

## **Engineering Ethics** [University]

### **Class Information**

Philosophy [Number] – [Semester]  
T/R – [Time]  
[Building Name] – [Room Number]

### **Contact Information & Office Hours**

Jennifer Gleason  
[Email]  
[Office]  
[Office Hours]

### **About This Class**

This course introduces students to a range of contemporary ethical issues that arise in the engineering profession, on both an individual and societal scale. In this class, students will gain facility with constructing and critically evaluating ethical arguments, while also acquiring knowledge of concepts of central importance to engineering ethics.

### **General Education Goals and Expected Learning Outcomes**

[Course classification and university goals and expected learning outcomes]

[Description of how course meets these university goals and learning outcomes]

### **Grade Components**

#### **1. Reading Quizzes and Participation (15% of final grade)**

Reading Quizzes – Philosophy, including engineering ethics, is a highly interactive discipline. You will benefit fully from this class only if you complete the out-of-class readings ahead of time, and come to class ready to discuss and ask questions. To help focus your attention on key portions of the readings, this class will include frequent (approximately weekly) “open book” quizzes, which will consist of five multiple choice questions. These quizzes will be announced in advance. Each student’s lowest reading quiz grade will be dropped. Quizzes cannot be completed after the deadline has passed.

Participation – “Hands on” participation in analyzing, constructing, and evaluating ethical arguments is essential to developing a facility with ethical reasoning. Thus, during most class periods, students will have opportunities to discuss topics in small groups or with partners, or to write down questions or reflections individually. In-class work can be made up only in case of excused absences; students must contact the instructor ASAP to make arrangements.

#### **2. Exit Tickets (10% of final grade)**

At the end of most classes, you will be asked to complete a brief (usually 2-question) exit ticket. This is a mini-quiz that gauges your mastery of content from the day’s lesson. Each exit ticket will be worth 5 points, and you will earn 3 of those points just for filling out the exit ticket, even if you do not get any questions right. You cannot receive any points on an exit ticket if you are absent.

### 3. Midterm and Final Exams (45% of final grade)

Midterm Exam (20% of final grade) – The midterm exam will be on [date] during our regularly scheduled class period and will cover conceptual material and applications. More details will be provided closer to the examination date.

Final Exam (25% of final grade) – Like the midterm, the final exam will cover conceptual material and applications. The final exam will be cumulative, and will take place on [date] from [time] to [time]. More details will be provided closer to the examination date.

Make-up exams will be permitted ONLY in the case of prior arrangements due to unavoidable conflicts (e.g. travel to a professional conference, family emergency, etc.) or sudden and serious illness.

### 4. Final Paper (30% of final grade: 5% - paper draft, 5% - peer review, and 20% - final paper)

Each student will turn in a final paper (approximately 5 typed pages), in which they provide an argument in support of a thesis on a topic relevant to engineering ethics and develop and deflect a counterargument. Before the final paper is due, students will be expected to turn in a draft of the paper for peer review. More detailed requirements will be distributed in the second half of the semester.

The final paper will be due on **[date]** at **[time]**, and accepted online.

### 5. Oral Presentations (extra credit)

There is one, and only one, way to earn extra credit in this class: students can elect to give a short (about 5 min) oral presentation in which they (a) describe an engineering project of personal interest or experience and (b) explain at least one way in which it relates to ethics. Students can complete one such presentation in exchange for up to 3 percentage points added to their final course grade.

Students must contact the instructor to confirm presentation topic and arrange a presentation date.

### Default Schedule

The following is a “default” schedule for the course. Specific topics and dates-of-coverage are subject to change, depending on how class progresses. Examination dates are firm. Readings will be posted online.

Week	Date	Topic	Readings (read <b>prior</b> to class meeting)
1 Tu		Intro to Engineering Ethics	No Reading Assigned
1 Th		What is Engineering Ethics?	<b>Davis</b> – “Thinking Like an Engineer”
2 Tu		Utilitarianism	<b>Shafer-Landau</b> – “Consequentialism: Its Nature and Attractions”
2 Th		Utilitarianism	<b>Shafer-Landau</b> – “Consequentialism: Its Difficulties” p. 133-149
3 Tu		Utilitarianism	<b>Shafer-Landau</b> – “Consequentialism: Its Difficulties” p. 149-152
3 Th		Kantian Deontology	<b>Shafer-Landau</b> – “The Kantian Perspective: Fairness and Justice” p. 154-165
4 Tu		Kantian Deontology	<b>Shafer-Landau</b> – “The Kantian Perspective: Autonomy and Respect” p. 168-175
4 Th		Kantian Deontology	<b>Shafer-Landau</b> – “Five Problems with the Principle of Humanity” p. 176-183

5 Tu		Virtue Ethics	<b>Aristotle</b> – Selections from “Nicomachean Ethics”
5 Th		Virtue Ethics	<b>Swanton</b> – “Two Problems for Virtue Ethics”
6 Tu		Autonomous Vehicles	<b>Thompson</b> – “The Trolley Problem”
6 Th		Autonomous Vehicles	<b>Lin</b> – “The Ethics of Autonomous Cars”
7 Tu		Accidents and Catastrophes	<b>Dowie</b> – “Pinto Madness”
7 Th		Accidents and Catastrophes	<b>Hall</b> – “ <i>Columbia</i> and <i>Challenger</i> : organizational failure at NASA”
8 Tu		<b>Midterm Exam</b>	No Reading Assigned
8 Th		<b>No Class - Autumn Break</b>	No Reading Assigned
9 Tu		Drones	<b>Shane</b> – “The Moral Case for Drones”
9 Th		Drones	<b>McGuire</b> – “The Ethics of Drone Warfare”
10 Tu		Whistleblowing	<b>Davis</b> – “Some Paradoxes of Whistleblowing”
10 Th		Whistleblowing	<b>Harris</b> – “Disobedience by Protest” Section 8.6
11 Tu		Privacy	<b>Solove</b> – “I’ve Got Nothing to Hide” p. 745-763
11 Th		Privacy	<b>Solove</b> – “I’ve Got Nothing to Hide” p. 764-772 <b>Cavoukian</b> – “Privacy by Design”
12 Tu		Genetic Engineering	<b>Callaway</b> – “UK Scientists Gain License to Edit Genes in Human Embryos”
12 Th		Genetic Engineering	<b>Savulescu et. al.</b> – “The Ethics of Gene Editing” (Skip Section 5)
13 Tu		Paper Workshop/Peer Review	No Reading Assigned
13 Th		Technological Unemployment	<b>Loi</b> – “Technological Unemployment & Human Disenhancement”
14 Tu		AI	<b>Urban</b> – “The AI Revolution”
14 Th		AI	<b>Scarle</b> – “Minds, Brains, and Programs”
15 Tu		Humanitarian Engineering	<b>Passino</b> – <i>Humanitarian Engineering</i> p. 51-67
15 Th		Humanitarian Engineering	<b>Passino</b> – <i>Humanitarian Engineering</i> p. 114-123 and 670-671
		<b>Final Examination</b>	

## Class Policies

### Excused Absences

Notice that 25% of your grade is dependent on your attending class. You cannot participate or fill out exit tickets if you are not in class. As such, it is important that you attend class each day.

Absences can be excused *with appropriate documentation* in some circumstances, which might include serious personal physical or mental illness, serious illness of a dependent, academic or professional travel, presentations, or interviews, funerals or death in immediate family, and emergency situations such as traffic accidents. Additionally, please see the “In Case of Emergency” Policy below.

### In Case of Emergency

You have a right to privacy and are never under any obligation to divulge personal information to me. In case of emergency (physical, mental, medical, emotional, familial, etc.), you can email me and say: **“Something important has come up that warrants an excused absence from class today.”** No further details will be required. I trust that you know what warrants an excused absence, and I trust that you will not abuse this policy.

Should some sort of emergency get in the way of a deadline or due date, you can send an email of the following sort: **“I am dealing with something that warrants an extension of [Assignment] as it has prevented me from completing [Assignment] to the best of my abilities.”** Once I have received this email, we will work together to determine the best course of action. I may ask a few questions (i.e. “Do you think that you will be in a better place by X date and able to complete the assignment by then?”) to help determine the best course of action. Again, I trust that you know what warrants an extension of an assignment, and I trust that you will not abuse this policy.

### Packing Up

It has become fairly common among students to begin packing up belongings five or so minutes prior to class officially being over. This is incredibly distracting as it creates both (1) a flurry of motion, and (2) a fair amount of noise. This results in the last few minutes of each class period being wasted, and the loss adds up. To prevent a loss of class time, students are not permitted to pack up their belongings until class is officially over.

### Late Work

Peer Review – If you do not attend class the day of the peer review, then you will lose all possible points for the peer review as this is an in-class activity that cannot be made up.

Paper Draft – If you attend class the day of the peer review and fail to bring a paper draft with you, then you may still participate in the peer review for full credit. You will, however, lose the benefit of having your paper draft peer reviewed. In addition, you still have the responsibility of getting your paper draft submitted to the instructor as soon as possible. I will deduct 10% off your draft grade for each day that the assignment is late.

Final Paper - If your final paper is late, I will deduct 10% off your grade for each day that it is late.

Midterm/Final Exam – Exams cannot be taken late. If you miss an exam, then you will receive a zero.

***Exceptions are made in the case of emergency, please email me immediately and we will discuss if your emergency warrants an extension, an exemption, or an alternate due date.***

### Academic Misconduct

According to §III.1 of the NSPE Code of Ethics, engineers shall be guided in all their relations by the highest standards of honesty and integrity. Correspondingly, plagiarism and other forms of cheating will not be tolerated in this course. Students are expected to be familiar with and adhere to the University’s Code of Student Conduct. Any suspected violations will be reported to the Committee on Academic Misconduct. [Link to Code of Student Conduct]. Useful information about plagiarism is found here: [Did I Plagiarize?](#)

## **Diversity**

[University] affirms the importance and value of diversity in the student body. Our programs and curricula reflect our multicultural society and global economy and seek to provide opportunities for students to learn more about persons who are different from them. We are committed to maintaining a community that recognizes and values the inherent worth and dignity of every person; fosters sensitivity, understanding, and mutual respect among each member of our community; and encourages each individual to strive to reach his or her own potential. Discrimination against any individual based upon protected status, which is defined as age, color, disability, gender identity or expression, national origin, race, religion, sex, sexual orientation, or veteran status, is prohibited.

## **Mental Health**

A recent American College Health Survey found stress, sleep problems, anxiety, depression, interpersonal concerns, death of a significant other and alcohol use among the top ten health impediments to academic performance. Students experiencing personal problems or situational crises during the quarter are encouraged to contact [counseling services] for assistance, support and advocacy. This service is free and confidential.

This course covers a variety of topics that may be triggering to some students due to descriptions of and/or scenes depicting acts of violence, death, catastrophe, or disregard for human life. If needed, please take care of yourself while watching/reading this material (leaving the computer to take a water/bathroom break, debriefing with a friend, contacting [resource], and contacting the instructor if needed). Expectations are that we all will be respectful of our classmates while consuming this media and that we will create a safe space for each other. Failure to show respect to each other may result in dismissal from the class.

## **Student Resources**

College is hard. If everything was going perfectly behind the scenes, then college would still be hard. Unfortunately, for many students, things are not going perfectly behind the scenes. With that in mind, I want you to be aware that the university has numerous resources that can be incredibly useful in helping you navigate [University's] structure and resolve issues you encounter while here at the university. You have a right to privacy, and you are never under any obligation to divulge personal information to me. If you need an in class accommodation (more time on the exam, a note-taker, etc.) then you need to register with [disability services]. Once you have registered with disability services, then they can tell me what needs to be done on your behalf without you having to divulge anything personal to me. You can find [the office of disability services] online at [link] or at [Address], [phone number], and [Email].

I want you all to succeed both in my class and here at the university as students. If there is ever something that comes up that starts to get in the way of your education, health, and/or wellness, please know that the university has many resources that are here to help you in a variety of ways. I have included those resources below:

- Emergency Financial Resources: [link]
- Disability Resources: [link]
- Student Advocacy Resources: [link]
- Mental Health Resources: [link]

If you are experiencing a crisis that is not one of disability, hospitalization, mental health, or finance, I still strongly suggest reaching out to [link] to see what supportive resources they may be able to provide.