TERM PROJECTS

The EM 599 Term Project is conducted individually or in groups of two students under the supervision of a MEM faculty member in one semester. Project topics are often based upon real life cases to which known solution techniques can be applied and systems approach can be used. Working students are encouraged to choose their project topics from their organizations.

List of Sample Projects

- Minimizing the Cost of Banknote Printing in the Central Bank of Turkey, Supervised by S. Savaşaneril.
- Design of an International Dealer Performance Evaluation System for a Construction Machinery Manufacturer, Supervised by G. Köksal.
- Quality Improvement Study of Painting Process in TAI, Supervised by G. Köksal.
- Short Term Price Forecasting in Turkish Electricity Market, Supervised by S. Duran.
- Examining the Assembly Line Feeding Problem in MAN Turkey, Supervised by C. Sepil.
- AVEA Ankara Transmission Network Design, Supervised by H. Süral.
- Stock Market Analysis Using Clustering, Supervised by C. İyigün.
- Avoiding the Delay in Completion of Jumeirah Villages Project, Supervised by Ö. Kırca.
- Design of Vehicle Routing System for the Distribution of Salina Salt Product, Supervised by C. Sepil.
- Reducing Lead Scrap in Yiğit Akü, Supervised by P. Bayındır.
- Sales Forecasting of GNC Products, Supervised by E. Karasakal.
- Examining the Capacity Losses in the FMS Lines of Engine Block Production Line in Türk Traktör Factory, Supervised by C. Sepil.
- Blending Problem in TÜPRAŞ Kırıkkale Refinery, Supervised by E. Karasakal.
- A Regressing Model to Estimate the Unit Cost for Mass Housing Projects of TOKİ, Supervised by Y. Serin.

DIRECTOR'S MESSAGE

Ömer Kırca

The MEM program is specifically designed for working individuals with engineering background. It aims to equip its participants with the perfect blend of engineering skills and practical business knowledge.

The program admitted its first students in the Spring semester of 1999-2000 academic year and delivered its first graduates in 2001. Currently the program has about 150 active students.

Since the beginning, we observe that MEM graduates significantly improve their ability to successfully lead the organizations they work for, with the improved awareness of financial aspects, risks and trade-offs associated with the decisions they have to make. For engineers with a managerial position in mind, the MEM program is an excellent choice.

Ömer Kırca, Program Director

FACULTY MEMBERS

- Z. Müge Avşar, Ph.D., Rutgers, The State University of New Jersey
- Meral Azizoğlu, PhD, METU
- İsmail Serdar Bakal, PhD, University of Florida
- Z. Pelin Bayındır, PhD, METU
- Canan Çilingir, PhD, Ege University
- Serhan Duran, PhD, Georgia Institute of Technology
- Metin Durgut, PhD, State University at Stony Brook
- Sinan Gürel, PhD, Bilkent University
- Çağlar Güven, PhD, Lancaster University
- Cem İyigün, PhD, Rutgers, The State University of New Jersey
- Esra Karasakal, PhD, METU
- Sinan Kayalıgil, PhD, Louisiana Tech University
- Ömer Kırca, PhD, Georgia Institute of Technology
- Gülser Köksal, PhD, North Carolina State University
- Murat Köksalan, PhD, State University of New York at Buffalo
- Sedef Meral, PhD, METU
- Adil Oran, PhD, Texas Tech University
- Nur Evin Özdemirel, PhD, Arizona State University
- Seçil Savaşaneril, PhD, Georgia Institute of Technology
- Canan Sepil, PhD, University of Florida
- Yasemin Serin, PhD, University of North Carolina
- Haldun Süral, PhD, METU

MEM
MASTER OF SCIENCE IN
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MEM
MASTER OF SCIENCE IN
ENGINEERING MANAGEMENT

METU

COMBINING PROFESSIONAL ENGINEERING PRACTICE AND BUSINESS KNOWLEDGE

MEM
MASTER OF SCIENCE IN
ENGINEERING MANAGEMENT

Master of Science in Engineering Management (MEM) is a non-thesis program conducted by the Industrial Engineering Department of the Middle East Technical University. The program is primarily carried out in the evenings and class meetings are held at 18:10 - 21:00 to facilitate attendance of the working students.

About the MEM Degree

The complex and competitive world of technology-driven industry presents new challenges for management all over the world. Maintaining a competitive edge now depends foremost on integrating technology into overall corporate strategy. Graduates in management, however, are finding it difficult to understand the new technologies in manufacturing, quality management, marketing and distribution, and are not equipped with the analytical tools and methods needed to cope with issues related to these technologies. Engineers who have been promoted into management, on the other hand, do not know much about the management of new technology and the people who use it. The days of managers who get along with only technical expertise or purely administrative skills seem to be over and there is a need for a new type of professional.

The MEM degree meets the demand for such professionals by combining professional engineering practice with core business and management subjects typically found in an M.B.A. program. It provides a core curriculum in management science, finance and economics specifically designed for new or experienced engineering professionals who want careers in industrial management. The core and elective courses represent a blend of engineering skills and business knowledge needed to develop innovative solutions to complex business problems utilizing the broader vision of system thinking.

Benefits to Graduates

MEM program blends the methodological strength of engineering and the conceptual breadth of management in a powerful framework for managing engineering and technology. Graduates will have gained improved skills to take a global perspective in formulating, analyzing and solving management problems with particular concern for strategic technologies and their use in all areas of business activity. They will also acquire a greater awareness of interpersonal relations, group dynamics and team motivation for innovation and effective communication. MEM graduates typically increase their job responsibilities and influence in their organizations and enjoy rapid career advancement into managerial levels.

Comparing MEM to Other Degrees

Unlike a master of science degree in a science or engineering specialty, the MEM degree equips new or experienced engineering professionals with the practical business perspective needed by technical managers, It emphasizes skills specifically required in technology-based organizations rather than the general management perspective given in a traditional M.B.A. program.

Can Özgiresun, METU Mechanical Engineering, Chamber of Mechanical Engineers

The MEM program was my first choice due to its comprehensive curriculum and suitability for working individuals. It equips working professionals from diverse backgrounds with practical knowledge. After completing the course work on required analysis techniques, it enables the participants to see the organization they are working for from a wider perspective and to take the best actions for problems they face.

Efe Özyönüm, Bilkent Electrical and Electronics and Engineering, Karel

Equipped with the financial and managerial knowledge that will be provided by the MEM program, my capacity and capabilities as an engineer will surely come to a level to enable me to assess and evaluate the projects from a wider perspective.

MEM Program Structure and Degree Requirements

- The non-thesis program with tuition fee consists of ten courses, a capstone project and a seminar course in which the students will present their projects. Of the ten courses, five are required and five are electives.
- The maximum duration to complete the program is six semesters. This duration can be extended with special permission.
- Students should take a minimum of two courses in each semester. In special cases and with the permission of the program committee, a student may be allowed to take one course in a semester.
- Students who complete the program successfully will receive the **"Master of Science in Engineering Management"** degree from the Graduate School of Natural and Applied Sciences of METU.

REQUIRED COURSES

COURSE CODE	COURSE TITLE	CREDIT HOURS
EM 501	Finance and Management Accounting	3
EM 502	Operations Management	3
EM 503	Systems and Organizations	3
EM 505	Decision Models	3
EM 517	Business Economics	3
EM 590	Seminar	NC
EM 599	Term Project	NC

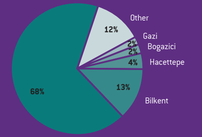
ELECTIVE COURSES

COURSE CODE	COURSE TITLE	CREDIT HOURS
EM 504	Technology Management	3
EM 506	Project Management	3
EM 507	Total Quality Management	3
EM 508	Strategic Planning	3
EM 510	Business Process Reengineering	3
EM 512	Qualitative Methods for Management	3
EM 516	Logistics	3
EM 520	Management Information Systems and Decision Support Systems	3
EM 521	Applied Statistics	3
EM 531	Engineering Economy and Investment Management	3
EM 532	Finance for Engineering Management	3
EM 533	Quality Engineering	3
EM 534	Supply Chain Management	3
EM 715	Applications of Decision Making	3
EM 7xx	Special Topics in EM	3

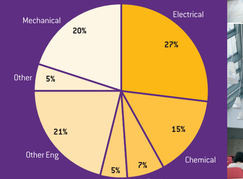
ADMISSIONS

- B.S. or B.A. degree in engineering (except industrial engineering), basic sciences, business administration, economics, or other related fields.
- Background in calculus, probability, statistics, and computer programming.
- Proficiency in English: A minimum score of 65 in METU Proficiency Exam, or an equivalent score of 80 in TOEFL-IBT.
- A minimum score in the Graduate Admission Examination (ALES), or an equivalent GRE score. The current minimum score in ALES is 75.
- A letter of purpose explaining the goals of the candidate.
- A favorable opinion of the program committee.
- Applicants can either apply online or submit their applications to the Graduate School of Natural and Applied Sciences during the periods announced. Detailed information can be found at http://www.fbe.metu.edu.tr. Admission is subject to approval of the program committee.

Undergraduate Schools of Admitted Students*



B.S. or B.A. Degrees of Admitted Students*



*Statistics are prepared using the last 250 students admitted to the MEM program.