Master of Science in Energy Management

36 semester credit hours minimum

Faculty


Professor Emeritus: Dale Osborne

Clinical Professors: John Barden, David Cordell, Randall S. Guttery, Peter Lewin, Jeffrey Manzi, Divakar Rajamani, Kannan Ramanathan

Associate Professors: Nina Baranchuk, Zhonglan Dai, Rebecca Files, Dorothée Honhon, Kyle Hyndman, Surya N. Janakiraman, Robert L. Kieschnick Jr., Ningzhong Li, Alp Muharremoglu, Ramachandran (Ram) Natarajan, Valery Polkovnichenko, Gil Sadka, David J. Springate, Kelsey D. Wei, Han (Victor) Xia, Yexiao Xu, Alejandro Zentner, Jieying Zhang, Yuan Zhang, Feng Zhao, Yibin Zhou

Clinical Associate Professors: Sonia Leach, Carolyn Reichert, Avanti P. Sethi

Assistant Professors: Bernhard Ganglmair, Bin Li, Jun Li, Meng Li, Naim Bugra Ozel, Arzu Ozoguz, Anyan Qi, Alejandro Rivera Mesias, Alessio Saretto, Serdar Simsek, Christian Von-Drathen, Malcolm Wardlaw, Steven Xiao, Shengqi Ye, Nir Yehuda, Xiaofei Zhao

Clinical Assistant Professors: Shawn Alborz, Athena Alimirzaei, Moran Blueshtein, John Gamino, Ayfer Gurun, Revansiddha Khanapure, Liping Ma, Drew Peabody, Anastasia V. Shcherbakova

Visiting Assistant Professor: Lale Guler

Senior Lecturers: Arthur M. Agulnek, Frank Anderson, Anindita Bardhan, Tiffany A. Bortz, Richard Bowen, Monica E. Brussolo, George DeCourcy, Eugene (Gene) Deluke, Amal El-Ashmawi, Carol Flannery, Mary Beth Goodrich, Jennifer G. Johnson, Chris Linsteadt, Joseph Mauriello, Matt Polze, James Richards, Debra Richardson, Steven Solcher, Amy L. Troutman, Kathy Zolton

Degree Requirements

The Master of Science in Energy Management (MS EM) is a 36 semester credit hours STEM (Science, Technology, Engineering and Mathematics) degree program that prepares students for careers in energy companies including oil, gas, renewable energy and electricity, banks and financial institutions that trade energy commodities, energy-focused consulting firms, and major energy consuming corporations. The curriculum provides a practical learning component through projects.
developed by industry members that teach students how to value energy companies and projects, develop operating strategies, negotiate contracts and manage energy-specific risks. The development of the program was motivated by a high concentration of energy companies in the Dallas/Fort Worth area and the UT Dallas aim to address skill shortages in industries critical to the Texas economy.

To apply for this degree program, an undergraduate degree is required (all majors are considered). Students must maintain a 3.0 grade-point average (GPA) in both core courses and in aggregate courses to qualify for the MS degree.

**Prerequisites**

Students pursuing the Master of Science in Energy Management (MS EM) degree program are required to complete one semester credit hour of ENGY 6102 Professional Development or its equivalent. In addition, knowledge of calculus and statistics are required. Applicants who have not satisfied these requirements may be admitted but will need to satisfy the prerequisites within the first 12 semester credit hours of graduate study, by taking OPRE 6303 Quantitative Foundations of Business and OPRE 6301 Statistics and Data Analysis with grades of "B" or better, as a degree-seeking student. Degree credit is not earned for program prerequisites, however, the grade achieved in prerequisites will count toward the student's grade-point average (GPA).

**Course Requirements**

**Core Courses: 24 semester credit hours**

- ACCT 6305 Accounting for Managers
- FIN 6301 Financial Management
- MECO 6303 Business Economics
- OPRE 6302 Operations Management

And

Choose four courses from the following courses:

- ENGY 6330 Energy Law and Contracts
- FIN 6335 Energy Finance
- FIN 6336 Energy Accounting and Taxation
- MECO 6318 Energy Economics
- OPRE 6389 Managing Energy: Risk, Investment, Technology (MERIT)

**Elective Courses: 12 semester credit hours**

Students may select 12 semester credit hours from the list of elective courses below or from one of specialized tracks as outlined below if they wish to focus and gain an in-depth knowledge in a specific area of the industry. Students may also seek to substitute only one three semester credit
hour graduate-level course within JSOM as a free elective in the degree plan with the approval of program director and the area coordinator.

- **ENGY 6331** Capstone Project in Energy
- **FIN 6341** Energy Risk Management
- **FIN 6360** Options and Futures Markets
- **IMS 6343** Sustainability in a Global Business Environment
- **IMS 6360** International Strategic Management
- **IMS 6365** Cross-Culture Communication and Management
- **MECO 6312** Applied Econometrics and Time Series Analysis
- **MECO 6352** Financial Negotiation and Dispute Resolution
- **OB 6332** Negotiation and Dispute Resolution
- **OPRE 6332** Spreadsheet Modeling and Analytics
- **OPRE 6335** Risk and Decision Analysis
- **OPRE 6362** Project Management in Engineering and Operations
- **OPRE 6366** Global Supply Chain Management
  - or **OPRE 6378** Supply Chain Strategy
- **OPRE 6370** Global Logistics and Transportation
- **OPRE 6371** Purchasing, Sourcing and Contract Management
- **GISC 6381** Geographic Information Systems Fundamentals

**MS in Energy Management Tracks**

**Energy Risk Management Track**

- **FIN 6306** Quantitative Methods in Finance
  - and **FIN 6360** Options and Futures Markets

Or

- **OPRE 7310** Probability and Stochastic Processes
  - and **FIN 6381** Introductory Mathematical Finance
- **FIN 6341** Energy Risk Management
- **MECO 6352** Financial Negotiation and Dispute Resolution
- **OPRE 6335** Risk and Decision Analysis

**Energy Analytics Track**
MECO 6312  Applied Econometrics and Time Series Analysis
MKT 6337  Predictive Analytics Using SAS
OPRE 6332  Spreadsheet Modeling and Analytics
OPRE 6398  Prescriptive Analytics

International Energy Management Track
IMS 6343  Sustainability in a Global Business Environment
IMS 6360  International Strategic Management
IMS 6365  Cross-Culture Communication and Management
OB 6331  Power and Politics in Organization
OB 6332  Negotiation and Dispute Resolution
OPRE 6362  Project Management in Engineering and Operations

Energy Operations Track
OPRE 6366  Global Supply Chain Management
OPRE 6370  Global Logistics and Transportation
OPRE 6371  Purchasing, Sourcing and Contract Management
OPRE 6378  Supply Chain Strategy

1. Students may substitute both ACCT 6301 AND ACCT 6202 in lieu of ACCT 6305.