COLLEGE OF ENGINEERING AND APPLIED SCIENCE (COEN)

Courses

COEN 1015 (3) Everyday Excel
Microsoft Excel is one of the most popular software tools worldwide, used in industries such as project management, office administration, engineering, science, business, finance, and data analysis. In this unique, thought-provoking course, you will learn how to create and manage Excel spreadsheets, sort and filter data, present and interpret data in graphical format, and perform a variety of mathematical, logical, and statistical calculations. A laptop computer with Microsoft Excel is mandatory.

COEN 1500 (1) CEAS First Year Seminar
The CEAS First Year Seminar is a small, discussion-based course designed to provide incoming first-year students a foundation to thrive as university scholars, meeting with them from their first day of classes through getting back the results of their first round of midterms. The seminar is a combination of a common curriculum (40%) exploring texts concerning creating an engineering identity, the purpose of an engineering education and the larger values of the college community (mattering, belonging, agency, ownership, inclusivity and service) and a unique curriculum (60%) in which faculty members cultivate these values through their own areas of expertise and interest. This seminar represents the commitment of dedicated faculty to help incoming first-year students become an active and contributing part of the intellectual, inclusive, healthy, inquisitive, diverse, sustainable and socially engaged culture of the College of Engineering.
Requisites: Restricted to Fall incoming first year students living in Engineering Connections from College of Engineering Applied Science.

COEN 1510 (1) Self Management and Leadership Principles 1
Prepares first-year students for personal and academic success in their transition to college. Focuses on academic success strategies, time and stress management, study skills, S.M.A.R.T. goal setting and developing self-awareness. Students identify their strengths and participate in peer-to-peer interaction to foster collaboration and community. Students will also explore leadership capabilities, professional development, and insights into career interests. Speakers provide students with unique insights into academic and engineering experiences.
Requisites: Restricted to Engineering Goldshirt (PENG) students only.

COEN 1515 (1) Essential Strategies for Engineering Success
This course will support students in developing financial knowledge and skills related to financial wellness, academic success, and personal well-being, as CU Engineering students. In learning about financial wellness, students will explore, share, and discuss experiences and beliefs that have shaped their attitudes and behaviors related to money, and they will develop financial goals for the future while learning and practicing financial wellness skills. In addition to financial wellness, students will learn about resources and practice skills and strategies they can use to support their academic success and personal well-being in and beyond their academic experience. Students will learn and work toward achieving the course outcomes through interactive discussion, activities, and personal reflection, where students¿ own experiences, knowledge, skills, and goals are critically important to the learning process.

COEN 1520 (1) Self Management and Leadership Principles 2
Continuation of COEN 1510. Self-management and student development is reiterated. Includes time and stress management, study skills and S.M.A.R.T. goal setting. Leadership skills are explored through group projects. Students complete professional development activities and assignments geared toward preparing students for engineering internships and research opportunities.
Requisites: Requires prerequisite course of COEN 1510 (minimum grade C-). Restricted to Engineering Goldshirt (PENG) students only.

COEN 1550 (1) Fundamentals of Undergraduate Research (FUTURE)
Exposes first or second year undergraduate students to engineering research careers through a partner program (Fundamentals of Undergraduate Research), panel discussions with researchers in academics and industry, and exposure to research labs. Department consent required.

COEN 1830 (1-3) Special Topics
Explores topics of interest in engineering. Content varies by instructor and semester.
Repeatable: Repeatable for up to 9.00 total credit hours. Allows multiple enrollment in term.
Requisites: Restricted to College of Engineering (ENGRU) undergraduates only.

COEN 2830 (1-3) Special Topics
Explores topics of interest in engineering. Content varies by instructor and semester.
Repeatable: Repeatable for up to 9.00 total credit hours. Allows multiple enrollment in term.
Requisites: Restricted to College of Engineering (ENGRU) undergraduates only.

COEN 2850 (1-3) Independent Study
Provides opportunities for independent study at the lower-division undergraduate level. Subject and/or project agreed upon by the student and the instructor to fit the needs of the student.
Repeatable: Repeatable for up to 6.00 total credit hours.
Requisites: Restricted to College of Engineering (ENGRU) undergraduates only.

COEN 2880 (1) Fresh Start for Success
Fresh Start is a class for students in the College of Engineering who want to work toward a Fresh Start! This course focuses on learning the mindsets and skills necessary to achieve academic and personal change goals. Topics include the science of learning (metacognition) and the use of metacognition in everyday life, including strategies supporting mastery of the material in engineering, effective study planning and test-taking, maintaining balance throughout the semester, and the science and creation of sustainable change through habits, support, and resiliency. This class focuses on the actions necessary to reflect deeply and develop awareness and skills to help create change. Enrolled students must engage in the class and commit to applying knowledge and skills acquired during lessons and reflection to their other classes and aspects of their student experience. This course is best suited for students looking for support in the pursuit of success in achieving academic goals.
Repeatable: Repeatable for up to 2.00 total credit hours.
Requisites: Restricted to Engineering Fresh Start (PEEA) students only.

COEN 3051 (2) Leadership Seminar 1: Launching the Leadership Experience
Practicing needs assessment, decision-making and planning skills, students take this seminar to prepare for their Leadership Experience (required for completion of the Engineering Leadership Certificate). Students work in collaboration with each other, their Engineering Leadership Program mentors and campus/community organizations and leaders to lay the foundation for and launch their individually unique Leadership Experiences.
Requisites: Requires a prerequisite course of COEN 2050 (minimum grade C-). Restricted to Engineering Leadership Program (PENL) students only.

COEN 3053 (2) Leadership Seminar 3: ELP Synthesis and Final ePortfolio
Progressing through this course, students complete the ePortfolio that demonstrates fulfillment of the requirements of the Engineering Leadership Certificate, reflecting upon synthesizing and discerning practical applications of the leadership experiences tackled throughout throughout their time at CU.
Requisites: Restricted to Engineering Leadership Program (PENL) students only.

COEN 3100 (1) Engineering Transfer Student Success Seminar
Designed to aid in a successful transition to CU Engineering for students transferring from another two- or four-year institution. Through this course students will learn about college, campus and academic resources, evaluate their skills, explore relevant engineering transfer student issues, build on their strengths and education related to overall career goals, and establish a supportive transfer student community.
Requisites: Restricted to College of Engineering (ENGRU) undergraduates only.

COEN 3210 (3) Climate Change and Engineering
Explores the fundamentals of climate change science, but from an engineering perspective. After learning the fundamentals, the relationship between climate change and different engineering disciplines will be discussed. Topics covered include geoengineering, renewable energy, sustainable engineering, coastal engineering, building design, etc. Career options and entrepreneurial opportunities will also be discussed.
Requisites: Requires prerequisite courses of PHYS 1110 and APPM 1350 (minimum grade D-).

COEN 3930 (1-6) Engineering Internship/Co-op
Students enrolled in this course participate in a pre-approved internship or cooperative education program with an employer that allows them to explore the relationship between theory and practice and demonstrate evidence of significant learning (e.g., academic assignments and employer/sponsor evaluations). Credits may apply towards BS or BA degree program in CEAS, please check with the department for specifics (even if student has multiple enrollments in this course and/or COEN 4950).
Repeatable: Repeatable for up to 6.00 total credit hours.
Requisites: Restricted to College of Engineering (ENGRU) undergraduates only (minimum GPA 2.0).

COEN 4000 (1-3) Global Intensive Studies
Provides a hands-on exploration of a particular engineering/applied science subject area in an overseas setting. Serves as a complement to an existing engineering or applied science course taught at CU. Topic areas will vary.
Equivalent - Duplicate Degree Credit Not Granted: ENES 3844 COEN 5000
Repeatable: Repeatable for up to 6.00 total credit hours.

COEN 4830 (1-3) Special Topics
Explores topics of interest in engineering. Content varies by instructor and semester.
Repeatable: Repeatable for up to 9.00 total credit hours. Allows multiple enrollment in term.
Requisites: Restricted to College of Engineering (ENGRU) undergraduates only.

COEN 4850 (1-3) Independent Study
Provides opportunities for independent study at the upper-division undergraduate level. Subject and/or project agreed upon by the student and the instructor to fit the needs of the student.
Repeatable: Repeatable for up to 6.00 total credit hours.
Requisites: Restricted to College of Engineering (ENGRU) undergraduates only.

COEN 4934 (3) Art, Design, and Engineering: Thinking and Making
Examines the aesthetics, design, and engineering of sculpture, installation, and public art. Through research presentations, readings, and field trips, students learn about the process of making art. In addition to classroom learning, students engage in internships with artists and art fabricators. Highlights national and international hybrid art, design, and engineering advanced degree programs and additional art-related internships and job opportunities. Previously offered as a special topics course.
Equivalent - Duplicate Degree Credit Not Granted: ARTS 5934 and ARTS 4934
Grading Basis: Letter Grade

COEN 4950 (1-6) Global Engineering Internship
Students enrolled in this course participate in a pre-approved global internship with an employer that allows them to explore the relationship between theory and practice and demonstrate evidence of significant learning (e.g., academic assignments and employer/sponsor evaluations). Up to 3 credits may apply towards BS degree program's Free Electives (even if student has multiple enrollments in this course and/or COEN 3930). Students may also earn COEN 4950 credit for international internship facilitated through CU-approved providers that contract with CU's Education Abroad Office. These placements must be pre-approved by the student's department/program to be eligible for credit.
Repeatable: Repeatable for up to 6.00 total credit hours. Allows multiple enrollment in term.
Requisites: Restricted to College of Engineering (ENGRU) undergraduates only (minimum GPA 2.0).

COEN 5000 (1-3) Global Intensive Studies
Provides a hands-on exploration of a particular engineering/applied science subject area in an overseas setting. Serves as a complement to an existing engineering or applied science course taught at CU. Topic areas will vary.
Equivalent - Duplicate Degree Credit Not Granted: ENES 3844 COEN 4000
Repeatable: Repeatable for up to 6.00 total credit hours.

COEN 5830 (1-6) Special Topics
Explores topics of interest in engineering. Content varies by instructor and semester. May be repeated for up to 9 total credit hours.
Repeatable: Repeatable for up to 9.00 total credit hours. Allows multiple enrollment in term.
Requisites: Restricted to College of Engineering graduate students only.
Grading Basis: Letter Grade

COEN 5850 (1-6) Independent Study
Provides opportunities for independent study at the graduate level. Subject and/or project agreed upon by the student and the instructor to fit the needs of the student.
Repeatable: Repeatable for up to 6.00 total credit hours.
Requisites: Restricted to College of Engineering graduate students only.

COEN 6280 (1.5) Deming Center Venture Fund: An Experiential Approach
Provides experience in venture capital for a multidisciplinary group of graduate students with hands-on due diligence, interaction with entrepreneurs, presentations to advisory board members, participation in investment decisions, and ongoing monitoring and analysis of investments. The objective is to make sound investment decisions based on due diligence and investment analysis to extend the life of the DCVF (Deming Center Venture Fund).
Repeatable: Repeatable for up to 6.00 total credit hours.
Requisites: Restricted to graduate students only, must be Engineering, Business or Law to participate.
Grading Basis: Letter Grade