Integrated Manufacturing Systems Engineering

The Integrated Manufacturing Systems Engineering (IMSE) program was established in 1984. IMSE provides multidisciplinary graduate-level education and practical training opportunities in the theory and practice of integrated manufacturing systems engineering at the master's level. IMSE focuses on providing a manufacturing presence and a program environment in the College of Engineering where faculty, graduate students, and industry can engage cooperatively in multidisciplinary graduate education in areas of common interest related to modern manufacturing systems technology. The objective of the IMSE program is to offer students with traditional discipline backgrounds in engineering and the physical sciences an opportunity to broaden their understanding of the multidisciplinary area of manufacturing systems. As part of their degree, students are required to complete an industry internship and present a project report on this experience. Core areas of concentration are offered in manufacturing systems, logistics, mechatronics, and advanced manufacturing.

Master's Degree Requirements

The IMSE program requires a minimum of 27 hours of graduate coursework and a six-hour project. The graduate coursework can include courses that provide a multidisciplinary overview of subject materials basic to manufacturing systems, logistics, mechatronics, and advanced manufacturing and coursework that allows a student to specialize. The six-hour project is focused on creating a report of a student's internship experience and culminates in a presentation to their graduate committee.

The IMSE degree is now available through Engineering Online as a distance program. Application to the IMSE Distance Education program is the same as the on-campus program.

Student Financial Support

Assistantships and internships are available to qualified students. The full financial support package covers tuition and health insurance. Internships are also undertaken directly with host companies.

Internship

The IMSE internship program was established to provide a cooperative industrial and academic experience for IMSE students. Several Internship awards are made available every year for special training in IMSE host companies. Typically, the student attends classes for two semesters (fall and spring), works at the sponsor company for the following summer and fall semesters, and completes their IMSE course requirements the following spring semester. The student uses the experience at the sponsor company as the basis for their IMSE project report.

Other Relevant Information

IMSE students are supported by companies across the country during their internships. Both full-time and part-time internship support is provided depending on availability. These companies have included: ABB, ABCO Automation, Applied Materials, AT&T, Bayer, BSH, Bosch, Biogen, Castle Hill Technologies, Caterpillar, Closure Medical, Corning Cable Systems, CSX, Cummins, Disney, Dupont, Daimler Trucks, Elkay, Ford, GE, GKN, GSK, IBM, Ingersoll Rand, Intel, John Deere, Mack Trucks, Mayne Pharma, Michelin, Morganite, MTS Systems, Nekton Technologies, Rubbermaid, RxMedic, Samsung Semiconductor, Schwanns, Snap-On, Tesla, UPS, Volvo Trucks, and ZF Corporation and many others.

Integrated Manufacturing Systems Engineering Program Website (http://www.imsei.ncsu.edu/)

Distance Website (https://engineeringonline.ncsu.edu/graduate/master-of-integrated-manufacturing-systems-engineering/)

Admission Requirements

Admission to the IMSE master's program requires a B.S. degree from an accredited institution in engineering, physics, mathematics, or computer science. Check with IMSE if your degree is in a field other than these listed.

Applicant Information

- **Delivery Method:** On-Campus, Online, Hybrid
- **Entrance Exam:** GRE
- **Interview Required:** None

Application Deadlines

- **Fall:** June 25(US)j; March 1 (Intl)
- **Spring:** November 25 (US); July 15 (Intl)
- **Summer 1:** March 25 (US); December 15 (Intl)
- **Summer 2:** May 10 (US); December 15 (Intl)

Degrees

- Integrated Manufacturing Systems Engineering (MR) (http://catalog.ncsu.edu/graduate/engineering/integrated-manufacturing-systems-engineering/integrated-manufacturing-systems-engineering-mr/)

Full Professors

Roger L. Barker

Michael D. Boyette

Marianne Bradford

Gregory D. Buckner

Yuang Sung Al Chen

Mo-Yuen Chow

Timothy Gladstone Clapp

Elizabeth Carol Dickey

Yahya Fathi

Tushar K. Ghosh

Robert B. Handfield

Ola Lars Anders Harrysson

Thom Joel Hodgson

Julie Simmons Ivy

Warren J. Jasper

Jeffrey Allen Joines

Russell E. King

James Woodrow Leach

Yuan-Shin Lee

Trevor J. Little

Ning Lu

Louis A. Martin

Michael A. Rappa

William John Rasdorf

Jon Paul Rust

Abdel-fattah Mohamed Seyam

Associate Professors

Jacob James Adams

Dennis R. Bahler

Pamela Banks-Lee

Kristin Anne Barletta

Ramon R. Collazo

Jingyan Dong

George Lawrence Hodge

Hsiao-Ying Shadow Huang

Michael G. Kay

Karlyn Mitchell

Daniel Erique Saloni

Donald P. Warsing

Assistant Professor

Timothy Joseph Horn

Practice/Research/Teaching Professors

Marianne Bradford

Semra Sebnem Ahiska King

Billy L. Edge

Steven D. Jackson

David Lee Lubkeman

Brandon Mark McConnell

Henry Lee Nuttle

Tania Milkova Paskova

Claude Lewis Reynolds Jr.

Javad Taheri

Lecturers

Subramanian Pazhani

Emeritus Faculty

Roy E. Carawan

Stephen N. Chapman

Charles Thomas Culbreth Jr.

Perry L. Grady

Thom Joel Hodgson

Thomas Johnson

Stephen Dean Roberts

Ezat Sanii

William A. Smith Jr.

James Reed Wilson

Richard Allen Wysk

Robert E. Young

Carl Frank Zorowski

Adjunct Faculty

Brian Denton

Mihail Devetsikiotis

Tania Milkova Paskova

Amy Diane Wilson