

CHEN 1300: Intro to Chemical and Biological Engineering

3 credit hours | M 4:05pm-4:55pm

Contact Information

Instructor: Dr. Kathryn (Katie) O'Harra

Instructor Email: katie.oharra@colorado.edu

Office Hours:

Mondays 3 - 4pm in BIOT A115 (Main Classroom, BIOT A115)

Thursdays, 1 - 2pm in BIOT D1B18 (BIOT D1B18)

(Based upon Poll Results)

Course Assistants/Teaching Assistants: Rebecca Rhodes

Course Content and Learning Objectives

Examines the different fields of chemical engineering and chemical & biological engineering including energy, materials, pharma, and biomedical; addresses how to be successful in college and engineering; and showcases some of the opportunities here at CU.

- Learn about careers for chemical and chemical & biological engineers (ChBE)
- Get an overview of the industries and sectors where ChBEs work
- Learn about the ChBE curricula and optional emphases at CU
- Learn about special programs at CU of interest to ChBE students
- Gain insight into contemporary ChBE processes and issues
- Assess the impact of engineering solutions
- Examine ethical dilemmas that chemical and biological engineers face
- Get an introduction to ChBE faculty, students, and professionals
- Learn about problem solving strategies and learning techniques

Assignments and Grading Basis

Lifelong Learning Project 15%

Career Project 15%

Ethics and Sustainability Study 15%

Emerging Topics Article 15%

Professional Development Reflection 10%

In-Class Workshops, Speaker Summaries, iClicker Engagement: 30%

The lowest 5-10% of workshops/in-class engagement activities will be dropped (# TBA).

Grade Ranges

A-, A: 90-93.9, 94-100

B-, B, B+: 80-83.9, 84-86.9, 87-89.9

C-, C, C+: 70-73.9, 74-76.9, 77-79.9

D-, D, D+: 60-63.9, 64-66.9, 67-69.9

F: < 60

Text/Assigned Media

Students will be assigned reading excerpts or other media, provided via Canvas.

Speaker Summaries

- Due at the end of EVERY class where we have a guest or panel
- Will count for your attendance
- Format/Including: Name, ½ - 1 page, handwritten, paragraph or bullet point style (sentence)

In Class Activities

- We may complete in-class activities (worksheets, collaborative workshops) that directly connect to our course lectures or assigned media. These will be completed in class, and will be due at the end of the class period or occasionally extended to 11:59pm (end of day).
- Throughout class, learning will be assessed with the use of iClicker questions, to confirm understanding or explore a topic via responses from the class. These will not be utilized every class (i.e., guest speakers), but will be distributed throughout the term.

Date	Day	Topic
August 25, 2025	M	Introduction, Goals, Support Structures, Sectors and Scope
September 1, 2025	M	No Class, Labor Day Holiday
September 8, 2025	M	The Mentality of ChBE, Failure and Problem Solving
September 15, 2025	M	Time Management, Success Strategies, Leveraging Resources for Engineering Courses
September 22, 2025	M	Resumes, Cover Letters, LinkedIn, Articulating Experiences/Skills
September 29, 2025	M	Communication with Engineering Audiences, Networking, Interviewing, Elevator Pitches
October 6, 2025	M	Career Services, Opportunities as UG
October 13, 2025	M	Lifelong Learning, Sustainable Contributions
October 20, 2025	M	Ethics, Professional Responsibilities of Engineers
October 27, 2025	M	Creativity, Innovation, Collaboration, Scale
November 3, 2025	M	Research Labs, Curiosities, Inquiry and Opportunity
November 10, 2025	M	Entrepreneurialism, Intellectual Property, Risk, Finances
November 17, 2025	M	Panel 1, Exploring Possibilities
November 24, 2025	M	No Class, Thanksgiving Holiday
December 1, 2025	M	Panel 2, Balancing Involvement, Professional Engagement
December 5, 2025	F*	Final Project
		No Final Exam [Wednesday, Dec. 10, 4:30–7 p.m.], Project Due

Ethical Standards**Course Policies**

- All out-of-class assessments are due at 11:59pm on respective due dates and must be submitted by this time. Without a formal extension/excuse (medical situation, emergency, etc. – contact Dr. O’Harra directly), late work will not be accepted.
- In-class workshops, speaker summaries, or assignments must be submitted as noted. These will *either* be due in-person at the end of class or in certain cases and only when announced (if timing does not allow for completion/submission during class) will these have extended submission deadlines (11:59pm, same day).
- Unless otherwise noted, all work is to be submitted electronically on Canvas.
- An exceedingly high standard of professional quality and clarity is expected on assignments. Understanding content and its applicability is elevated when you are also able to communicate this knowledge effectively.
- Students may and are encouraged to use digital tools to support note-taking, studying, and practice (see AI policy).
- All electronic devices must run with the volume off during classes/workshops.
- Regular attendance is expected and highly encouraged due to the interactive and incentivized nature of our class meetings!

University Policies**Honor Code**

All students enrolled in a University of Colorado Boulder course are responsible for knowing and adhering to the Honor Code. Violations of the Honor Code may include but are not limited to: plagiarism (including use of paper writing services or technology [such as essay bots]), 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.

Understanding the course's syllabus is a vital part in adhering to the Honor Code.

All incidents of academic misconduct will be reported to Student Conduct & Conflict Resolution: StudentConduct@colorado.edu. Students found responsible for violating the Honor Code will be assigned resolution outcomes from the Student Conduct & Conflict Resolution as well as be subject to academic sanctions from the faculty member. Visit Honor Code for more information on the academic integrity policy. NO RESUBMISSION OF WORK, including your own work that you turned in for a different CU, high school, or other class. Resubmission and plagiarism are grounds for failure of the class.

Accommodation for Disabilities, Temporary Medical Conditions, and Medical Isolation

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 Disability Services website.

Contact Disability Services at 303-492-8671 or DSinfo@colorado.edu for further assistance. If you have a temporary medical condition, see Temporary Medical Conditions on the Disability Services website.

If you have a temporary illness, injury or required medical isolation for which you require adjustment, contact Prof. O’Harra directly (katie.oharra@colorado.edu) to discuss options and potential resolutions.

Accommodation for Religious Obligations

Campus policy requires faculty to provide reasonable accommodations for students who, because of religious obligations, have conflicts with scheduled exams, assignments or required attendance. Please communicate

the need for a religious accommodation in a timely manner. In this class, you must notify and request these absences or accommodations *within the first week of class*, contact Prof. O'Harra directly (katie.oharra@colorado.edu), so that any adjustments or alternative assessments can be planned.

See the [campus policy regarding religious observances](#) for full details.

Preferred Student Names and Pronouns

CU Boulder recognizes that students' legal information doesn't always align with how they identify. Students may update their preferred names and pronouns via the student portal; 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.

Classroom Behavior

Students and faculty are responsible for maintaining an appropriate learning environment in all instructional settings, whether in person, remote, or online. Failure 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, marital status, political affiliation, or political philosophy.

For more information, see the [classroom behavior policy](#), the [Student Code of Conduct](#), and the [Office of Institutional Equity and Compliance](#).

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 [protected-class](#) discrimination and harassment, sexual misconduct (harassment, exploitation, and assault), intimate partner abuse (dating or domestic violence), stalking, and related retaliation by or against members of our community on- and off-campus. The Office of Institutional Equity and Compliance (OIEC) addresses these concerns, and individuals who have been subjected to misconduct can contact OIEC at 303-492-2127 or email CUreport@colorado.edu. Information about university policies, [reporting options](#), and [OIEC support resources](#) including confidential services can be found on the [OIEC website](#).

Please know that faculty and graduate instructors are required to inform OIEC when they are made aware of incidents related to these concerns regardless of when or where something occurred. This is to ensure that individuals impacted receive outreach from OIEC about their options and support resources. To learn more about reporting and support for a variety of concerns, visit the [Don't Ignore It page](#).

Mental Health and Wellness

The University of Colorado Boulder is committed to the well-being of all students. If you are struggling with personal stressors, mental health or substance use concerns that are impacting academic or daily life, please contact [Counseling and Psychiatric Services \(CAPS\)](#) located in C4C or call (303) 492-2277, 24/7.

Free and unlimited telehealth is also available through [Academic Live Care](#). The [Academic Live Care](#) site also provides information about additional wellness services on campus that are available to students.

Acceptable Use of AI in this Class

Generative artificial intelligence tools—software that creates or reproduces text, images, computer code, audio, video, and other content—have become widely available. In this course, you may use Artificial Intelligence (AI) tools as a supplemental resource for studying and practice—such as reviewing concepts, understanding processes or reactions, exploring or expanding upon examples, or brainstorming approaches.

However, unless explicitly stated otherwise, you may not use AI tools to generate, write, or complete any work submitted for grading, including homework, workshops, or projects.

When AI use is permitted for a specific assignment or task, you must clearly document and cite: the tool(s) used, what it was used for (e.g., code assistance, explanation of a concept), and how it influenced your work. If you're unsure whether AI use is allowed for a particular assignment or part of a project, ask the instructor before proceeding. Violations of this policy may be treated as academic misconduct under university guidelines.