



***Masters of Science in Engineering***  
*The University of Alabama in Huntsville*  
*Department of Industrial & Systems Engineering*  
*and Engineering Management*  
Technology Hall, Room N138, Huntsville, AL  
35899  
Ph: (256) 824-6976, Fax: (256) 824-6608

**MASTER OF SCIENCE IN ENGINEERING  
INDUSTRIAL ENGINEERING OPTION**

This program is offered for engineers who possess a Bachelor of Science in a traditional engineering field and who have the desire to broaden their engineering problem solving skills. This is accomplished by providing them with a better understanding of traditional and contemporary problem-solving skills in the areas of operations research, quality control, computer integrated manufacturing, and simulation. The program is application oriented and can be tailored to fit the individual needs of the student.

**Major Courses:** ISE 626 Introduction to Operations Research  
ISE 641 Advanced Quality Control  
ISE 647 Advanced Systems Simulation  
ISE 630 Computer Integrated Manufacturing

**1<sup>st</sup> Minor:** Select from Engineering Management or Systems Engineering

**Plan II Option:** Electives (9 hrs) and ISE 697: Approval of Committee  
or  
Electives (12 hrs): Approval of Committee

**Thesis Option:** ISE 699 – 6 to 9 hrs

**2<sup>nd</sup> Minor: Statistics** ISE 526 Design and Analysis of Experiments  
ISE 690 Statistical Methods for Engineers  
These classes fulfill the math/stat 2<sup>nd</sup> minor requirements

**Prerequisites:** ISE 426 Design and Analysis of Experiments (or equivalent)  
ISE 430 Manufacturing Systems and Facilities Design (or equivalent)  
ISE 447 Systems Simulation (or equivalent)  
(the 500 level of the prerequisites may be used as electives)

**Distance Learning:** The Industrial Engineering Option is supported by the Distance Learning Program. For more information, please contact the Distance Learning office at (256)824-6976.

**Program Coordinator:** Dr. Sherri L. Messimer  
(256) 824-6211  
[messimer@ise.uah.edu](mailto:messimer@ise.uah.edu)

## **PROGRAM OF STUDY**

### Plan I-Thesis Option (generally only for ISE MSE majors)

A minimum of 24 semester hours of coursework and a thesis (6 to 9 hours) must be completed.

### Plan II-Non-Thesis (Capstone) Option

A minimum of 33 hours of coursework and a final project paper (3 to 6 hours) must be completed. Exit Exam is over the Capstone paper.

### Plan II-Non-Thesis (Coursework) Option

A minimum of 36 hours of coursework must be completed. Exit Exam is over coursework.

## **DEGREE REQUIREMENTS**

1. Average grade on courses numbered 600 or above cannot be less than “B”.
2. Courses numbered between 500 and 599 may be taken for graduate credit; however, a minimum grade of “B” must be attained in each course. All courses on the Program of Study are selected by the student with the counsel of an advisor and are subject to the usual approvals at the Department, College and Graduate School levels. Additional coursework may be required to correct any deficiencies in undergraduate studies. Refer to the UAH catalog for details.

## **ADMISSION REQUIREMENTS**

### Unconditional Admission

1) ABET-accredited B.S. degree in engineering; 2) GPA of 3.0 or better\*; 3) GRE score of 400 or better on the Verbal, 500 or better on the Quantitative, and a combined score of 1000 or better; 4) GRE Analytical Writing score of 4.0 or better; 5) an undergraduate probability and statistics course or equivalent; and 6) an undergraduate engineering economy course or equivalent.

The GRE can be waived for students who have practiced engineering for five years past the BS degree, whose resume shows significant career progression, and who meet the first two requirements stated above.

Additional requirements for students seeking the Engineering Management or Systems Engineering options include two years of work experience in an engineering position past the BS degree or current full-time employment as an engineer in a U.S.-based organization.

### Conditional Admission

Conditional admission may be granted to students meeting all requirements above except 5) and 6). However, students must successfully complete the undergraduate equivalent of these courses within the first year of admission.

\* MSE-seeking students who do not meet the GPA requirement stated above have an opportunity to begin graduate coursework as a Non-Degreed student in order to establish a record of successful performance in graduate coursework in the first 12 hours. Only 12 hours of coursework taken as a Non-Degreed student can be applied to a degree program. See the Graduate Catalog for more information.