ENGINEERING MANAGEMENT

Merging engineering, technology, management, and leadership into solutions for a complex world.

Engineering Management (EM) examines the engineering relationships between the management tasks of staffing, organizing, planning, and financing 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.

Consistently the Top Rated EM Program in the United States.

The Engineering Management Program is accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org

Why major in EM?
- Numerous AIAD opportunities
- You choose your Complementary Support Course (Engineering) Track
- Flexible scheduling of courses and electives
- Excellent preparatory major for serving as an officer (complex problem solving, critical thinking, practical applications)
- Widely applicable for leadership careers as an ORSA in the Army, within the business world, industrial engineering settings, and in Government
- EM majors LEAD interdisciplinary teams of engineers
- Studying EM will prepare you for an MBA or Masters Degree in Business Management, Finance, Industrial Engineering, Operations Management, Operations Research, or Systems Engineering
- Excellent foundation for becoming a Professional Engineer and/or Project Management Professional

What will I study in the EM Program?
- Systems thinking
- Basics of sound financial decisions and business operations
- Tools for analyzing and making engineering decisions
- Design and analysis of production operations
- Supply chain design, planning, operation, business processes, and information management systems
- How to plan, monitor, and control a project
- A 3 course complementary engineering sequence of your own choosing
- Elective subject area that interest you

An Engineering Management Major is the only major to provide the foundation to obtain two highly regarded professional certifications. Within five years of graduation you can apply for the Professional Engineer License and/or Project Management Professional certification.

AIAD and Capstone Partners

AIAD Program
In 2018, 61 sponsors provided 88 CONUS and 5 OCONUS opportunities in DoD and private organizations. Cadets spend 3 weeks applying the Systems Decision Process and other EM fundamentals to real world problems and return to USMA more adaptable, agile, and inspired to continue their academic development in the major.

For More Information Contact:
COL Paul Evangelista, EM Program Director
Mahan Hall, Room 420
paul.evangelista@westpoint.edu

CPT Abe Payne, EM DAC
Mahan Hall, Room 301
abe.payne@westpoint.edu

Department of Systems Engineering
Mahan Hall, 4th Floor
Building 752, Thayer Road
West Point, New York 10996

AIAD and Capstone Partners

Society of Women Engineers

EXON
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GD
AET
MITRE
US Army Corps
AEGI

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## The Engineering Management Program (A Sample EM 8TAP)

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<tr>
<th>Yearling Year</th>
<th>Fall</th>
<th>Spring</th>
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<tbody>
<tr>
<td></td>
<td>MA205 Calculus II</td>
<td>EM381 Engineering Economy</td>
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<tr>
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<td>PH 206 Physics II</td>
<td>EM384 Analytical Methods for Engineering Management</td>
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<tr>
<td></td>
<td>EM411 Project Management</td>
<td>EM402 Capstone Design I</td>
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<tr>
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<td>EM403 Capstone Design II</td>
<td>CY305 Production Operations Management</td>
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<td>EM420 Supply Chain Engineering and Info Management</td>
<td>SE302/SE370/SES385 Decision Science Elective</td>
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### Complementary Support Course Elective Track (Chose 1)

#### Decision Science Elective
- SE302 Fundamentals of Systems Engineering
- SE305 Cyber Foundations
- SE385 Decision Analysis
- SE370 Computer Aided Systems Engineering
- CH375 Introduction to Biology
- MA364 Engineering Mathematics
- MA367 Math for the Social Sciences

#### Math/Science Elective
- CH102 General Chemistry II
- CH362 Mass & Energy Balances
- CH360 Introduction to Electrical Engineering I
- CH361 Fundamentals of Electrical Engineering
- MC300 Decision Analysis
- MC311 Thermal-Fluid Systems I

#### Simulation Elective
- EM481 Systems Simulation
- SM484 System Dynamics Simulation
- MA386 Introduction to Numerical Analysis

#### Cyber/IT Course
- MA391 Mathematical Modeling
- MA392 Modern Physics

### Areas of Emphasis (Choose 1 From Each)

- Civil Engineering
- Chemical Engineering
- Electrical Engineering
- Mechanical Engineering
- Environmental Engineering
- Infrastructure Engineering
- Nuclear Engineering
- Software Engineering

### Project Management in Civil Engineering
- MC300 Fundamentals of Engineering Mechanics and Design
- CE350 Infrastructure Engineering
- CE450 Construction Management

### Chemical Engineering
- CH362 Mass & Energy Balances
- CH363 Separation Processes
- CH364 Chemical Reaction Engineering

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

### Environmental Engineering
- EV385 Introduction to Environmental Engineering
- EV398 Geographical Information Systems
- EV481 Water Resources Planning & Design

### Infrastructure Engineering
- CE350 Infrastructure Engineering
- GE350 Civil Engineering Systems
- GE351 Transportation Engineering

### Nuclear Engineering
- NE300 Nuclear Reactor Analysis
- NE350 Radiological Engineering Design
- NE450 Nuclear Reactor Engineering

### Software Engineering
- CS393 Database Systems
- IT383 User Interface Development
- AL481 Software Engineering