The School of Industrial Engineering and Management (IEM) provides opportunities for individuals from diverse backgrounds with a keen interest in science, engineering and management to become successful leaders, entrepreneurs and professionals of tomorrow’s organizations. IEM provides each graduate with the exciting and endless opportunities the industrial engineering discipline has to offer.

IEM’s vision is to place industrial engineers in a wide variety of industries including manufacturing, service, energy, healthcare, humanitarian and others, so that our society at large can benefit from systems that effectively use an optimal set of resources and efficiently produce goods or provide services to enrich the quality of life for all.

IEM’s mission is to develop a diverse group of professionals and leaders in industrial engineering and management by being a leader in education, research and outreach.

IEM’s educational goals are to educate and produce a new generation of diverse students proficient in theoretical, applied and technologically relevant concepts and practices that will have a global reach and global impact. IEM will continue to improve, monitor and enhance the student learning, recruiting, retention, advising, mentoring, internship and placement processes.

IEM has a rich history and legacy. The first IEM degree was granted in 1926, the first MS degree in 1948 and the first Ph.D in 1960. IEM has been represented and led by giants in Industrial Engineering, including winners of the Institute of Industrial and Systems Engineers (IIE) highest award – Frank and Lillian Gilbreth award; Members of the National Academy of Engineering; IIE presidents; American Society for Quality (ASQ) and Association of Energy Engineers (AEE) presidents; senior member and judge of the Malcolm Baldrige National Quality award; as well as IIE, AEE, American Production and Inventory Control Society (APICS) and AEE Fellows. One of the first School Heads, H.G. Thuesen, co-invented the parking meter, the first of which was installed in Oklahoma City in 1935.

90 Years of Excellence

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TOP-NOTCH STUDENTS

• A team of four IEM students won first place in a worldwide student simulation contest hosted by Simio. They took home top honors by beating 425 participants on 130 teams from 13 countries and 27 universities.
• IEM Students have placed first, second or third in the South Central Regional Student Paper Competition in six of the past eight years.
• Three Seniors of Significance out of a total of 40 were from IEM in 2016
• Phoenix Award – Highest OSU award to graduate students

IEM alumni, faculty and students at the 2015 annual IIESE conference in Nashville, TN

“Studying IEM was one of my best lifetime decisions. For the past 50 years, IEM at OSU has provided thousands of graduates a strong engineering background, with systems thinking, leadership skills and the ability to make a positive difference in tomorrow’s world.”

- Kenneth Case, Regents Professor Emeritus

“Not only did the OSU School of Industrial Engineering and Management equip me with the necessary knowledge and experience to succeed in my professional career, but it also provided lasting relations with classmates and faculty that will always be cherished.”

- Lacy Greening, Class of 2016

INDUSTRIAL ENGINEERING AND MANAGEMENT

Vision

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RESEARCH HIGHLIGHTS

Application areas:

Energy: Modeling and analysis of: power systems and markets; power system operations; power grid security; renewable energy management.

Logistics and Transportation: Models and complex algorithms for: freight generation and transportation modeling; crude transportation optimization; rail and truck logistic; hazardous material movement modeling; inter-modal transportation to minimize carbon emissions.

Healthcare: Real-time decision models for: pandemic influenza response and planning; optimization models for strategic national stockpile staging and distribution; stochastic optimization models for vaccine distribution; simulation of drive-through, mass vaccination clinics; real-time dispatch of EMS vehicles; stochastic models for predicting sleep apnea episodes.

Warehouse Design and Operations: Prescriptive models for warehouse design; descriptive, stochastic models for analysis of automated warehousing systems.

Methodological Areas:

Data Mining & Analytics: Techniques for: prediction of spatial and temporal processes in energy and environmental systems; graph-based data mining of complex social and biological networks.

Stochastic Modeling and Optimization: Theory and algorithms for: stochastic optimization; robust optimization; data-driven optimization; stochastic integer programming; stochastic approximation algorithms; simulation optimization; optimization of conditional-value-at-risk; semi-open queuing network models for performance evaluation of discrete systems.

Discrete & Continuous Optimization: Theory and algorithms for: convex optimization; variational inequalities; polyhedral combinatorics; integer programming.

RESEARCH

IEM research goals are to engage in cutting edge research of global importance and to produce innovators and next generation engineering, education and societal leaders.

AGENCIES FUNDING PROJECTS IN 2015 & 2016

• Air Force Office of Scientific Research
• Defense Logistos Agency
• Federal Highway Administration
• National Science Foundation
• Oklahoma Department of Transportation
• Oklahoma Emergency Management Agency
• U.S. Department of Energy
• U.S. Department of Homeland Security

VALUE OF ACTIVE GRANTS

$5,216,826

ANNUAL ACTIVE GRANTS

11

IM Faculty

Heng, Sunil
Associate Professor

Balazs, Jared
Assistant Professor

Buchanan, Austin
Associate Professor

Colburn, Terry
Associate Professor

DeYang, Camille
Associate Professor

Glenn, Jennifer
Associate Professor

Hardin, Tim
Assistant Professor

Kamath, Manjunath
Associate Professor

Kolarik, William J.
Professor and William Bentley Chair

Liu, Tieming
Associate Professor

Nagaraj, Kalyani
Assistant Professor

Pourhabib, Arash
Associate Professor

Nazemetz, John W.
Assistant Professor

Pratt, David B.
Assistant Professor

Pratt, Darrell
Assistant Professor

Zhao, Chaoyue (Charlene)
Jim and Lynne William Assistant Professor

IEM STAFF

Brown, Laura
Sr. Administrative Support Specialist

Hughes, Megan
Administrative Support Assistant I

Lewin, Sarah
Administrative Support Assistant II

Value of Active Grants

$5,216,826

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