

BIOE 575 – Capstone Project – Fall 2026

Course Instructor: Jenny Amos (jamos@illinois.edu)

COURSE MEETING: FRIDAYS, 12:00-2:50 PM, 1302 EVERITT LABORATORY

COURSE DESCRIPTION

In this course, you will work on a translational project to develop solutions for real world problems utilizing principles of design, engineering analysis, and functional operation of engineering systems. You will engage a client that is seeking solutions to an important problem. The solution that you propose to the client should be tractable, practical, and strategic.

This course introduces concepts and tools to help you along the complete product lifecycle. The goal is to provide you with skills and practice to take a project from initial scoping and definition to deliverables and completion.

The tools discussed in the course can prove useful when managing or participating in engineering projects of various sizes and needs.

EXPECTED OUTCOMES

- Ability to take an engineering project from problem discovery to appropriate deliverables.
- Gain skills and knowledge on client relationship building and client management during project execution.
- Gain knowledge and effective practice of teamwork and effective project management

GRADING

Assignments and Semester Schedule

All lectures, assignments, due dates, instructions, rubrics can be found on the Canvas website.

Grading Breakdown

All assignments and their weights are detailed on the course Canvas page.

Final Letter Grades

The overall course grade is given on an absolute scale and will not be curved. Concerns about individual assignments or grades should be expressed to the instructor promptly. This course will be assigning +/- letter grades.

A+ > 97% > A > 93% > A–

B+ > 87% > B > 83% > B–

C+ > 77% > C > 73% > C–

D+ > 67% > D > 63% > D–

F < 60%

SCHEDULE OF LECTURES

Wk	Date	First Hour (12-1pm)	Second Hour (1-2pm)	Third Hour (2-3pm)	Assignment
1	08/28/2026	Intro (30-45 mins), Break	Project Selection (90 mins)		Rank + NDA
2	09/04/2026	Team Charter	HCD - interview outreach and Qs	iCORPS w/ Prof Joe Bradley	Team charter + client email
3	09/11/2026	Patents + Lit, zotero	Design Criteria, prompt about interviewing	UG W: CAD; Grad W: Project Management	W templates
4	09/18/2026	Writer's workshop	Tech Comm	Design criteria workshop	DHF Draft
5	09/25/2026	FDA Regulatory	Standards/Testing	Ethics	Presentation Recording Due
6	10/02/2026	Writing help with TAs in person/ Presentation Q&A on Zoom			DHF Due
7	10/09/2026	JUMP Tour - No M.Eng. - PM check in	Silicone molding	Silicone molding	DHF Draft
8	10/16/2026	SCD Tour	Human Factors	W:Testing plan	DHF Due
9	10/23/2026	TA Office Hours	Biweekly meeting, public paragraph, prep work for final presentation		Presentation Recording Due
10	10/30/2026	Presentation Q&A in person			Poster Template
11	11/06/2026	Mock Gallery Walk/Show and Tell Updates			DHF Draft
12	11/13/2026	Writing Lecture		TA Office Hours	DHF Due
13	11/20/2026	Show & Tell Prototype Updates EMAIL	No class - submit written updates		Bring prototype to meeting for show & tell
14	11/27/2026	FALL BREAK			
15	12/04/2026	Showcase on 12/04 in 1302			
16		Final presentations M-W			

Disability Statement and Resources

To obtain disability-related academic adjustments and/or auxiliary aids, students with disabilities must contact the course instructor and the Disability Resources and Educational Services (DRES) as soon as possible. To contact DRES, you may visit 1207 S. Oak St., Champaign, call 333-4603, e-mail disability@illinois.edu or go to the DRES website. If you are concerned you have a disability-related condition that is impacting your academic progress, there are academic screening appointments available on campus that can help diagnosis a previously undiagnosed disability by visiting the DRES website and selecting "Sign-Up for an Academic Screening" at the bottom of the page.

If you are interested in obtaining information to improve writing, study skills, time management or organization, the following campus resources are available to all students:

Writer's Workshop, <http://www.cws.illinois.edu/workshop>

<https://www.disability.illinois.edu/strategies>

<http://www.counselingcenter.illinois.edu/self-help-brochures/>

McKinley Health Education offers individual consultations for students interested in learning relaxation and other stress/time management skills, call 333-2714.

Diversity, Equity, and Inclusion Statement

It is my intent that students from all diverse backgrounds and perspectives be well-served by this course, that students' learning needs be addressed both in and out of class, and that the diversity that the students bring to this class be viewed as a resource, strength and benefit. It is my intent to present materials and activities that are respectful of diversity: gender identity, sexuality, disability, age, socioeconomic status, ethnicity, race, nationality, religion, and culture. Your suggestions are encouraged and appreciated. Please let me know ways to improve the effectiveness of the course for you personally, or for other students or student groups.

Important note: Given the sensitive and challenging nature of the material discussed in class, it is imperative that there be an atmosphere of trust and safety in the classroom. I will attempt to foster an environment in which each class member is able to hear and respect each other. It is critical that each class member show respect for all worldviews expressed in class. It is expected that some of the material in this course may evoke strong emotions, please be respectful of others' emotions and be mindful of your own. Please let me know if something said or done in the classroom, by either myself or other students, is particularly troubling or causes discomfort or offense. While our intention may not be to cause discomfort or offense, the impact of what happens throughout the course is not to be ignored and is something that I consider to be very important and deserving of attention. If and when this occurs, there are several ways to alleviate some of the discomfort or hurt you may experience:

Discuss the situation privately with me. I am always open to listening to students' experiences, and want to work with students to find acceptable ways to process and address the issue.

Discuss the situation with the class. Chances are there is at least one other student in the class who had a similar response to the material. Discussion enhances the ability for all class participants to have a fuller understanding of context and impact of course material and class discussions.

Notify me of the issue through another source such as your academic advisor, a trusted faculty member, or a peer. If for any reason you do not feel comfortable discussing the issue directly with me, I encourage you to seek out another, more comfortable avenue to address the issue.

Academic Integrity

The University of Illinois at Urbana-Champaign Student Code should also be considered as a part of this syllabus.

Academic dishonesty may result in a failing grade. Every student is expected to review and abide by the Academic Integrity Policy. Students should pay particular attention to Article 1, Part 4: Academic Integrity. Read the Code at the following URL: <http://studentcode.illinois.edu/>.

The Grainger College of Engineering uses the FAIR system to document and track academic integrity violations across courses. Multiple violations, even across multiple units, may be cause for dismissal. Ignorance is not an excuse for any academic dishonesty. It is your responsibility to read this policy to avoid any misunderstanding. Educate yourself on all policies here:

<https://provost.illinois.edu/policies/policies/academic-integrity/students-quick-reference-guide-to-academic-integrity/>

Do not hesitate to ask the instructor(s) if you are ever in doubt about what constitutes plagiarism, cheating, or any other breach of academic integrity.

Mental Health

Significant stress, mood changes, excessive worry, substance/alcohol misuse or interferences in eating or sleep can have an impact on academic performance, social development, and emotional wellbeing. The University of Illinois offers a variety of confidential services including individual and group counseling, crisis intervention, psychiatric services, and specialized screenings which are covered through the Student Health Fee. If you or someone you know experiences any of the above mental health concerns, it is strongly encouraged to contact or visit any of the University's resources provided

below. Getting help is a smart and courageous thing to do for yourself and for those who care about you.

- Counseling Center (217) 333-3704
- McKinley Health Center (217) 333-2700
- National Suicide Prevention Lifeline (800) 273-8255
- Rosecrance Crisis Line (217) 359-4141 (available 24/7, 365 days a year)

If you are in immediate danger, call 911.

Religious Observances

Illinois law requires the University to reasonably accommodate its students' religious beliefs, observances, and practices in regard to admissions, class attendance, and the scheduling of examinations and work requirements. Students should complete the [Request for Accommodation for Religious Observances form](#) should any instructors require an absence letter in order to manage the absence. In order to best facilitate planning and communication between students and faculty, students should make requests for absence letters as early as possible in the semester in which the request applies.