engineering courses and 6 credits of business administration course. The final 12 credits can be completed in two different ways: 1) engineering and business electives (12 credits) or 2) Project at a company (6 credits) plus engineering electives (6 credits).

Program objectives

Graduates will be able to:

- Understand and integrate the design, test and build product life cycle
- Model, analyze and control design and production activities
- Understand the impact of quality, cost and timeliness metrics on manufacturing performance
- Demonstrate a basic understanding of manufacturing processes and technologies
- Perform data analysis and optimization for decision making
- Develop business cases for justifying process, organizational and technological projects
- Support for systems engineering and project management
- Communicate effectively (written, verbal and presentation) across all levels in the enterprise
- Develop an ability to grow through life long acquisition of knowledge

Plan of Work

The Plan of Work is intended to assist the student in structuring the course work for the MS degree. Students are urged to discuss their program with the appropriate program coordinator (identified along with the program description). The Plan of Work should be filed in DegreeWorks by all students in the program before completing 12 credits. Students will be notified by the Graduate School regarding the acceptance of the plan. The Plan of Work is a contract that describes all requirements to be met for the degree. The Plan of Work should be treated as a living document. If there are any changes to your program, you must file a revised Plan of Work and receive approval from department graduate program director. Failure to keep your Plan of Work updated can delay graduation.

Engineering Management

Engineering Management (General)

Description

The 36-credit M.S. degree program in engineering management is designed to build both technical competence and business acumen. The program builds understanding and skills critical to the support of fast-to-market strategies, which also guarantee product quality and cost minimization. A systematic analytical framework is developed and coupled with tools for managing the engineering and technical functions within manufacturing-based companies.

Objectives & Aims

To give ISE master's students core industrial engineering knowledge that is broadly applicable to numerous careers while giving the student the control to design a course of study that is of most interest and best suited to their goals.

Prospective Jobs & Industries

All management positions within the Engineering Industry.

Core Course Requirements (18 credits)

*** B grade minimum**

IE 6310 Lean Operations / Manufacturing

IE 6560 Deterministic Optimization

IE 6840 Project Management

IE 6720 Engineering Risk & Decision Analysis

IE 6830 Management of Technology Change

(At least) One course of the following:

IE 6240 Quality Management

IE 6610 Introduction to Six Sigma

Concentration Course requirements (9 credits)

*** B grade minimum**

REQUIRED:

BA 6000 Intro to Accounting and Financial Reporting

BA 6005 Financial Management

BA 6015 Marketing

BA 6020 Contemporary Principles of Management

Elective Course requirements (12 Credits)

Option 1: 9 Credits of IE Elective Course + 3 Credits of IE or Business Elective Courses.

Option 2: Project at Your Company + 3 Credits of IE Elective Courses + 3 Credits of IE or Business Elective Courses

DATA SCIENCE & BUSINESS ANALYTICS

Program description

The Mike Ilitch School of Business and College of Engineering have developed a novel Interdisciplinary Master of Science in Data Science and Business Analytics program, which is designed to help students excel in both industry and academia.

When applying to the program, applicants will have to select which Program and Major Concentration they want to apply for:

Data Science and Business Analytics – Advanced Analytics Concentration -Housed in Industrial Engineering Department

Data Science and Business Analytics - Data-Driven Business Concentration -Housed in the Mike Illitch School of Business

Data Science and Business Analytics – Data Computing Concentration -Housed in Computer Science Department

Data Science and Business Analytics – Statistics Concentration -Housed in Mathematics Department

To learn more about the details of our curriculum or major concentrations, please review the curriculum page.

If you are interested in applying to the Master of Science in Data Science and Business Analytics Program, please first review our Admission Requirements, then click Apply to learn about the application process and to begin your application. It is important to note that the DSBA program in particular has a slightly different set of admission requirements, so please review them carefully.

Program Learning Objectives

- Critical Thinking - Students will be able to produce accurate and timely insights from large quantities of data using data science and analytics techniques.
- Communication - Students will be able to communicate analytics problems, methods, and findings effectively after considering the relevant audience (technical vs. non-technical stakeholders), situation, and purpose of the communication.
- Technical Skills - Students will be able to use technical skills in predictive and prescriptive modeling to support/drive decision-making.
- Data Analysis Life Cycle - Students will be able to employ the data analysis life cycle to find effective solutions to computing challenges in analytical projects.
- Teamwork & Collaboration - Students collaborate productively with others to accomplish established goals.

Data Science and Business Analytics (Advanced Analytics)

Data Science and Business Analytics

Description

This novel Master's program is designed to provide students with a broad range of data science and business analytics knowledge and skills. The Master of Science in Data Science and Business Analytics program requires completion of 30 credit hours: 9 credits in Core Courses, 9 credits in Concentration Courses, 6 credits in Elective Courses, and 6 credits in the Practicum Course. See curriculum page

Objectives & Aims

For three years in a row, data scientist has been named the number one job in the U.S. by Glassdoor. What's more, the U.S. Bureau of Labor Statistics reports that the rise of data science needs will create 11.5 million job openings by 2026. We aim to prepare the best data scientists to fill this gap.

Prospective Jobs & Industries

Business Intelligence Developer, Data Architect, Applications Architect, Infrastructure Architect, Enterprose Architect, Data Scientist, Data Analyst, Data Engineer, Machine Learning Engineer, Statistician

Core Course Requirements (9 credits)

*** B grade minimum**

PRE-REQUISITE **DSE 5070 Intro: Data Computing & Programming**

DSA 6000 Data Science & Analytics *

DSB 6000 Data Science Strategy &Leadership *

DSE 6000 Computing Platforms for Data Science

Concentration Course Requirements (9 credits)

REQUIRED: (choose two)

CSC 5825 Introduction to Machine Learing & Apps
***Students with technical backgrounds consider taking CSC 7825.**

CSC 7810 Data Mining: Algorithms and Applications CSC 7991

Special Topics: Introduction to Deep Learning IE 7860

Intelligent Analytics

REQUIRED: (choose one)

DSA 6100 Statistical Methods for Data Science & Analytics DSA

6200 Operations Research

DSA 6300 Decision Analysis & Simulation

Practicum (6 credits) & Elective Courses (6 Credits)

DSA 7500 Practicum

Students may choose elective courses from the approved elective list or from the concentration courses in another track. Courses outside these options must be approved by the Concentration Director. Departmental approval is required to enroll in the practicum course in the Spring/Summer term.

Artificial Intelligence

Program description

Artificial Intelligence (AI) is an area of study that explores how to endow machines with the ability to learn, make decisions, reason about data, and communicate with humans. In the Wayne State University's Master of Science in Artificial Intelligence (MSAI) program, students learn to apply problem-solving, creative thinking, algorithmic design, and computer programming skills to build modern AI systems.

Students will gain deep technical training and expertise in a selected concentration area, which include AI Hardware and Systems, AI Algorithm and Systems, and Industrial AI. The program prepares students to (1) work as engineers, consults and entrepreneurs in industries where AI can provide a competitive edge, or (2) pursue a Ph.D. degree in computer science, electrical engineering, industrial and systems engineering, or other related fields.

Applicants must meet requirements for admission to the Graduate School. Students must have a bachelor's degree or the equivalent in Engineering from an accredited college or university. Students from all science, technology, engineering, and math (STEM) disciplines will be considered for admission.

Plan of Work

The Plan of Work is intended to assist the student in structuring the course work for the MS degree. Students are urged to discuss their program with the appropriate program coordinator (identified along with the program description). The Plan of Work should be filed in DegreeWorks by all students in the program before completing 12credits. Students will be notified by the Graduate School regarding the acceptance of the plan. The Plan of Work is a contract that describes all requirements to be met for the degree. The Plan of Work should be treated as a living document. If there are any changes to your program, you must file a revised Plan of Work and receive approval from department graduate program director. Failure to keep your Plan of Work updated can delay graduation. Please choose the appropriate Plan of Work from the list below.

AI Hardware and Systems Major (Electrical Engineering)
AI Algorithms and Systems Major (Computer Science)
Industrial AI Major (Industrial & Systems Engineering)

Artificial Intelligence (Industrial AI)

Industrial AI Major

9 credit hours from Industrial AI core
3 credit hours from AI Hardware and Systems core
3 credit hours from AI Algorithms and Systems AI core
Plan A: 9 credit hours from AI Program electives, including at least 6 credit hours from Industrial AI electives, or
Plan C: 15 credit hours from AI Program electives, including at least 12 credit hours from Industrial AI electives
Plan A: 6 credit hours of IE 8999 master's thesis

Objectives & Aims

Prospective Jobs & Industries

Core Course Requirements (9 credits)

*** B grade minimum**

IE 5995 Special Topics in Industrial Engineering

DSA 6100 Statistical Learning for Data Science and Analytics

IE 7860 Intelligent Analytics

Elective Course requirements

IE 5995 Special Topics in Industrial Engineering

IE 6000 Digital Automation

IE 7220 Advanced Statistical Methods

IE 7445 Manufacturing Analytics

IE 7480 Knowledge Based Design

IE 7521 Large Scale Optimization and Integer Programming

IE 7995 Graduate Special Topics

DSA 6000 Data Science and Analytics

DSA 6200 Operations Research

Class, Belt & Methodology
TRACKING MATRIX

Methodologies	Six Sigma		Design for Six Sigma		Lean		Value Methodology	
Academic (A) / Project (P)	A	P	A	P	A	P	A	P
Yellow Belt	IE 6611**	Project	N/A		IE 6310**	Project	N/A	
Green Belt	PRE (IE 4260 or 6210) IE 6310/6611	IE 6611 Group Survey Project	PRE (IE 4260 or 6210) IE6255/6611	IE 6611 Group Survey Project	IE 6611	IE 6611 Group Survey Project	IE 6220	IE 6611 Group Survey Project
Black Belt	IE 6620 (1 of 3 Stat Courses*)	IE 6620 Project	IE 6620 IE 6270	IE 6620 Project	IE 6620 IE 6430	IE 6620 Project	Value Methodolgy Associate (VMA) and Certified Value Specialist (CVS) certificates available through SAVE International. www.value-eng.org	
Master Black Belt	ALL BB	Symposium	ALL BB	Symposium	ALL BB	Symposium		

*** = Non-Parametrics Course (IE 6290)**
****= Open to all Departments and Undergraduates**

FOR BLACK BELTS AND MASTER BLACK BELTS: PASSING OF CERTIFICATION TEST IS NECESSARY!

IE 6220 - Value Engineering
IE 4260 - Principles of Quality Control:
IE 6210 - Applied Engineering Statistics:
IE 6310 - Lean Ops and Manufacturing:
IE 6255 - Quality Engineering:
IE 6611 - Fundamentals of Six Sigma
IE 6270 - Design and Analysis of Engineering Experiments

FREQUENTLY ASKED QUESTIONS

Are scholarships available?

Funding opportunities are published on the Graduate School's website, and new scholarship opportunities are periodically announced via email or the College of Engineering website. Scholarships may be awarded based on an admissions application, contingent on availability of funds. Assistantship opportunities are limited and primarily offered to Ph.D. students.

What is the cost of the program?

Information and resources to calculate tuition and fees are available on the Office of the Registrar's website. Information on billing and payment is available via the Office of the Bursar.

What are the requirements for international students?

Please find detailed information on international student requirements on the Graduate School's website and the Office of International Students and Scholars website.

What if I need to change degrees?

There is a specific graduate degree change form for students who have already been admitted into the graduate school. The form can be found at: *https://wayne.edu/admissions/pdf/changeofstatus.pdf*

What if I have a circumstance that requires an exception?

Any and all exceptions to any policies must be approved by a MS program director. Please read this entire graduate student handbook, as it is your roadmap to success and answers many questions.

What if I have admissions or application concerns?

The Graduate Program Coordinator can assist prospective students in their application process and address incoming students general questions and concerns on WSU procedures and policies. Please email engineeringgradadmissions@eng.wayne.edu for related assistance.

Do I need to schedule a meeting with the graduate program chair?

No, MS program directors do not have a secretary that schedules meetings. Please email the program director directly, as they are the only ones who know their schedule.

GET IN TOUCH WITH US!

industrial & systems engineering

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WAYNE STATE
UNIVERSITY