



Department of Applied Engineering and Technology
School of Applied Sciences and Technology
College of Business & Technology (2017-18)

Applied Engineering and Technology Management Concentration

M.S. Degree in Applied Engineering and Technology Management (CIP 15.1501)

The AETM Master's Program

The Master of Science degree in Applied Engineering and Technology Management is for individuals who are interested in careers in industrial, technical, construction, agriculture operations, or network security management. Courses in the program are designed to cause students to examine principles, concepts, attitudes, and methods for dealing with many of the challenges that confront business and industry. This concentration will be of value to those who are currently employed in business or industry and have professional growth aspirations. It will also be of value to those who have recently completed undergraduate study and want more preparation before embarking upon their career.

Upon completion of a degree in Applied Engineering and Technology Management graduates will be able to:

- 1) Plan, implement, and analyze technical projects;
- 2) Demonstrate an ability to formulate and apply advanced technical problem solving and managerial concepts; and
- 3) Accurately synthesize their total program experience.

Admission Requirements

Applicants are expected to present proper prerequisite preparation or technical management experience. For the Applied Engineering and Technology Management concentration, applicants should have an understanding of materials and processes, the principles of production control, the economics of industry, computer literacy, the ability to communicate graphically, and the ability to apply statistics to the solution of industrial problems. An undergraduate grade point average of 2.5 and individual Verbal and Quantitative scores of 144 or higher on the Graduate Record Examination are expected. Applicants may also submit scores on the Graduate Management Admission Test (GMAT) as a substitute for the GRE. GMAT scores of 420 or higher are expected. Applicants with cumulative undergraduate GPA's of 3.0 or higher, or 3.25 or higher in their last 60 hours of undergraduate work are exempt from the GRE/GMAT requirement.

For More Information

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**MS Degree, Applied Engineering and Technology Management Concentration
 University Requirements**

Major Requirements 18 hrs

- **AEM 706** Six Sigma Quality
- **AEM 801** Economics for Lean Operations
- **AEM 802** Productivity Assessment and Analysis
- **AEM 804** Project Management
- **AEM 805** Operations Research
- **TEC 830** Creative Problem Solving

Synthesis Experience 6 hrs

AEM 820 (3 hrs) and AEM 821 (3 hrs), OR AEM 839 (6 hrs)

- **AEM 820** Technology Proposal (3 hrs)
- **AEM 821** Technology Project (3 hrs)
- **AEM 839** Applied Learning in Tech Management (6 hrs)

Supporting Course Requirements 6 hrs

This is not a complete list; other electives may be selected by advisement. Please check the pre-requisite requirements for these courses before enrolling.

- **ACC 820** Survey of Accounting
- **CIS 850** Management of Information Systems
- **CTE 800** Occupational Training Materials
- **CTE 801** Occupational Training Methods
- **CTE 888** Occupational Information
- **GBU 850** Legal, Ethical and Social Environment of Business
- **MGT 850** Leading and Managing Organizations
- **MKT 850** Marketing Management
- **PSY 804** Introduction to Industrial-Organizational Psychology
- **PSY 873** Organizational Psychology
- **PSY 874** Organization Change and Development
- **PSY 875** Training and Development
- **QMB 850** Business Forecasting
- **STA 700** Applied Statistical Inference
- **STA 770** QC & Reliability
- **STA 775** Statistical Methods Using SAS
- **STA 785** Experimental Design
- **TEC 860** Research in Technology

Applied Engineering and Technology Management Exit Requirement 0 hrs

- **GRD 868b** Applied Engineering and Technology Management Oral Comprehensive Exam

Total Program Requirements 30 hrs



Applied Engineering and Technology Management Major Course Descriptions

- AEM 706 Six Sigma Quality** (3 hrs) Prerequisite: AEM 202. A study of six sigma methodology and current practices with an emphasis on key quality drivers and statistical methods for world-class products and companies.
- AEM 801 Economics for Lean Operations** (3 hrs) Cost management, budgeting, accounting, capital planning, and other topics necessary for making effective economic decisions from a lean perspective. Quantitative methods and computer applications used to formulate decisions relating to operations.
- AEM 802 Productivity Assessment and Analysis** (3 hrs) A study of industrial productivity, its assessment, measurement, analysis and improvements with emphasis on human productivity, and machine, material, and process productivity.
- AEM 804 Project Management** (3 hrs) Elements of managing projects including the use of modern project management software.
- AEM 805 Operations Research** (3 hrs) Concepts and applications of analytical models in industrial decision-making. Includes general concepts of models and situations, mathematical programming, game theory and sequential network logic in determining optional industrial strategies.
- AEM 820 Technology Proposal** (3 hrs) Prerequisite: Departmental approval. An individually developed proposal related to a project typically encountered by a manager in a technical environment. The project proposal is to be approved by the student's graduate advisor.
- AEM 821 Technology Project** (3 hrs) Prerequisite: AEM820 or departmental approval. An individually developed project related to the solution of a typical problem encountered by a manager in a technical environment. The problem is to be approved by the student's graduate committee and the results presented in open forum.
- AEM 839 Applied Learning in Tech Management.** (3-6 hrs) Prerequisite: Departmental approval. Planned and supervised experience in industry. The experience must be for at least one semester and the plan of activities must be approved by the student's graduate committee. Minimum of eighty hours work required for each academic credit.
- TEC 830 Creative Problem Solving** (3 hrs) A review and analysis of basic and applied research in the development of creative behavior with emphasis on its application to industrial teaching and industrial problem solving. Students will be expected to complete a term project showing their creative abilities.
- TEC 860 Research in Technology** (3 hrs) A study of research and research methods as they apply in technological fields. Involves the development of a review of literature, a research proposal, and the use of descriptive and inferential statistics.