



Department of Applied Engineering and Technology
School of Applied Sciences and Technology
College of Business & Technology (2019-20)

Engineering Operations concentration

M.S. Degree in Technology Management (CIP 15.1501)

M.S. in Technology Management

The Master of Science degree in Technology Management is for individuals who are interested in careers in industrial, technical, construction, agriculture operations, or cyber systems 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 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 Engineering Operations 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 or above is expected.

For More Information

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MS Degree in Technology Management Engineering Operations concentration

University Requirements

Major Requirements.....9 hrs

- **AEM 801** Economics for Lean Operations
- **AEM 804** Project Management
- **TEC 830** Creative Problem Solving

Engineering Operations concentration9 hrs

- **AEM 706** Six Sigma Quality
- **AEM 802** Productivity Assessment and Analysis
- **AEM 805** Operations Research

Supporting Course Requirements6 hrs

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

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| <ul style="list-style-type: none"> • AEM 730 Design of Experiments • CSC 720 Multimedia Systems and Forensics • CSC 730 Concepts of Programming Systems • CSC 744 Database Admin and Security • CSC 747 Network Forensics and Investigation • CSC 748 Personal Electronic Device Forensics • CSC 815 Computer Admin and Security • CSC 825 Network Applications and Security • CSC 834 Software Engineering and Project Management I • CSC 835 Software Engineering and Project Management II • CTE 800 Occupational Training Materials • CTE 801 Occupational Training Methods • CTE 888 Occupational Information • HLS 830 Natural Hazards & Threats to the Nation • PSY 804 Intro to Industrial-Organizational Psychology | <ul style="list-style-type: none"> • PSY 873 Organizational Psychology • PSY 874 Organization Change and Development • PSY 875 Training and Development • SSE 827 Issues in Security Management • SSE 828 Industrial Safety Management • SSE 832 Construction Safety • SSE 845 Personal/Environmental Hazards • SSE 850 Ergonomics & Human Factors • SSE 851 Human Factors in Simple and Complex Systems • SSE 852 Ergonomics Process & Practice • STA 700 Applied Statistical Inference • STA 770 QC & Reliability • STA 775 Statistical Methods Using SAS • STA 785 Experimental Design • TEC 867 Independent Study in Technology • UNP 700 Study Abroad |
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Synthesis Experience6 hrs

- TEC 860** (3 hrs) and **AEM 821** (3 hrs), OR **AEM 839** (6 hrs)
- **TEC 860** Research in Technology (3 hrs)
 - **AEM 821** Technology Project (3 hrs)
 - **AEM 839** Applied Learning in Tech Management (6 hrs)

Technology Management Exit Requirement0 hrs

- **GRD 868b** Technology Management Oral Comprehensive Exam

Total Program Requirements 30 hrs



Engineering Operations 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 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.