Industrial Engineering

The graduate faculty of the Edward P. Fitts Department of Industrial and Systems Engineering supports academic and research interests in four areas:

1. manufacturing systems (manufacturing processes, medical device manufacturing systems, CAM, CIM, robotics, automation, rapid prototyping and concurrent engineering);
2. production systems (logistics systems, supply chain management, scheduling, inventory control, materials handling, facility design, furniture manufacturing and management, quality control, and engineering economics);
3. systems analysis and optimization (health systems, stochastic processes, simulation, mathematical programming, and soft computing); and
4. ergonomics (human performance, occupational safety, and biomechanics). The department faculty actively supports independent graduate degree programs in operations research, integrated manufacturing systems engineering, textile technology and management, and financial mathematics.

Admission Requirements
Applications are accepted from undergraduate majors in engineering and in the behavioral, physical and mathematical sciences who meet prerequisites in calculus and linear algebra, computer science, and statistics.

Master's Degree Requirements
The M.S. degree requires 30 credit hours and involves depth of study in a specified area of concentration, nine hours in a minor, and six hours of research credit. The Master of Industrial Engineering (M.I.E.) degree may be obtained by course work only; project work is optional. A minimum of 33 credit hours is required for the M.I.E.

Doctoral Degree Requirements
This degree requires 72 credit hours of course and research work beyond the Bachelor's degree. Undergraduate students with superior credentials may apply directly to the doctoral program and bypass the master's degree. For students who have completed the Master's degree, typically 30 to 36 hours of additional course work are required. A departmental written qualifying examination is required.

Student Financial Support
Research and teaching assistantships are available on a competitive basis to early applicants. Fellowships that supplement assistantship stipends are available to U.S. applicants with superior credentials. Award priority is given to Ph.D. and then to M.S. applicants.

Degrees
- Industrial Engineering (MR) (http://catalog.ncsu.edu/graduate/engineering/industrial-engineering/industrial-engineering-mr/)
- Industrial Engineering (MS) (http://catalog.ncsu.edu/graduate/engineering/industrial-engineering/industrial-engineering-ms/)
- Industrial Engineering (PhD) (http://catalog.ncsu.edu/graduate/engineering/industrial-engineering/industrial-engineering-phd/)

Faculty

Full Professors
- Jingyan Dong
- Shu-Cherng Fang
- Yahya Fathi
- Ola Lars Anders Harrysson
- Julie Simmons Ivy
- Russell E. King
- Yuan-Shin Lee
- Maria Esther Mayorga
- Chan S. Nam
- Rohan Ajit Shirwaiker
- Julie Swann
- Reha Uzsoy

Associate professors
- Adolfo Escobedo
- Michael G. Kay
- Yunan Liu
- Osman Yalin Ozaltin
- Hong Wan
- Xu Xu

Assistant Professors
- Karen Boru Chen
- Xiaolei Fang
- Leila Hajibabai Dizaji
- Jordan Kern
- Benjamin A. Rachunok
- Sara Shashaani
- Zhuoting Yu
Practice/Research/Teaching Professors
Semra Sebnem Ahiska King
Fred Livingston
Brandon Mark McConnell
Nur Ozaltin
Kanton Tyrone Reynolds
Christopher Rock
Michael Spano
Harvey A. West II

Adjunct Professor
Amy Diane Wilson

Emeritus Faculty
Mahmoud A. Ayoub
Richard Harold Bernhard
Paul Cohen
Charles Thomas Culbreth Jr.
Thom Joel Hodgson
Henry Nuttle
Richard G. Pearson
Stephen Dean Roberts
Ezat Sanli
Clarence Smith Jr.
James Reed Wilson
Richard Wysk
Robert E. Young