Master of Science in Energy Management

36 semester credit hours minimum

Faculty

Professor Emeritus: Dale Osborne
Clinical Professors: John Barden, David Cordell, John Gamino, Randall S. Guttery, Peter Lewin, Jeffrey Manzi
Associate Professors: Nina Baranchuk, Zhonglan Dai, Rebecca Files, Kyle Hyndman, Surya N. Janakiraman, Robert L. Kieschnick Jr., Jun Li, Ningzhong Li, Ramachandran (Ram) Natarajan, Naim Bugra Ozel, 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: Lale Guler, Carolyn Reichert
Assistant Professors: Bernhard Ganglmair, Meng Li, Jean-Marie Meier, Alejandro Rivera Mesias, Alessio Saretto, Simon Siegenthaler, Christian Von-Drathen, Malcolm Wardlaw, Steven Xiao, Nir Yehuda
Clinical Assistant Professors: Moran Blueshtein, Ayfer Gurun, Revansiddha Khanapure, Liping Ma, Drew Peabody
Senior Lecturers: Frank Anderson, Tiffany A. Bortz, Richard Bowen, George DeCourcy, Amal El-Ashmawi, Mary Beth Goodrich, Jennifer G. Johnson, Chris Linsteadt, Joseph Mauriello, Robert (Stephen) Molina, Matt Polze, James Richards, Debra Richardson, Anindita Roy Bardhan, 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, coal, 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 Texas and the UT Dallas aim to address skill shortages in industries critical to the Texas economy and international needs.

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 MAS 6102 Professional
Development. In addition, knowledge of calculus and statistics are required and students who have not completed an undergraduate calculus and statistic courses may satisfy the prerequisites by completing OPRE 6303 Quantitative Foundations of Business and OPRE 6301 Statistics and Data Analysis with grades of "B" or better. Degree credit is not earned for program prerequisites, however, the grade achieved in prerequisites will count toward the student's grade-point average (GPA). All program prerequisites must be satisfied within the first semester of graduate study as a degree-seeking student.

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 and The Cost of Regulation
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 masters-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
ENGY 6332 Energy and Sustainability
FIN 6341 Energy Risk Management
FIN 6360 Derivatives 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 6341  Energy Risk Management  
  MECO 6352  Financial Negotiation and Dispute Resolution  
  OPRE 6335  Risk and Decision Analysis  
  FIN 6306  Quantitative Methods in Finance  
    and  FIN 6360  Derivatives Markets  
  or  
  OPRE 7310  Probability and Stochastic Processes  
    and  FIN 6381  Introductory Mathematical Finance  

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.