

# WM MICHAEL BARNES '64 DEPARTMENT OF INDUSTRIAL AND SYSTEMS ENGINEERING

Industrial and systems engineering is an engineering discipline devoted to the design, installation, improvement and control of integrated systems of people, materials, and facilities in a wide range of organizations that produce goods or render services. Like other engineering fields, industrial engineering is concerned with solving problems through the application of specialized knowledge in mathematics and science, as well as the principles of engineering. Two major distinctions of our discipline, among the engineering disciplines, is the unique focus of industrial and systems engineering on human factors and the quantification and systematic removal of uncertainty from production systems. Industrial and systems engineering has five major focus areas: advanced manufacturing, operations research, data sciences and machine learning, health and human systems, and systems engineering.

An important characteristic of industrial and systems engineering is its systems approach to integrate the basic resources of production and service systems and other relevant resources, such as information and energy, in such a way as to create a smooth, efficient and competitive operation within an enterprise. Industrial and systems engineers are needed in virtually all types of enterprises, ranging from industries such as manufacturing, distribution, logistics, transportation, and construction; service sectors such as health care, telecommunications, retail, banking, and engineering consulting to government agencies, military, and non-profit organizations.

The mission of the Wm Michael Barnes '64 Department of Industrial and Systems Engineering is to serve the state, nation, and global community by educating industrial engineering students to be well founded in engineering fundamentals and to have the knowledge and skills required to design, develop, improve, implement and control sophisticated production and service systems in an environment characterized by complex technical and social challenges. Throughout this educational process, students will be instilled with the highest standards of professional and ethical behavior. It is the intent of the undergraduate industrial engineering program to equip its graduates to achieve the following accomplishments a few years after graduation:

1. Graduates are successful in advancing the practice of industrial engineering.
2. Graduates are providing leadership in their respective organizations exemplifying ethical standards and practices.
3. Graduates are actively engaged in lifelong learning through professional development.

The undergraduate program in Industrial Engineering at Texas A&M University is accredited by the Engineering Accreditation Commission of ABET, [www.abet.org](http://www.abet.org).

Industrial and systems engineering students may participate in one of two accelerated programs: the Accelerated Bachelor of Science and Master of Public Health or the Accelerated Bachelor of Science and Master of Science in Finance. Students who successfully complete either of these programs graduate with both degrees in just five years. The department also has a combination program for academically qualified students who want to take selected graduate courses in industrial and

systems engineering and receive both graduate and undergraduate credit by meeting specific requirements.

Students may also participate in the Undergraduate Minor Program offered by Texas A&M University. This program is usually comprised of 15 to 18 hours, some of which may be substituted as technical electives. The most common minors are math, business and engineering project management. The department encourages students to participate in industrial internships or the Cooperative Education Program to acquire practical experience to complement their industrial engineering education. Internships are generally encouraged during the summer months only. Students who participate in the Co-op program during three academic semesters may count the three credit hours as a technical elective in their curriculum.

Graduate degrees including the Master of Science (MS), Master of Engineering (MEng), and Doctor of Philosophy (PhD) are also offered by the department in addition to the Bachelor of Science in Industrial Engineering and the two accelerated programs. For graduate degree information, please see the Texas A&M University Graduate Catalog.

Before commencing course work in the major, students must be admitted to the major or have the approval of the department.

## Faculty

Aprahamian, Hrayr, Assistant Professor  
Industrial & Systems Engineering  
PHD, Virginia Tech, 2018

Banerjee, Amarnath P, Professor  
Industrial & Systems Engineering  
PHD, University of Illinois at Chicago, 1999

Bennett Jr, George K, Senior Professor  
Industrial & Systems Engineering  
PHD, Texas Tech University, 1970

Bukkapatnam, Satish T, Professor  
Industrial & Systems Engineering  
PHD, Pennsylvania State University, 1997

Butenko, Sergiy I, Professor  
Industrial & Systems Engineering  
PHD, University of Florida, 2003

Currie-Gregg, Nancy J, Professor of the Practice  
Industrial & Systems Engineering  
PHD, University of Houston, 1997

Curry, Guy L, Senior Professor  
Industrial & Systems Engineering  
PHD, University of Arkansas, 1971

Ding, Lijun, Assistant Professor  
Industrial & Systems Engineering  
PHD, Cornell University, 2021

Do, Michael, Professor of the Practice  
Industrial & Systems Engineering  
PHD, University of Arizona, 2012

Eckman, David, Assistant Professor  
Industrial & Systems Engineering  
PHD, Cornell University, 2019

Eksin, Ceyhun, Assistant Professor  
Industrial & Systems Engineering  
PHD, University of Pennsylvania, 2015

El Mansori, Mohamed, Research Professor  
Industrial & Systems Engineering  
PHD, Institut National Polytechnique de Lorraine, 1997

Elizondo, Jon, Lecturer  
Industrial & Systems Engineering  
PHD, Texas A&M University, 2021

Elwany, Alaa Mohamed H, Assistant Professor  
Industrial & Systems Engineering  
PHD, Georgia Institute of Technology, 2009

Erraguntla, Madhav, Professor of the Practice  
Industrial & Systems Engineering  
PHD, Texas A&M University, 1996

Feldman, Richard M, Senior Professor  
Industrial & Systems Engineering  
PHD, Northwestern University, 1975

Ferris, Thomas K, Associate Professor  
Industrial & Systems Engineering  
PHD, University of Michigan at Ann Arbor, 2010

Garcia, Alfredo A, Professor  
Industrial & Systems Engineering  
PHD, University of Michigan, 1997

Geunes, Joseph P, Professor  
Industrial & Systems Engineering  
PHD, Pennsylvania State University, 1999

Gutman, David, Assistant Professor  
Industrial & Systems Engineering  
PHD, Carnegie Mellon University, 2019

Jeong, Jihoon, Assistant Professor  
Industrial & Systems Engineering  
PHD, University of Texas at Austin, 2020

Koppa, Rodger J, Senior Associate Professor  
Industrial & Systems Engineering  
PHD, Texas A&M University, 1979

Lawley, Mark A, Professor  
Industrial & Systems Engineering  
PHD, University of Illinois at Urbana-Champaign, 1995

Lee, Jaesung, Assistant Professor  
Industrial & Systems Engineering  
PHD, University of Wisconsin - Madison, 2022

Malave, Ceasar, Professor  
Industrial & Systems Engineering  
PHD, University of South Florida, 1987

Mayer, Richard John, Adjunct Professor  
Industrial & Systems Engineering  
PHD, Texas A&M University, 1998

Miller, Scott, Lecturer  
Industrial & Systems Engineering  
MBA, University of Houston, 1996

Momcilovic, Petar, Associate Professor  
Industrial & Systems Engineering  
PHD, Columbia University, 2003

Moon, Juk Rin, Visiting Lecturer  
Industrial & Systems Engineering  
PHD, Texas A&M University, 2021

Moreno Centeno, Erick, Associate Professor  
Industrial & Systems Engineering  
PHD, University of California at Berkeley, 2010

Ntaimo, Lewis, Professor  
Industrial & Systems Engineering  
PHD, University of Arizona, 2004

Parsaei, Hamid, Professor  
Industrial & Systems Engineering  
PHD, University of Texas Arlington, 1984

Pei, Zhijian, Professor  
Industrial & Systems Engineering  
PHD, University of Illinois, 1995

Rodgers, Annette, Associate Professor of the Practice  
Industrial & Systems Engineering  
BS, Texas A&M University, 1982

Sagapuram, Dinakar, Associate Professor  
Industrial & Systems Engineering  
PHD, Purdue University, 2013

Sasangohar, Farzan, Assistant Professor  
Industrial & Systems Engineering  
PHD, University of Toronto, 2015

Smith, Donald R, Senior Associate Professor  
Industrial & Systems Engineering  
PHD, University of Arkansas, 1973

Tuo, Rui, Assistant Professor  
Industrial & Systems Engineering  
PHD, Chinese Academy of Sciences, 2013

Valdez Flores, Ciriaco, Professor of the Practice  
Industrial & Systems Engineering  
PHD, Texas A&M University, 1987

Vazquez, Jose A, Senior Lecturer  
Industrial & Systems Engineering  
MA, University of Iowa, 1986

Wang, Shiren, Professor  
Industrial & Systems Engineering  
PHD, Florida State University, 2006

Wang, Yen J, Lecturer  
Industrial & Systems Engineering  
DEN, Northwestern University, 1991

Zahabi, Maryam, Assistant Professor  
Industrial & Systems Engineering  
PHD, North Carolina State University, 2017

Zhang, Shixuan, Assistant Professor  
Industrial & Systems Engineering  
PHD, Georgia Tech, 2022

Zhang, Xudong, Professor  
Industrial & Systems Engineering  
PHD, University of Michigan Ann Arbor, 1997

## Majors

- Bachelor of Science in Data Engineering (<http://catalog.tamu.edu/undergraduate/engineering/industrial-systems/data-engineering-bs/>)
- Bachelor of Science in Industrial Engineering (<http://catalog.tamu.edu/undergraduate/engineering/industrial-systems/industrial-bs/>)
- Bachelor of Science in Industrial Engineering and Master of Public Health in Occupational Safety and Health, 5-Year Degree Program (<http://catalog.tamu.edu/undergraduate/engineering/industrial-systems/industrial-bs-occupational-safety-and-health-mph/>)
- Bachelor of Science in Industrial Engineering and Master of Science in Finance, 5-Year Degree Program (<http://catalog.tamu.edu/undergraduate/engineering/industrial-systems/industrial-bs-finance-ms/>)

## Minors

- Industrial Engineering Minor (<http://catalog.tamu.edu/undergraduate/engineering/industrial-systems/industrial-minor/>)

## Certificates

- Data Center Operations Engineering Certificate (<http://catalog.tamu.edu/undergraduate/engineering/industrial-systems/data-center-operations-certificate/>)
- Data Engineering Certificate (<http://catalog.tamu.edu/undergraduate/engineering/industrial-systems/data-engineering-certificate/>)
- Engineering Systems Management Certificate (<http://catalog.tamu.edu/undergraduate/engineering/industrial-systems/engineering-systems-management-certificate/>)