Courses

Intro/Core

(Required first year)

    IE 563. Engineering Management Theory

    IE 565. Systems Engineering & Analysis

Core

(Required)

    IE 564. Decision Analysis in System Design

    IE 570. Systems Engineering & Project Management

    IE 585. Requirements Engineering

Electives*

(Select 5 courses/15 credits)

Manufacturing Courses

    IE 448. Manufacturing Systems Engineering

    IE 541. Inventory Control & Production Planning

    IE 561. Continuous Quality Improvement of Process

    IE 572. Design & Evaluation of Human Computer Interaction

    IE 577. Human Factors

Engineering Courses

    IE 452. Indroduction to Systems Engineering

    IE 503. Introduction to Sustainable Production Systems

    IE 560. Engineering Risk Analysis

    IE 582. Enterprise Modeling and Integration

    ME 525. Optimization Methods for Complex Designs

    Aer E 554. Methauristic Optimization & Modelling for Complex System Design

    Aer E 563. Intro to Multidisciplinary Design Optimization

    Aer E 568. Large-Scale Complex Engineered Systems

Software Courses

    IE 581. e-Commerce Systems Engineering

One Graduate-Level Course of Your Choice

* Elective courses are subject to change by IMSE Department
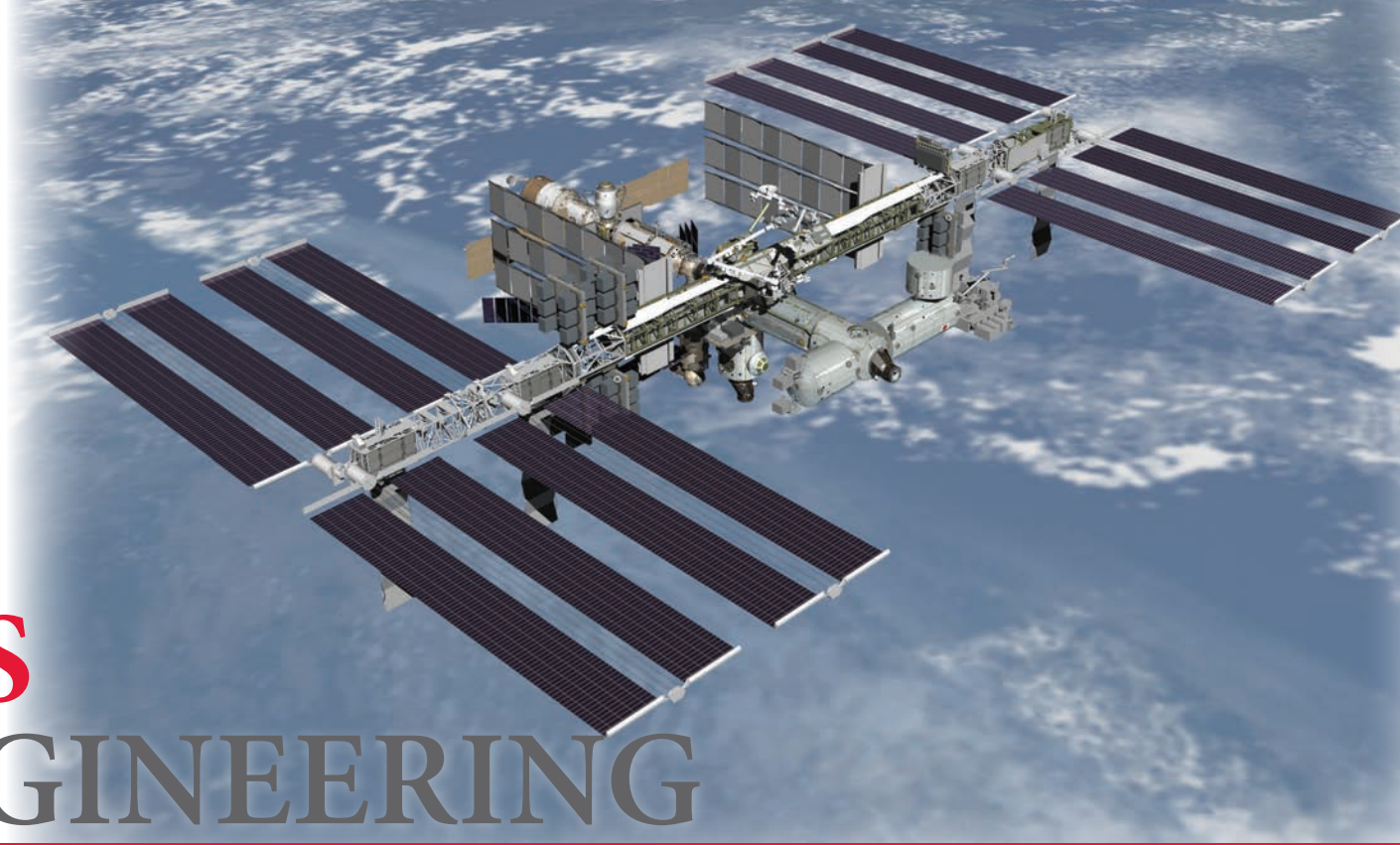
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IOWA STATE UNIVERSITY

Department of Industrial and Manufacturing Systems Engineering

Systems Engineering

www.imse.iastate.edu

- MASTER OF ENGINEERING -

The International Council of Systems Engineering (INCOSE) defines Systems Engineering as follows:

Systems Engineering (SE) is a design and management discipline that is very useful in the designing and building of large or complex systems. It is a discipline that was conceived of and introduced by the U.S. Government and was developed to counteract the difficulties encountered in the engineering of increasingly large, complex, and interdisciplinary technological systems.

SYSTEMS
ENGINEERING

This Master of Engineering in Systems Engineering program is designed to enable engineers to develop the analytical abilities needed to design and manage complex systems. The intent of this program is to extend the ability of engineers to work across disciplinary boundaries and to develop their management and leadership capabilities for today's work environment. Iowa State University offers both online and on-campus courses, so you can fulfill your professional obligations and enhance your educational credentials.

Complete your degree for under $26,000*

*expected total cost of all courses required for the program as of 2018.

"The Systems Engineering program has given me a new perspective of the things that surround me. I have learned to critically analyze problems and have become a better decision maker"

- Silvia Quintero, graduate student in systems engineering

Admission requirements

Unrestricted admission requires (1) a 3.0 grade point average from an ABET accredited undergraduate engineering program, (2) two years of engineering experience or current full-time employment as an engineer, (3) calculus, engineering statistics, and engineering economy. A GRE is not required.

Applicants for admission to the Systems Engineering program apply through the Graduate College at ISU.

Each applicant must submit:
- Application and application fee
- Official academic transcript
- Three letters of recommendation
- Resume

Students enrolling full-time into the program must have two years of work experience as an engineer. Students enrolling part-time into the program must be currently employed as an engineer.

Application should be submitted as early as possible before the beginning of the term for which admission is sought. Applicants may apply for admission to the Systems Engineering program online through the Graduate College website at:
www.admissions.iastate.edu/apply/graduate.php