

# INDUSTRIAL ENGINEERING AND ENGINEERING MANAGEMENT

— ABET ACCREDITATION CRITERIA APPLY —

The Department of Industrial Engineering and Engineering Management is concerned with how best to organize resources -- people, money, and materials -- to produce and distribute successful products and services. Degree programs in IEEM are designed to equip students with strong theoretical backgrounds, but are oriented toward applied problem solving.

Areas of teaching and research specialty in the department include:

**Production and Operations Management** -- The design, scheduling and control of production and operating systems using mathematical, computational, and other analytical techniques.

**Financial Decision Making** -- Use of financial models and analytical procedures for evaluating investment and financing decisions by firms.

**Engineering Risk Analysis** -- Engineering design decisions under uncertainty, systems reliability, and economics of safety and risk management.

**Organizational Design, Control, and Management** -- Behavior of the individual, the work group, and the organization as they relate to issues of design, motivation, attitudes, productivity, performance evaluation and control.

**Engineering Management** -- Management of technology and other issues peculiar to technology-based firms.

The Bachelor of Science in Industrial Engineering is planned to serve those students whose long-run objective is the planning, design, and implementation of complex economic and technological management systems where a scientific or engineering background is necessary or desirable. Engineering fundamentals are stressed. There is also a heavy emphasis on the use of mathematical and statistical modeling.

Sophomore year courses include: probability, engineering-economy, accounting, and computer science (two quarters). Junior year courses include: statistical inference, introduction to optimization and stochastic processes and models (two quarters), quality control and assurance, manufacturing systems design, and organizational theory and management. Senior year courses include: introduction to financial decisions, analysis of production and operating systems, introduction to information systems and electives. In addition, an IEEM senior takes a one-quarter group project course which gives the student the opportunity to formulate and solve problems and implement solutions for organizations in the surrounding community.

In addition to the B.S.I.E. degree, the IEEM Department offers a Master of Science degree in Industrial Engineering and Engineering Management, a Master of Science in Manufacturing Systems Engineering (jointly with the Mechanical Engineering Department), a joint Master of Science in IEEM and Electrical Engineering, and a Doctor of Philosophy in Industrial Engineering.

If you would like more information about our undergraduate, coterminal, master's, or doctoral programs, please contact Lori Cottle in our main department office, Terman Room 351.