#1 Ranked Undergraduate Engineering Management Program in 2005 & 2006

What is Engineering Management?

Engineering Management (EM) examines the engineering relationships between the management tasks of staffing, organizing, planning, and financing, and the human element involved in production, research, and service. EM teaches the concepts and principles of engineering to manage the fundamentals of organizational leadership, personnel management, fiscal management, and systems understanding. EM is a highly relevant program which builds on the traditional roles of systems analysis and basic and applied sciences by emphasizing management functions in a technical setting.

Why Study Engineering Management?

The Military, as well as American industry, is undergoing a fundamental paradigm shift. Organizations must be agile, flexible, and customer-focused to meet today's challenges of constrained resources, global competition and rapid technological evolution. Now more than ever, engineers are expected to possess a broad range of communication and leadership skills in addition to technical engineering expertise. EM can teach you to apply engineering solutions to the contemporary issues facing military officers and management professionals in any organization.

Engineering Management prepares you to be an Army Leader.

Army officers are responsible for making decisions and solving problems that involve people, equipment, funding, resources and information. EM prepares you to utilize the techniques, skills, and modern engineering tools necessary for service as an officer. Engineering Management graduates are in high demand to assure our Nation's defense through effective management.

Training and Technology

A combination of relevant, contemporary projects and state-of-the-art technology defines your classroom experience. Our laboratories utilize the same technology that the Army and business world use today. DSE is the only undergraduate department in the country offering this technology. Your ability to apply this technology will be beyond that of your peers.

Capstone Project

Your EM studies will culminate with a Capstone project in which you will apply your professional and technical skills to evaluate a problem for a real world client. Some Capstones overlap with the Academic Individual Advanced Development (AIAD) program.

Academic Individual Advanced Development (AIAD) Program

The EM AIAD program is similar to an internship. AIADs are opportunities to apply your EM skills at DoD and DA agencies. You will work with experienced civilian and military systems engineers, operations research analysts, and scientists. AIADs focus on current military projects in several locations including but not limited to Germany, England, Hawaii, Washington, DC; Monterey, CA; Orlando, FL; Carlisle Barracks, PA; Fort Monroe, VA; Warren, MI, Fort Leavenworth, KS, Fort Bragg, NC, Australia, and Croatia.

To Learn More About Engineering Management Come Visit Us! The Engineering Management Program is in the Department of Systems Engineering located on the 4th Floor of Mahan Hall. Come by the department or call 938-2701 and ask for an academic counselor, or email us:

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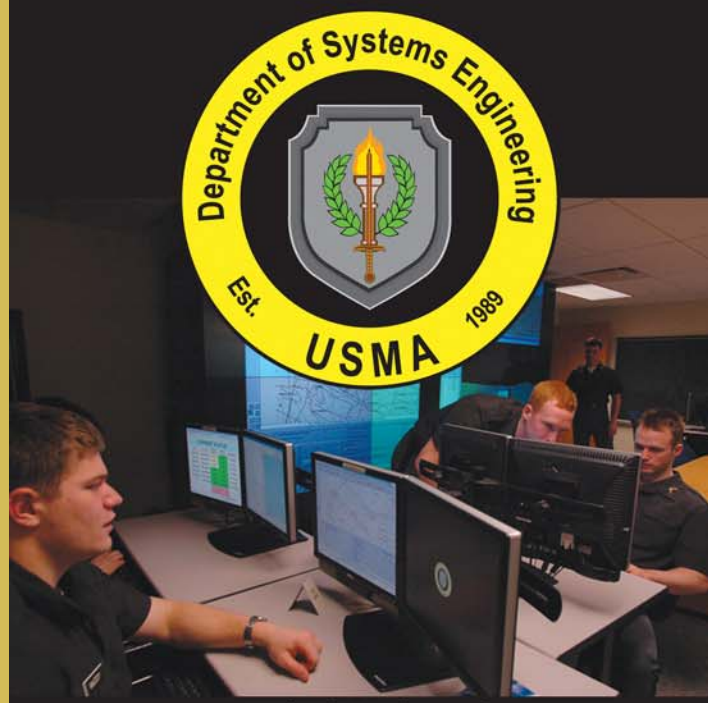
ENGINEERING MANAGEMENT MAJOR



#1 Ranked Undergraduate Engineering Management Program in 2005 & 2006

Department of Systems Engineering Class of 2010

United States Military Academy
West Point, New York 10996

August 2007

Engineering Management graduates will become Military leaders and business professionals prepared to offer engineering solutions to management problems. Gain the skills, as well as the technical and intellectual knowledge required of future military leaders and civilian industry professionals. To major in the Engineering Management Program, you must successfully complete the following requirements:

1. Complete twenty-six (26) core courses as specified in the general section of the Redbook. ***EM Majors do not take IT305.***

2. Complete one of the three-course Sequences listed below:

- **Civil Engineering** (Select 3 of 3)

CE300 Fundamentals of Eng. Mech. & Design
CE364 Mechanics of Materials
ME311 Thermal-Fluid Systems I

- **Electrical Engineering** (Select 3 of 3)

EE302 Introduction to Electrical Engineering I
EE360 Digital Computer Logic
EE362 Introduction to Electronics

- **Environmental Engineering** (Select 3 of 3)

EV301 Env Science for Engrs & Scientists
EV385 Intro to Environmental Engineering
EV481 Water Resources Plan & Design

- **Mechanical Engineering** (Select 3 of 3)

CE300 Fundamentals of Eng. Mech. & Design
ME306 Dynamics
ME311 Thermal-Fluid Systems I

- **NuclearEngineering** (Select 3 of 3)

ME311 Thermal-Fluid Systems I
NE300 Nuclear Reactor Analysis
PH365 Modern Physics

- **General Engineering Sequence** (Select 3 of 3)

CE300 Fundamentals of Eng. Mech. & Design
EE301 Fundamentals of Electrical Engineering
ME311 Thermal-Fluid Systems I

3. Take the following ten (10) required courses:

EM381 Engineering Economy
EM384 Analytical Methods for Engineering Management
EM402 Engineering Management Design I
EM403 Engineering Management Design II
EM411 Project Management
EM420 Production Operations Management
SE301 Foundations of Engineering Design & Systems Management
SE400 Professional Engineering Seminar
SM421 Systems Acquisition Management
SS394 Financial Accounting

4. Take one (1) in each of the following categories:

- **Information & Decision Systems** (Select 1 of 3)

SE370 Computer Aided Systems Engineering
SE482 Command and Control Systems
SE385 Decision Analysis

- **Simulation Elective** (Select 1 of 3)

EM484 Dynamic Systems Analysis
SE481 Systems Simulation
SE485 Combat Modeling

5. Choose one of the following areas of emphasis tracks:

- **Business Operations and Management** (Select 2 of 4)

LW488 Business Law
MG380 Marketing
MG382 Human Resource Management
SS494 Principles of Finance

-OR-

- **Organizational Theory and Leadership** (Select 2 of 4)

PL379 Group Dynamics
PL385 Organizational Systems Theory & Design
PL398 Leadership Theory & Development
PL479 Leading Organizations Through Change

6. Choose one course from the area of emphasis track above, or one from the list below. Select a course not already taken.

CE300 Fundamentals of Eng. Mechanics and Design
EE301 Introduction to Electrical Engineering
EM484 Dynamic Systems Analysis
EV391A Land Use Plan & Management
EV398 Geog Information Systems
MA364 Engineering Mathematics
MA371 Linear Algebra
ME311 Thermal Fluid Systems
MG381 Introduction to Management
SE370 Computer Aided Systems Engineering
SE375 Statistics for Engineers
SE382 Decision Support Systems
SE385 Decision Analysis
SE481** Systems Simulation
SE485** Combat Modeling
SE490 Additional Topics in Systems Engineering/ Engineering Management (when available)
XE495 Topics: Advanced Technology

***SE481 and SE485 cannot both be selected*

Engineering Management

Providing Engineering Solutions to Management and Leadership Problems

EM is Relevant

The EM profession is growing rapidly as the Military and American industries seek to gain a competitive advantage in the high-tech global marketplace.

EM is Timely

As resources become more constrained, EM skills are in high demand. Today's organizations must be agile, flexible and customer focused to survive.

Training and Techniques

Utilize state-of-the art technology with the latest simulation, management, modeling and analysis software.

Graduate School Preparation

Your education doesn't stop here. The breadth of EM courses provides excellent opportunities for graduate studies in academic disciplines ranging from an MBA to a master's degree in information systems, operations research or other engineering fields.

Capstone and AIAD Opportunities

Real World Problems. Real World Clients. Real World Application. Evaluate dynamic problems that involve resources such as technology, people, equipment, money and information.

Program is ABET Accredited

The EM program is accredited by the Engineering Accreditation Commission of ABET, Inc.