Engineering Management Program Graduate Handbook (AY 2024/2025)



Engineering Management Program

Graduate & Undergraduate Student Handbook

(See <u>Coursera Handbook</u> for Coursera degrees and certificates)

2024-2025 Academic Year Effective August 2024

Lockheed Martin Engineering Management Program University of Colorado Boulder

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Foreword

The Lockheed Martin Engineering Management Program (EMP) celebrates over 30 years of providing valuable instruction for technical professionals who want to become leaders in their industry. In 1992, the W. Edwards Deming Endowed Professorship was established. The Martin Marietta Corporation, now Lockheed Martin, created our second endowed professorship in 1994 and provided a substantial grant to allow us to enhance and expand our program.

Throughout the years, our mission has remained the same: to best prepare engineers, applied scientists and technical professionals for career advancement in leadership and management. From undergraduate to graduate-level work, our focus is to help students at all levels achieve their career objectives and succeed in technical and engineering fields.

The EMP is flexible to best fit your needs. We offer programs for graduate, undergraduate and certificate-level students, both on campus and online.

In addition to the requirements, expectations and rules set forth in this Student Handbook, all students are also subject to the rules and provisions required by the University of Colorado, the Graduate School, The College of Engineering & Applied Sciences and associated programs and departments.

New Student Welcome

The EMP welcomes you to the program! Please visit the <u>Admitted Student Checklist</u> for more information on how to get started as a new student at CU Boulder.

We do not have faculty advisors since we are not a research program. Our faculty are a great resource for career advice, so please utilize them in that way. Reach out to our Senior Program Manager (Undergraduate and Graduate), <u>kendra.thibeault@colorado.edu</u>, for assistance with any questions.

Key Contacts

Senior Program Manager (Undergraduate and Graduate): Kendra Thibeault

kendra.thibeault@colorado.edu

First point of contact for all graduate and undergraduate Engineering Management students on advising, policies and procedures. The Senior Program Manager will consult with EMP leadership as necessary.

Interim Faculty Director: Dr. Michael Gazarik michael.gazarik@colorado.edu

Interim Undergraduate Faculty Director: Ronald Duren ronald.duren@colorado.edu Associate Director of Operations: Lou Rutherford lou.rutherford@colorado.edu

Student Expectations

We strive to maintain high standards within the Engineering Management Program. Students are expected to be prepared to learn and engage with their fellow classmates, their instructors and staff within the Program. Communication to fellow students, instructors and staff should be professional and timely to prevent issues and maintain an open and collaborative environment for all members of the Program.

For disagreements between a student and faculty member, initial concerns should first be addressed with the faculty member. If resolution cannot be reached, the Senior Program Manager (Undergraduate and Gradaute), <u>kendra.thibeault@colorado.edu</u>, may be contacted to provide further guidance.

University Provisions & Requirements

Classroom Behavior

Both students and faculty are responsible for maintaining an appropriate learning environment in all instructional settings, whether in person, remote or online. Those who fail to adhere to such behavioral standards may be subject to discipline. Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with race, color, national origin, sex, pregnancy, age, disability, creed, religion, sexual orientation, gender identity, gender expression, veteran status, political affiliation or political philosophy. For more information, see the <u>classroom behavior</u> policy, the <u>Student</u> <u>Code of Conduct</u>, and the <u>Office of Institutional Equity and Compliance</u>.

Requirements for COVID-19

As a matter of public health and safety, all members of the CU Boulder community and all visitors to campus must follow university, department and building requirements and all public health orders in place to reduce the risk of spreading infectious disease. CU Boulder currently requires COVID-19 vaccination and boosters for all faculty, staff and students. Students, faculty and staff must upload proof of vaccination and boosters or file for an exemption based on medical, ethical or moral grounds through the MyCUHealth portal.

The CU Boulder campus is currently mask optional. However, if public health conditions change and masks are again required in classrooms, students who fail to adhere to masking requirements will be asked to leave class, and students who do not leave class when asked or who refuse to comply with these requirements will be referred to Student Conduct and Conflict Resolution. For more information, see the policy on classroom behavior and the Student Code of Conduct. If you require accommodation because a disability prevents you from fulfilling these safety measures, please follow the steps in the "Accommodation for Disabilities" statement on this syllabus.

If you feel ill and think you might have COVID-19, if you have tested positive for COVID-19, or if you are unvaccinated or partially vaccinated and have been in close contact with someone who has COVID-19, you should stay home and follow the further guidance of the Public Health Office (contacttracing@colorado.edu). If you are fully vaccinated and have been in close contact with someone who has COVID-19, you do not need to stay home; rather, you should self-monitor for symptoms and follow the further guidance of the Public Health Office (contacttracing@colorado.edu). {Faculty: insert your procedure here for students to alert you about absence due to illness or quarantine. Because of FERPA student privacy laws, do not require students to state the nature of their illness when alerting you. Do not require "doctor's notes" for classes missed due to illness; campus health services no longer provide "doctor's notes" or appointment verifications.}

Accommodation for Disabilities

If you qualify for accommodations because of a disability, please submit your accommodation letter from Disability Services to your faculty member in a timely manner so that your needs can be addressed. Disability Services determines accommodations based on documented disabilities in the academic environment. Information on requesting accommodations is located on the <u>Disability Services</u> website. Contact Disability Services at 303-492-8671 or <u>dsinfo@colorado.edu</u> for further assistance. If you have a temporary medical condition, see <u>Temporary Medical Conditions</u> on the Disability Services website.

Preferred Student Names and Pronouns

CU Boulder recognizes that students' legal information doesn't always align with how they identify. Students may <u>update their preferred names and pronouns via the student portal</u>; those preferred names and pronouns are listed on instructors' class rosters. In the absence of such updates, the name that appears on the class roster is the student's legal name.

Honor Code

All students enrolled in a University of Colorado Boulder course are responsible for knowing and adhering to the <u>Honor Code</u>. Violations of the Honor Code may include, but are not limited to: plagiarism, cheating, fabrication, lying, bribery, threat, unauthorized access to academic materials, clicker fraud, submitting the same or similar work in more than one course without permission from all course instructors involved, and aiding academic dishonesty. All incidents of academic misconduct will be reported to Student Conduct & Conflict Resolution (<u>honor@colorado.edu</u>); 303-492-5550). Students found responsible for violating the <u>Honor Code</u> will be assigned resolution outcomes from the Student Conduct & Conflict Resolution as well as be subject to academic sanctions from the faculty member. Additional information regarding the Honor Code academic integrity policy can be found on the <u>Honor Code website</u>.

Also, see "Academic Integrity, Plagiarism and the EMP Honor Code" below in the Program Provisions and Requirements.

Sexual Misconduct, Discrimination, Harassment and/or Related Retaliation

CU Boulder is committed to fostering an inclusive and welcoming learning, working, and living environment. University policy prohibits sexual misconduct (harassment, exploitation, and assault), intimate partner violence (dating or domestic violence), stalking, protected-class discrimination and harassment, and related retaliation by or against members of our community on- and off-campus. These

behaviors harm individuals and our community. The Office of Institutional Equity and Compliance (OIEC) addresses these concerns, and individuals who believe they have been subjected to misconduct can contact OIEC at 303-492-2127 or email <u>cureport@colorado.edu</u>. Information about university policies, <u>reporting options</u>, and support resources can be found on the <u>OIEC website</u>.

Please know that faculty and graduate instructors have a responsibility to inform OIEC when they are made aware of any issues related to these policies regardless of when or where they occurred to ensure that individuals impacted receive information about their rights, support resources, and resolution options. To learn more about reporting and support options for a variety of concerns, visit <u>Don't Ignore It.</u>

Religious Holidays

Campus policy regarding religious observances requires that faculty make every effort to deal reasonably and fairly with all students who, because of religious obligations, have conflicts with scheduled exams, assignments or required attendance. See the <u>campus policy regarding religious</u> <u>observances</u> for full details.

Program Provisions & Requirements

Class Attendance for On-Campus and/or Remote Students

Not all courses in the EMP will take place in the classroom. Some courses will take place remotely (synchronous online), online (asynchronous), in the classroom, or a hybrid of any of these modalities. Students who are signed up for remote sections (not online sections) are required to participate live during the regular scheduled class meeting assignments. Students who are signed up for inclass sessions need to attend the class in person. Un-excused absences may incur a penalty against the student's final grade.

Academic Integrity, Plagiarism, and the EMP Honor Code

The faculty of the EMP believe that a culture of integrity is essential to both the long-term, personal success of our students and to the economies and countries in which they live and work. Therefore, the EMP has created an Honor Code Violation Policy that specifies a program-specific, academic consequence for a second violation of the CU Honor Code:

EMP HONOR CODE VIOLATION POLICY

Any and all violations of the CU Honor Code in EMP classes will be reported to the Honor Code Council. As per CU's policy, the faculty member will determine the academic sanction for an offense. The CU Honor Code Council will determine any additional, non-academic sanctions. *This portion of the EMP's policy is a restatement of the Honor Code policy approved by the CU Board of Regents.*

A second violation of the CU Honor Code by any students enrolled in Engineering Management courses will result in the academic sanction of not being allowed to enroll in any future Engineering Management courses.

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The development of the Internet has provided students with historically unparalleled opportunities for conducting research swiftly and comprehensively. The availability of these materials does not, however, release the student from citing sources where appropriate; or applying standard rules associated with avoiding plagiarism. Specifically, the instructor will be expecting to review papers written by students drawing ideas and information from various sources (cited appropriately), presented generally in the student's words after careful analysis, synthesis, and evaluation. An assembly of huge blocks of other individuals' existing material, even when cited, does not constitute an appropriate representation of this expectation. Uncited, plagiarized material shall be treated as academically dishonest. If the student is confused as to what constitutes plagiarism, s/he should review the CU Honor Code on this topic, and refer to the following excellent resources: http://www.northwestern.edu/uacc/plagiar.html, <a

Students agree that by taking this course all required papers may, at the discretion of the instructor, be subject to submission for a Textual Similarity Review to Turnitin.com for the detection of plagiarism. All submitted papers will be added as source documents in the Turnitin.com reference database solely for the purpose of detecting plagiarism of such papers in the future.

Finally, students enrolled in any EMEN course are required to take the College of Engineering and Applied Science Academic Integrity Quiz every fall semester and pass with a 100%. Failure to take the quiz and pass with a 100% will prevent students from enrolling in the subsequent semester. The EMP faculty may also give their own academic integrity quiz in each of their classes in the spring semester and/or summer session as well.

Access to Recorded Course Lectures

If you are enrolled in a distance course/section, you should have access to all the lecture recordings which is usually available in Canvas. Recordings for all other courses may be available and will be different from course to course. Please check with your instructor to find out if there are lecture recordings and how to access them.

E-mail Account

You are expected to use your CU student e-mail account. All your e-mail from professors and the university will be sent to your CU e-mail account. You can choose to redirect your CU email to an alternate (work/personal) email account. For assistance in activating your email account and forwarding email, contact the OIT Help Desk at 303-735-HELP or Help@colorado.edu.

Recording of EMP Classes

Please note that students attending EMP classes live, whether on-campus or via teleconferencing, may be recorded at any time during the class session. If you do not want to be recorded, please make sure to let your instructor know before the class session starts.

Proper Use of Copyrighted Materials

The Engineering Management Program has a large online/distance learning population and, as such, many copyrighted materials are offered electronically to students. The EMP has the responsibility to comply with the copyright law regulating distance education for a non-profit, state institution, i.e.,

the Technology, Education and Copyright Harmonization (TEACH) Act of 2002. It's the student's responsibility to comply with U.S. copyright law with respect to the use and sharing of the electronic materials (this includes the videos of class lectures) provided within the program.

Student Resources on Campus

Billing and Accounting

CU provides <u>bursar and accounting services</u> to students taking classes during any semester of the school year. Everything you need to know about understanding your bill, making payments and getting refunds is right here.

Registration

Information about <u>enrolling in credit courses at CU Boulder</u>.

Tuition Classification

Residency is evaluated by the <u>Registrar's Office</u> to determine tuition rates.

Leave of Absence

If you need to take time off, you must complete a <u>Leave of Absence</u>. The form should be sent to me for my signature and then I will forward on to the Graduate School for final approval. **Graduate students** must receive a grade every fall and spring semester (W grades count) or <u>apply for a leave of absence</u> in order to return to CU Boulder in the future without reapplying. A leave of absence is not required for summer semester; graduate students not taking summer classes are considered active students.

Student Financial Aid

Students enrolled in university credit courses may be eligible for financial assistance. For more information visit the <u>Office of Financial Aid page at CU Boulder</u>.

International Student & Scholar Services

International Student and Scholar Services (ISSS) seeks to support international students and scholars in pursuing their educational, research, and/or professional objectives at the university through comprehensive advising; engagement and programming; and advocacy efforts. ISSS collaborates with university departments to support international students and scholars on-campus and assists and supports departments in their pursuit to develop international collaborations and hire top candidates in the field.

OPT/CPT

Engineering Management students are not eligible for CPT, but have the option to apply for <u>Pre-</u> <u>Completion OPT</u> for off-campus work authorization. Please review ISSS's <u>Pre-Completion OPT webpage</u> and <u>ISSS Pre-Completion OPT Guide</u> for information on pre-completion OPT including the eligibility requirements.

Graduate and Professional Student Government (GPSG)

GPSG represents graduate and professional students at the University of Colorado Boulder. We support initiatives that empower graduate and professional students' ability to pursue their goals. We promote actions that benefit their academic, professional and socioeconomic well-being. GPSG aims to make the University of Colorado Boulder a leading community where all graduate and professional students may thrive. We strive to establish and uphold the principles of shared governance, where graduate and professional students may be able to participate in all discussions regarding their condition as students, researchers, instructors and employees.

CU Library

- <u>Access the CU Boulder Library Catalog</u>
- <u>Contact a librarian via e-mail, chat, phone, or texting (during library hours)</u>
- Meet your subject specialist librarian

IT Support

If you are experiencing issues please contact CU Boulder's Help desk at 303-735-4357 (5-HELP) or <u>help@colorado.edu</u>.

- Monday through Friday from 7:30 a.m. to 7:00 p.m.
- Saturday and Sunday from noon to 6:00 p.m.
- Closed during <u>University Holidays</u>

Career Advising

If you are a CU degree student you can access Career Services on campus. You can <u>schedule an</u> <u>appointment with a career advisor</u> at any point during office hours.

<u>Engineering Career Services</u> is here to support you in your ProReady goals. We are allies — starting your first year — in your career and professional development. We'll partner with you to discover your interests and strengths; to learn about the industry that you choose to pursue; and to develop effective strategies for launching your engineering career. We help with major, career, and self-exploration; developing effective application materials (i.e. resumes, cover letters, and LinkedIn profiles); creating an internship and job search strategy; preparing for interviews; weighing offers and salary negotiations; identifying references and more.

The <u>ProReady</u> initiative is designed to prepare every CU Engineering student for career success in their chosen field. Follow the ProReady formula to help you:

- Chart your career path
- Gain relevant experience
- Grow your professional network

Health & Wellness Support Services

- Mental and emotional support through <u>Counseling and Psychiatric Services (CAPS)</u>
- Trauma and advocacy support through the Office of Victim Assistance (OVA)
- Accommodations through <u>Disability Services</u>
- Recovery and support through <u>Collegiate Recovery Center</u>
- Student support and advocacy through <u>Student Support & Case Management (SSCM)</u>

Veteran & Military Affairs

The <u>CU Boulder Veteran and Military Affairs (VMA)</u> can assist with pay, programs, policy, information and support for prospective and current student veterans and veteran dependents.

Graduate Degree and Certificate Academic Standards

Students enrolled in the EMP must achieve a cumulative GPA of 3.0 or better in the courses counted toward the master's degree or a certificate. This is a requirement of both the Graduate School and the EMP. If your GPA falls below 3.0 you will be placed on academic probation. Students may not graduate while on academic probation and are subject to dismissal from the EMP. Should this occur, you and the program will receive an official email from the Graduate School with next steps. You can also learn more under the <u>Graduate School Rules Academic Standing and Dismissal</u>.

The policy of the EMP is that a student may apply no more than (i.e. a maximum of) one course (3 credits) toward the master's degree or certificate with a grade of C+. All other grades must be higher than a C+, while maintaining a 3.0 GPA.

Absent extreme and extenuating circumstances beyond the control of the student, no student may repeat any EMP course more than once. This means that if, after a maximum of two attempts, a student fails to earn a minimum of a C+ in any course required for the master's degree, they cannot be granted a degree in the EMP.

Incomplete grades are given only when students, for documented reasons beyond their control, are unable to complete course requirements. A substantial amount of work must have been satisfactorily completed before approval for such a grade is given. Incomplete grades are not calculated into the GPA. If a student does not complete a course assigned an Incomplete grade within one year, the Incomplete grade will automatically convert to an F grade. Students cannot repeat an equivalent course at another campus of the university or at another institution and expect the CU-Boulder grade of "I" to be removed, changed, or excluded from conversion to an F. A student is expected to complete any course with an "I" grade and not to re-enroll in a course in which a grade of "I" was awarded. Once the work has been completed, the instructor must complete and submit a Change of Record form. However, it is the student's responsibility to verify that the grade change was processed and is reflected properly on the transcript. Please contact kendra.thibeault@colorado.edu and the instructor for the course you wish to drop late and/or request an Incomplete to discuss next steps.

A student who fails to maintain a 3.0 grade point average or to make adequate progress toward completing a degree, as assessed by the student's academic advisor, will be subject to suspension or dismissal from the Graduate School upon consultation with Engineering Management leadership. The final decision on suspension or dismissal will be made by the dean of the Graduate School.

Policies, procedures, and requirements may change from year-to-year. Students should refer to the applicable version of the Student Handbook in effect at the time of their matriculation for degree plan requirements. Students who are readmitted, or if degree requirements change during their time in the program, may choose to continue with requirements from their original matriculation (if still applicable) or they may choose to complete the current requirements at the time of their

readmission. Please visit CU Boulder's <u>Graduate School website</u> and review their <u>Policies and</u> <u>Procedures</u>.

Master of Engineering Degree Requirements

30 Credit Hours

Required courses (12 credits):

- EMEN 5015: Engineering Communication-TAKEN IN FIRST SEMESTER
- EMEN 5020: Finance for Engineering Managers
- EMEN 5030: Project Management OR EMEN 5405: Fundamentals of Systems Engineering
- EMEN 5050: Leading Oneself

Elective courses (18 credits):

- Any EMEN course counts as an elective, except EMEN 5000 does not count towards degree requirements: <u>Comprehensive Course List</u>.
- One of the six electives can be a technically oriented graduate course from another program (must be approved by EMP).
- Preapproved electives outside of EMEN (only one counts towards the degree):
 - o MBAX 6460: Supply Chain Management
 - MBAX 6843: Supply Chain Analytics
 - MSAX 6450: International Operations Management
 - MSBX 5450: Transportation & Logistics
 - MSBX 5470: Procurement & Contracting
 - MSBX 5435: Planning & Production
- Earn a Certificate
 - o <u>Engineering Management Certificates</u> Choose one
 - <u>Water Engineering & Management Certificate</u> This is an exception to the elective policy, all 12 credits count towards the EMEN degree.

Degree requirements must be completed within six years.

Degree Transfer Credits

Transfer credit is defined as any credit earned at another accredited institution, credits earned on another campus of the CU system, or credits earned as a non-degree student within the CU system.

Transfer eligibility criteria:

- Up to nine credits can be transferred, including courses taken as a non-degree seeking student at CU. EMP certificate students are eligible to transfer 12 credits to the degree program. CU on Coursera courses are counted as transfer credit. Please contact <u>kendra.thibeault@colorado.edu</u> about the possibility of transferring credit or counting Coursera coursework.
- Course cannot have been taken towards another degree (undergrad or grad)
- Course must have been taken from an accredited institution
- Course must be classified as graduate level status
- Course grade must be a B or higher

- Student must submit a course syllabus, description and transcript to EMP to request a preliminary review of the course content for approval
- The credits cannot be transferred until after the student has completed at least 6 credits of graduate level coursework as a degree seeking student at CU Boulder with a 3.0 GPA
- Once 6 credits have been completed, fill out the <u>Request for Transfer Form</u>. Students will need to provide the following information to proceed:
 - The name and colorado.edu e-mail address of their advisor: kendra.thibeault@colorado.edu
 - The name and colorado.edu e-mail address of the director of graduate studies for their program: <u>michael.gazarik@colorado.edu</u>
 - Formal name of institution for transfer credit
 - Course number, title, term/year the course was taken, and grade earned
 - Number of credits listed on transcript and any conversion necessary to semester hours
 - Supporting documentation (if necessary)

You will receive notification upon submission of the request form, and then your advisor will receive the form to review and provide additional information. Next, your request for transfer will be routed to the email addresses above. Your request may also be reviewed by International Admissions or by an undergraduate dean's office if necessary. After review by the Graduate School, the student and program will receive notification.

Dual Graduate Degree Admissions & Requirements

The Engineering Management dual-degree program enables students to merge their technical master's degree with a leadership-focused master's degree, providing students with a well-rounded education.

How to Apply to EMP's Dual Degree Program

- 1. Apply to the degree program in the Aerospace, Electrical, Computer Science or Mechanical Engineering department.
- 2. Please select Engineering Management so that your application to the above programs will also be forwarded to EMP for review for the dual degree program.

*If you are already a student in one of the above programs or in EMP, please contact the EMP and the partnering program (Aerospace, Mechanical, Electrical or Computer Science) to discuss adding the dual degree.

Available Dual Degrees

Dual degrees are available from the following departments, but may not be available for all degree tracks:

- <u>Aerospace Engineering Sciences</u>
 - o MS Aerospace Engineering Sciences and ME Engineering Management
 - \circ $\,$ MS Professional Aerospace Engineering Sciences and ME Engineering Management $\,$
- <u>Computer Science</u>
 - o ME Computer Science and ME Engineering Management
 - o MS Professional Computer Science and ME Engineering Management
- <u>Electrical, Computer & Energy Engineering</u>

- ME Electrical, Computer and Energy Engineering and ME Engineering Management
- MS Professional Electrical, Computer and Energy Engineering and ME Engineering Management
- Mechanical Engineering
 - o MS Professional Mechanical Engineering and ME Engineering Management

The dual degree consists of 45 credits for each program. The EMEN portion consists of 21 credits (4 required + 3 EMEN electives) and 24 credits at the discretion of the other program.

The coursework can be taken in any order, however, neither degree will be awarded until all requirements for both degrees are completed.

Bachelor's-Accelerated Master's (BAM) Admissions & Requirements

Students may earn the Master of Engineering (ME) in Engineering Management degree as part of the Bachelor's–Accelerated Master's (BAM) degree program, which allows currently enrolled CU Boulder undergraduate students the opportunity to earn a bachelor's and master's degree in a shorter period of time. Students receive the bachelor's degree first, but begin taking graduate coursework as undergraduates (typically in their senior year).

This program will provide undergraduate students who have a strong interest in a leadership-focused education an opportunity to complement their technical degree with the ME in Engineering Management. This BAM program would enable these students to deepen their fundamental understanding of leadership, management, business and entrepreneurship through rigorous graduate courses. Once they have completed their BS degree, these students would have the option to pursue the ME degree while simultaneously working. The ME degree also offers greater access and flexibility to complete courses in person or online (asynchronously or synchronously).

For more information, see the Accelerated Master's tab for the associated bachelor's degree(s):

- <u>Aerospace Engineering Sciences Bachelor of Science (BSAE)</u>
- <u>Electrical and Computer Engineering Bachelor of Science (BSEC)</u>
- <u>Electrical Engineering Bachelor of Science (BSEE)</u>
- Mechanical Engineering Bachelor of Science (BSME)

*Students should continue to work with their undergrad advisor to meet the requirements for their undergrad degree.

BAM Admissions Process:

- Students must fill out the <u>BAM Intent Form</u>, typically in the spring of their junior year, for admission to the program.
- Students must have at least junior class standing.
- Students must have a cumulative GPA of 3.0 or better.
- Students must have completed MAPS requirements.
- Students must provide an unofficial transcript.

In preparation to apply, please review these resources:

- <u>The Graduate School's pages</u> contain important information for prospective and current graduate students.
- <u>The Graduate School Rules</u> provide detailed information on credit enrollment limits, academic probation, credit transfer rules, and other subjects.
- Eligible students may apply for the BAM program by completing the BAM Intent Form. <u>Visit the</u> <u>Registrar's Office BAM page for more information</u>.

30 Credit Hours

Required courses (12 credits):

- EMEN 5015: Engineering Communication-TAKEN IN FIRST SEMESTER
- EMEN 5020: Finance for Engineering Managers
- EMEN 5030: Project Management OR EMEN 5405: Fundamentals of Systems Engineering
- EMEN 5050: Leading Oneself

Elective courses (18 credits):

- Any EMEN course counts as an elective, except EMEN 5000 does not count towards degree requirements: <u>Comprehensive Course List</u>.
- One of the six electives can be a technically oriented graduate course from another program (must be approved by EMP).
- Preapproved electives outside of EMEN (only one counts towards the degree):
 - MBAX 6460: Supply Chain Management
 - MBAX 6843: Supply Chain Analytics
 - MSAX 6450: International Operations Management
 - MSBX 5450: Transportation & Logistics
 - MSBX 5470: Procurement & Contracting
 - MSBX 5435: Planning & Production
- Earn a Certificate
 - o Engineering Management Certificates Choose one
 - <u>Water Engineering & Management Certificate</u> This is an exception to the elective policy, all 12 credits count towards the EMEN degree.

All degree requirements must be completed within six years. The BAM program is intended to be accelerated, however, students that wish to work while completing the degree may do so.

While students are enrolled as an undergrad, they may take up to 12 credits that satisfy any of the 30 credit hours required for the ME in Engineering Management.

6 credits of the 12 credits listed above may be double counted toward both degrees. The 6 credits may be 5000 level or above graduate level coursework required for the ME in Engineering Management (see requirements above).

Graduate Certificate Requirements & Completion

Graduate certificates are designed for non-degree students and master's degree students in EMP and from other CEAS departments. Graduate certificate programs provide knowledge and expertise through a series of four curated courses. The program is flexible—students can apply their certificate course credits to a master's program if they wish to continue their professional development.

EMP students do not need to declare a certificate if they are completing it as part of their degree program. Non-degree and students from other programs need to apply to the certificate program: <u>https://www.colorado.edu/emp/graduate-certificates</u>.

Available Certificates:

- Engineering Management in the Aerospace Industry
 Learn leadership and program management skills widely employed by the aerospace
 industry in this jointly sponsored program.
- Innovation & Entrepreneurship in Engineering
 Whether you are forming a new company or are a part of a larger organization, gain the skills to launch, lead, and manage a viable entrepreneurial business.
- <u>Leadership & Management</u> Ethics are at the core of management. Discover how to navigate ethical decisions and maintain integrity in a leadership role while applying your natural strengths to your work environment.
- Project Management

Project Management is applied leadership; gain the knowledge and skills to lead a team and project from beginning to end.

Certificate Completion:

If you are completing a certificate, please fill out the <u>Certificate Completion Form</u> before you graduate. A paper certificate is mailed approximately 8 weeks after the end of the semester that you graduate. If you did not establish a separate diploma address when you applied to graduate, your certificate will be mailed to your home address. Students may not double count courses between multiple certificates.

Master's Degree Graduation

All communication from the EMP and the University will be sent to your Colorado.edu email address only. Please ensure that you have emails forwarded from your CU account to the email address you check most frequently. Please make note of all the below deadlines. In order to process your paperwork through the Graduate School, it is essential that the Engineering Management Program receive your information on time.

Complete the below items by the following date according to the semester you plan to graduate:

- Fall: September 1
- Spring: January 2
- Summer: May 1

Complete the EMP 10-course sequence (30 credits). Use the EMP website as a resource in reviewing the required courses.

- Access to your transcript is available on <u>Buff Portal</u> (choose "View my Unofficial Transcript" under "Grades and GPA").
- Fill out the <u>Graduation Notification Form</u>.
- Apply for graduation by logging into the <u>Buff Portal</u> and typing in "Apply for Graduation" in the search bar.
- Fill out the <u>Candidacy Application for an Advanced Degree</u> form, which can be found on the Graduate School website. This form will be automatically sent to EMP for review and approval.

Undergraduate Minor Academic Standards

Students must achieve a cumulative GPA of 2.0 or better in courses used to satisfy the requirements of the minors. Each course requires a minimum grade of D- or better (note, however, that a C- or better is required in all prerequisite courses to qualify to take a subsequent course).

EMP defers to the undergraduate major, therefore, students should discuss grade replacement or retaking a course with their major advisor.

Incomplete grades are given only when students, for documented reasons beyond their control, are unable to complete course requirements. A substantial amount of work must have been satisfactorily completed before approval for such a grade is given. Incomplete grades are not calculated into the GPA. If a student does not complete a course assigned an Incomplete grade within one year, the Incomplete grade will automatically convert to an F grade. Students cannot repeat an equivalent course at another campus of the university or at another institution and expect the CU-Boulder grade of "I" to be removed, changed, or excluded from conversion to an F. A student is expected to complete any course with an "I" grade and not to re-enroll in a course in which a grade of "I" was awarded. Once the work has been completed, the instructor must complete and submit a Change of Record form. However, it is the student's responsibility to verify that the grade change was processed and is reflected properly on the transcript. Please contact kendra.thibeault@colorado.edu and the instructor for the course you wish to drop late and/or request an Incomplete to discuss next steps.

Policies, procedures, and requirements may change from year-to-year. Students should refer to the applicable version of the Student Handbook in effect at the time of their declaration for minor requirements.

Undergraduate Minor Admissions

The minors are open to all undergraduate students in the College of Engineering and Applied Science who are in good standing with the College. The undergraduate minor programs do not require an application.

- To add a minor to your record (and degree audit), please work with your major advisor to submit this request.
- A cumulative GPA of 2.250 or better is required for courses used to satisfy the requirements of this minor.

Engineering Management Minor Requirements

Our engineering management minor is designed to help advance the nature of leadership within industry. This minor is designed for students rostered in the College of Engineering and Applied Science who wish to advance their business skills and knowledge within industry. Students will learn the skills necessary to integrate engineering management systems into the engineering and technology environment. A minor in engineering management will broaden your knowledge and skills in project management, leadership, marketing, economics, accounting and finance.

Required Courses (6 credits):

- EMEN 4030: Project Management Systems or substitute AREN 4506, CSCI 3308 or CVEN 3246
- EMEN 4100: Engineering Economics

Electives (9 credits):

- EMEN 3100: Introduction to Engineering Management
- EMEN 4050: Leadership & Professional Skills
- EMEN 4110: Supply Chain Management (same as MGMT 4110)
- EMEN 4120: Managing Business Processes (same as MGMT 4120 & MGMT 5120)
- EMEN 4400: Quality Management
- EMEN 4405: Fundamentals of Systems Engineering or substitute ECEN 4583

*Three elective credits can come from the approved "accepted elective substitutions" list below.

Accepted Elective Substitutions (can satisfy up to 3 credit hours)

- APPM 3570
- APPM 4570
- APPM 4580
- ASEN 2004 OR ASEN 2704 (spring 2023)
- AREN 4606
- CHEN 3010
- CHEN 4090
- CHEN 4630
- COEN 2050
- CSCI 1000
- CSCI 4502
- CVEN 3227
- CVEN 4897
- ECEN 1100
- ECEN 2410
- ECEN 3810
- ENLP 3000
- GEEN 3853
- MCEN 2000
- MCEN 3047
- MCEN 5045

Engineering Entrepreneurship Minor Requirements

The undergraduate engineering entrepreneurship minor prepare students with the knowledge, understanding and skills to essential entrepreneurship in a start-up venture or within a larger corporation. This minor develops entrepreneurial and leadership skills, while introducing students to the multiple facets of entrepreneurship, innovation, creative development and the overall entrepreneurial process.

Required Courses (6 credits):

- EMEN 4800: Technology Ventures and Marketing (Prereq: EMEN 4820)
- EMEN 4820: Entrepreneurial Product Development

Electives (9 credits):

- EMEN 4055: Designing for Diversity, Equity & Inclusion in Engineering-*counts towards H&SS*
- EMEN 4200: Engineering Entrepreneurship for the Developing World
- EMEN 4825: New Venture Creation
- EMEN 4850: Entrepreneurial Leadership
- EMEN 4875: Entrepreneurial Finance

*Three elective credits can come from the approved "accepted elective substitutions" list below.

Accepted Elective Substitutions (can satisfy up to 3 credit hours)

- ASEN 5519: Selected Topics (Designing for Defense) ^{1,3}
- ATLS 2002: Design Technologies: Process
- ATLS 3519: Special Topics in Technology, Arts, and Media (Design for Change)
- COEN 5830: Selected Topics (Designing for Defense)^{1,3}
- CSCI 4348/4358: Startup Essentials: Entrepreneurial Projects in Computing²
- CSCI 7000: Current Topics in Computer Science (Designing for Defense)^{1,3}
- CYBR 5830: Special Topics (Intro to Blockchain)
- GEEN 2400: Engineering Projects for the Community
- GEEN 3400: Invention and Innovation
- ECEN 4610/4620: Capstone Laboratory Part 1 (Entreprenseurship Track)²
- MCEN 4228: Special Topics in Mechanical Engineering (Design for Community)
- MCEN 4045/4085: Mechanical Engineering Design Project 1²
- MCEN 5830: Designing for Defense ^{1, 3}

¹ Designing for Defense is a cross-listed course. Students can only count it once towards the minor. ² A student may only count 3 credit hours from an Entrepreneurship Capstone offered within their major.

³ This graduate-level course is open to undergraduate enrollment.