

# **ENGR 501 – Ethical Foundations of Engineering**

## **Spring 2024**

### **Course Syllabus**

#### **General Information**

Instructor: Sam Hutzler

Lecture: Keck Center 156, *Tuesdays 7:00pm - 7:50 pm*

Office Hours: *Keck Center 156, Tuesdays 7:50pm – 8:30 pm*

#### **Course Description**

This course considers a range of ethical issues related to the field of engineering. This one-unit course will encourage students' discussions around ethics and highlight areas in the industry. Such as Artificial Intelligence, Human-Computer Interaction, Machine-Learning, Robotics, Intellectual Property, Autonomous Systems, and Bias in Data using research-based articles, specifically focusing on the ethical issues surrounding these technologies (i.e., privacy, safety, and reliability), as well as the possible solutions to mitigate global impact. This class will also examine the ethical responsibilities individuals have completing research in the field.

#### **Course Learning Outcomes**

At the end of this course students will be able to:

- Articulate the ethical issues of current and future technology.
- Determine how to address problems related to the development of technology ethically and legally.
- Understand the ethical practices associated with technology among other countries.
- Explore the philosophical basis of intellectual property and the rationale for the legal protection of intellectual property.
- Understand the philosophical basis for the legal protection of personal privacy and the impact of technological solutions to privacy problems.
- Recognize the ethical responsibility of ensuring software correctness, reliability and safety and evaluate ethical/social tradeoffs in technical decisions
- Recognize the professional and ethical responsibilities, including those defined in the Software Engineering Code and ACM Code of Ethics.
- Articulate the impact of how certain ethical practices impact the global economy.

#### **Program Learning Outcomes**

The Chapman experience creates outcomes which are consistent with our identity. Similar to the General Education program, each degree program, or major, at Chapman has a unique set of learning outcomes, or student abilities that are not only related to Chapman's institutional mission and goals, but also unique to the student's discipline or field of study. For more information, [Fowler School of Engineering Program Learning Outcomes](#).

## Overview

CPSC 501 is a one-unit class that offers an in-depth understanding of the ethical and legal implications of technology, including the impact on individuals, businesses, and governments.

## Required Text

Articles will be posted in Canvas

## Course Materials

All course materials will be made available via the course site on [Canvas](#) when possible. Canvas will also be used for submitting assignments, viewing grades, etc.

## Course Grade Breakdown

Letter grades in the class will be assigned according to the following breakdown:

<i>Grade</i>	<i>Letter Grade</i>
93+	A
90-92.9	A-
87-89.9	B+
83-86.9	B
80-82.9	B-
77-79.9/73-76.9/70-72.9	C+/C/C-
67-69.9/63-66.9/60-62.9	D+/D/D-
<60	F

## Assignments

There will be two paper assignments. Students will apply the ethical standards codified in class to current or past ethics cases to analyze and discuss failures in policy and possible mitigation.

### Final Exam

The final exam will be a paper with the same grading criterion as the assignments in class.

## Late Policy

As this is a graduate course, no late work will be accepted.

## Participation

It is expected that students will attend and contribute every lecture.

## Exams

There will be one in-class final exam.

## Grading Percentages Breakdown (subject to change):

Attendance/Participation (participation activities, etc.)

65 %

Assignments (10% each)	20 %
Final	15 %

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### **Assignment Grading**

All assignment will be graded by the instructor. Any questions concerning late submission or assignment grade inquiries should be directed to me via email. By all means approach me before or after class to ask questions, but I will request a follow-up email to make sure I don't overlook any action items.

### **Final Exam Time**

The exam schedule can be found on the University website.

### **Collaboration Policy**

You have much to learn from your colleagues, and so I encourage you to discuss and study course material together. However, all work you submit for this course must be your own, and must be completed individually unless otherwise specified. More specifically, you may not present source code or programs copied from the Internet, other texts, other students, etc. as your own work. Of course, you are free to use whatever *reference* materials you like, but please cite them in a README turned in with your assignments. A README is a .txt document with a list of all reference materials used to aid in the assignment as well as names of other classmates you collaborated with. I assume you are familiar with Chapman's policy on academic misconduct, it is presented below and any incidents of academic misconduct or dishonesty will be dealt with severely in accordance with this policy.

### **Expectations and Technology Use**

I expect that everyone will maintain a classroom conducive to learning. I like an informal atmosphere, but it must be orderly. Thus, everyone is expected to behave with basic politeness, civility, and respect for others. In particular, talking in class is okay if it's part of a class discussion or with me. Private communications are not permitted, especially during exams. Neither are reading extraneous materials, using electronic equipment off task, or sleeping. As this is a Computer Science class, technology is allowed to aid in learning and understanding material. However, please do not use a personal device for any purpose unrelated to our class. All devices should be silenced. Cell phones should be put away. Suggestions for improvement are welcome at any time. Any concern about the course should be brought first to my attention.

### **Technology Requirements**

You need access to a personal computer (Mac or Windows) for major amounts of time for this course. You need Internet access for this course. You must be able to save word processing files in a .doc or .docx (Microsoft Word) or .pdf format for sharing and submitting files to the instructor. You are expected to have working knowledge and capability with your computer before entering the class. Please submit all papers and materials (unless otherwise noted in the course schedule) through Canvas online or via email.

### **Chapman University's Academic Integrity Policy**

Chapman University is a community of scholars that emphasizes the mutual responsibility of all members to seek knowledge honestly and in good faith. Students are responsible for doing their own work and academic dishonesty of any kind will be subject to sanction by the instructor/administrator and referral to the university Academic Integrity Committee, which may impose additional sanctions including expulsion. Please see the full description of Chapman University's policy on [Academic Integrity](#).

### **Chapman University's Students with Disabilities Policy**

In compliance with ADA guidelines, students who have any condition, either permanent or temporary, that might affect their ability to perform in this class are encouraged to contact the Office of Disability Services. If you will need to utilize your approved accommodations in this class, please follow the proper notification procedure for informing your professor(s). This notification process must occur more than a week before any accommodation can be utilized. Please contact [Disability Services](#) at (714) 516-4520 if you have questions regarding this procedure or for information or to make an appointment to discuss and/or request potential accommodations based on documentation of your disability. Once formal approval of your need for an accommodation has been granted, you are encouraged to talk with your professor(s) about your accommodation options. The granting of any accommodation will not be retroactive and cannot jeopardize the academic standards or integrity of the course.

### **Chapman University's Equity and Diversity Policy**

Chapman University is committed to ensuring equality and valuing diversity. Students and professors are reminded to show respect at all times as outlined in Chapman's Harassment and Discrimination Policy. Please review the full description of [Harassment and Discrimination Policy](#). Any violations of this policy should be discussed with the professor, the Dean of Students and/or otherwise reported in accordance with this policy."

### **Student Support at Chapman University**

Over the course of the semester, you may experience a range of challenges that interfere with your learning, such as problems with friend, family, and or significant other relationships; substance use; concerns about personal adequacy; feeling overwhelmed; or feeling sad or anxious without knowing why. These mental health concerns or stressful events may diminish your academic performance and/or reduce your ability to participate in daily activities. You can learn more about the resources available through Chapman University's [Student Psychological Counseling Services](#).

Fostering a community of care that supports the success of students is essential to the values of Chapman University. Occasionally, you may come across a student whose personal behavior concerns or worries you, either for the student's well-being or yours. In these instances, you are encouraged to contact the Chapman University [Student Concern Intervention Team](#) who can respond to these concerns and offer assistance. While it is preferred that you include your contact information so this team can follow up with you, you can submit a report anonymously. 24-hour emergency help is also available through Public Safety at 714-997-6763.

**Religious Accommodation**

Religious Accommodation at Chapman University Consistent with our commitment of creating an academic community that is respectful of and welcoming to persons of differing backgrounds, we believe that every reasonable effort should be made to allow members of the university community to fulfill their obligations to the university without jeopardizing the fulfillment of their sincerely held religious obligations. Please review the syllabus early in the semester and consult with your faculty member promptly regarding any possible conflicts with major religious holidays, being as specific as possible regarding when those holidays are scheduled in advance and where those holidays constitute the fulfillment of your sincerely held religious beliefs.

**Changes**

This syllabus is subject to change only under extenuating circumstances. Updates will be posted on the course website.