The Lockheed Martin Engineering Management Program (EMP) (http://www.colorado.edu/emp) is a technically-based management and leadership program for the engineering and technical fields that prepares students for early to mid-career positions in a variety of industries. It is designed for students who are looking to advance in management, successfully contribute to the overall business or venture, and develop their leadership skills.

The Program offers an Engineering Management minor, a certificate, and courses for undergraduate students in the College of Engineering and Applied Science. The minor and certificate are designed for Junior and Senior level engineering students who seek to develop business and industry acumen to complement their engineering majors. Courses are offered on campus with many virtual distance sections.

Course code for this program is EMEN.

**Minor**

- Engineering Management - Minor (catalog.colorado.edu/undergraduate/colleges-schools/engineering-applied-science/programs-study/engineering-management/engineering-management-minor)

**Certificates**

- Engineering Entrepreneurship - Certificate (catalog.colorado.edu/undergraduate/colleges-schools/engineering-applied-science/programs-study/engineering-management/engineering-entrepreneurship-certificate)

**Faculty**

While many faculty teach both undergraduate and graduate students, some instruct students at the undergraduate level only. For more information, contact the faculty member's home department.

Bailey, Wendy Lynn (https://experts.colorado.edu/display/fisid_154942) Instructor

Bozic, Christy L (https://experts.colorado.edu/display/fisid_155482) Scholar In Residence; Lecturer; PhD, Purdue University

Johnson, Eben Ormston (https://experts.colorado.edu/display/fisid_149952) Instructor; MBA, University of California-Davis

Kirschling, Wayne (https://experts.colorado.edu/display/fisid_123149) Scholar In Residence; DBA, University of Colorado Boulder

Littlejohn, Ray Lynn (https://experts.colorado.edu/display/fisid_151752) Scholar In Residence; PhD, University of Oklahoma Norman Campus

Moorer, Daniel Fuller (https://experts.colorado.edu/display/fisid_151590) Scholar In Residence; PhD, University of Colorado Boulder

Murray, Seth (https://experts.colorado.edu/display/fisid_148038) Instructor; ME, University of Colorado Boulder

**EMEN 3100 (3) Introduction to Engineering Management**

Examines topics important to the management of engineering activities within organizations. Topics include the relationship of engineering to business and management disciplines, the functions of an engineering manager, principles and techniques for managing financial resource and business ownership. Explores best practices in global engineering management, process management, legal issues, ethics, organizational behavior and communications.

**Requisites:** Restricted to students with 27-180 credits (Sophomores, Juniors or Seniors) only.

**Grading Basis:** Letter Grade

**EMEN 4030 (3) Project Management Systems**

Gain skills in project management, one of the fastest growing professions, using standard processes that fit into any industry, sector or geography. This interactive class provides students with the tools necessary to effectively initiate, execute, control and close any type of project for increased success. Students learn the skills to oversee projects to ensure it meets its goals, time line and budget.

**Requisites:** Restricted to students with 57-180 credits (Junior or Senior) College of Engineering students only.

**EMEN 4050 (3) Leadership and Professional Skills**

Accelerate your personal and professional growth with the essential skills required to become an effective leader/manager. Conduct personal development through exercises in communication and leadership effectiveness. Explore leadership styles, managing commitments, change management, negotiation, conflict resolution, organizational culture, emotional intelligence, team dynamics and business ethics.

**Requisites:** Restricted to students with 57-180 credits (Junior or Senior) College of Engineering students only.

**EMEN 4100 (3) Engineering Economics**

Introduces engineering cost concepts, financial statements and the corporate economic environment. Includes concepts and methods of analysis of the time value of money, comparison of project alternatives before and after taxes, cash flow, replacement analysis, risk management and financial case statements.

**Requisites:** Restricted to students with 57-180 credits (Junior or Senior) College of Engineering students only.

**EMEN 4200 (3) Engineering and Entrepreneurship for the Developing World**

Use your engineering and problem solving skills, combined with market/industry research, customer interviews, design for manufacturability, stakeholder management and financial modeling to promote entrepreneurship and sustainable change in the developing world. Explore alternative energy, medical devices, phones, internet, recycling, cook stoves, clean water, sanitation and infrastructure.

**Requisites:** Restricted to students with 57-180 credits (Juniors or Seniors).

**Grading Basis:** Letter Grade

**EMEN 4240 (3) Engineering and Entrepreneurship for the Developing World**

Introduces the concepts, tools and techniques used in the management and measurement of quality and productivity in a business environment. Associated topics include: statistics methods, design quality, measurement, control and process improvement. Discover the basics of performance excellence management including Baldridge Award criteria, strategic planning, leadership and daily quality management.

**Requisites:** Restricted to students with 57-180 credits (Junior or Senior) College of Engineering students only.
EMEN 4405 (3) Systems Engineering
Introduces students to system engineering in terms of defining objectives, applications and the major steps in the systems engineering process. Learn to work effectively with diverse project teams. Industry standards are covered that lay out the steps of the classic Systems Engineering lifecycle. Real world engineering examples from concept exploration to hardware retirement are used.
Requisites: Restricted to College of Engineering (ENGRU) undergraduates only.

EMEN 4800 (3) Technology Ventures and Marketing
Learn marketing concepts, skills and tools to launch new products and ventures. Engage with faculty, classmates, guest speakers, industry professionals, potential customers and one’s leadership team to help you launch your venture. Develop the necessary skills and tools to be successful colleagues, managers and leaders in industry. Gain valuable business acumen using a hands-on learning environment.
Requisites: Restricted to students with 57-180 credits (Junior or Senior) College of Engineering students only.

EMEN 4825 (3) Entrepreneurial Business Plan Preparation
Instructs students in the necessary elements of a business plan and how to prepare a complete well-written plan for an entrepreneurial business venture. Students work in interdisciplinary business-engineering five-person teams to create a business concept and take it through to business plan completion.
Equivalent - Duplicate Degree Credit Not Granted: ESBM 4830
Requisites: Restricted to students with 57-180 credits (Junior or Senior) College of Engineering students only.

EMEN 4830 (3) Special Topics
Repeatable: Repeatable for up to 9.00 total credit hours. Allows multiple enrollment in term.
Requisites: Restricted to students with 57-180 credits (Juniors or Seniors).

EMEN 4840 (1-3) Independent Study Project
Available only through approval of Engineering Management Program. Subjects arranged to fit the needs of the particular student.
Repeatable: Repeatable for up to 6.00 total credit hours. Allows multiple enrollment in term.