

Syllabus - EST 331, Engineering Ethics, fall 2020

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How we will communicate (office hours):

Mondays from 3:00 PM to 4:00 PM online in Zoom.

Questions about the course content can be asked online in Blackboard under the Questions link and within the QUESTIONS FORUM. I will be in Blackboard quite frequently, so if you have question regarding the course structure and its content, please post your question in this space. Email me or contact me via Zoom if you have a personal issue like a grading concern or an illness. Any question that requires a more complicated response should be asked in person (for this semester this means online in person). Please email me to arrange a time to meet online and I will send you a link.

Course Description:

Individuals and organizations must make ethical decisions in the course of scientific and engineering endeavors. Various concepts have been developed related to moral conduct, character, ideals, and relationships between people, organizations, and societies, and these concepts relate to how we resolve our ethical issues. Formal frameworks for ethical decision making will be presented, and tested through careful examination of case studies drawn from engineering and industry. We will apply concepts and tools drawn from engineering ethics in order to understand the links between science and technology and the arts humanities and social sciences.

Learning objectives:

1. Students will learn to identify moral and value conflicts that occur in scientific and technological fields
2. Students will study the relationship between safety and risk and the balancing of risk with safety in the engineering design process
3. Students will understand the broader societal context of engineering design choices and decisions.

Required Readings:

Eban, Katherine; Bottle of Lies, The Inside Story of the Generic Drug Boom; HarperCollins Publishers; 2019; ISBN 978-0-06-233879-2

Course Delivery Mode and Structure:

This is an online course, delivered in the Blackboard and Packback learning management systems. Students must be mindful of all course expectations, assignments and due dates. All assignments and course interactions will utilize internet technologies. See “Technical Requirements” section for more information. In Blackboard, you will access course materials, a recorded lecture, and additional resources.

In Packback participation is a requirement for this course, and the Packback Questions platform will be used for online discussion about the course content. Packback Questions is an online community where you can be fearlessly

curious and ask open-ended questions to build on top of what we are covering in class and relate topics to real-world applications.

Technical Requirements:

This course uses Blackboard for the facilitation of communications between faculty and students, submission of assignments, and posting of grades. The Blackboard course site can be accessed at <https://blackboard.stonybrook.edu> If you are unsure of your NetID, visit <https://it.stonybrook.edu/help/kb/finding-your-netid-and-password> for more information. You are responsible for having a reliable computer and Internet connection throughout the term. *Caution! You will be at a disadvantage if you attempt to complete all coursework on a smart phone or tablet. It may not be possible to submit the files required for your homework assignments.*

Online Classes Require Better Communication: It is important to remember that we will not have the non-verbal cues that occur in a face-to-face classroom. I cannot see the confused, frustrated, or unhappy expressions on your face if you encounter problems. **You MUST communicate with me so that I can help.** To make the experience go smoothly, remember that you're responsible for initiating more contact, and being direct, persistent, and vocal when you don't understand something.

My Role as the Instructor: As the instructor, I will serve as a "guide" in terms of the Discussion Board. While I will not respond to every post, I will read what is posted, and reply when necessary. Expect instructor posts in the following situations:

- To assist each of you when it comes to making connections between discussion, lectures, and textbook material.
- To fill in important things that may have been missed.
- To re-direct discussion when it gets "out of hand".
- To point out key points or to identify important posts.

Course Assessment:

Group Discussions in Packback - 20%

Weekly Exams - 30%

3 Writing Assignments – 50%

Group Discussions in Packback

Your participation on Packback will count toward 20% of your overall course grade.

We will be using Packback to help you understand the course material and to identify and demonstrate an understanding of important issues in Engineering Ethics.

The objectives of these group discussions are:

- To practice thinking analytically about the course material and writing about your ideas
- To help you relate and then integrate the course material to your experiences

There will be a Weekly Monday at 12:00AM EST deadline for submissions. In order to receive your points per week, you should submit the following per each deadline period:

- 1 open-ended Question per week each worth 5pts of each assignment grade
- Responses per week with a minimum Curiosity Score of 50, each worth 5pts of each assignment grade
- Half credit will be provided for responses that do not meet the minimum curiosity score.

Weekly Multiple-Choice Exams

You will be tested weekly on the content found in the weekly module folders. Exams will be available in Blackboard at 8:00 A.M. on Tuesdays. The exam link will remain open until 2:00 A.M. Wednesday morning.

- a. You will have 30 minutes to answer 10 questions (for a total of 10 points). **Once you begin the exam, you must finish it.** *Students who do not finish for whatever reason **will not** be given permission to retake the exam.*

Writing Assignments

You will be asked to write 3 ethical arguments in defense of a thesis. This assignment will be 100 words in length and details about each assignment will be posted two weeks before the due date.

Your paper must address four main issues: a) a clear statement of the ethical issue(s), who, what and how; b) your understanding and application of the ethical principles and theories from the lectures; c) your stated position on the issue; and d) your justification for why you have chosen this position.

Writing Assignment Grading Rubric

Introduction (30 Points)

- Write clear statement of the ethical issue(s)
- State your position on the issue(s)
 - your writing should be clear and correctly articulated
- Provide your justification for why you have chosen this position
 - your writing should be clear and correctly articulated

Next paragraph (s) (50 Points)

- Provide **credible evidence** to support your position on this issue
 - provide an accurate citation of your sources
- Your writing should provide a distinct and sound reasoning pattern
 - your writing should be clear and correctly articulated

- Use the ethical principles and theories provided in the lectures and your evidence to help support your chosen position
 - your writing should be clear and correctly articulated

Conclusion (20 Points)

- Use persuasion to support your position by appealing to the readers' emotions
 - your writing should be clear and correctly articulated

Americans with Disabilities Act: *If you have a physical, psychological, medical or learning disability that may impact your course work, please contact Disability Support Services, ECC (Educational Communications Center) Building, Room 128, (631)632-6748. They will determine with you what accommodations, if any, are necessary and appropriate. All information and documentation is confidential.*

Academic Integrity: *Each student must pursue his or her academic goals honestly and be personally accountable for all submitted work. Representing another person's work as your own is always wrong. Faculty are required to report any suspected instances of academic dishonesty to the Academic Judiciary. Faculty in the Health Sciences Center (School of Health Technology & Management, Nursing, Social Welfare, Dental Medicine) and School of Medicine are required to follow their school-specific procedures. For more comprehensive information on academic integrity, including categories of academic dishonesty, please refer to the academic judiciary website at <http://www.stonybrook.edu/uag/academicjudiciary/>*

Critical Incident Management: *Stony Brook University expects students to respect the rights, privileges, and property of other people. Faculty are required to report to the Office of University Community Standards any disruptive behavior that interrupts their ability to teach, compromises the safety of the learning environment, or inhibits students' ability to learn. Faculty in the HSC Schools and the School of Medicine are required to follow their school-specific procedures. Further information about most academic matters can be found in the Undergraduate Bulletin, the Undergraduate Class Schedule, and the Faculty-Employee Handbook.*

Course Materials and Copyright Statement: *Course material accessed from Blackboard, SB Connect, SB Capture or a Stony Brook Course website is for the exclusive use of students who are currently enrolled in the course. Content from these systems cannot be reused or distributed without written permission of the instructor and/or the copyright holder. Duplication of materials protected by copyright, without permission of the copyright holder is a violation of the Federal copyright law, as well as a violation of Stony Brook's Academic Integrity.*

Student Learning Resources:

- **Academic and Transfer Advising Services:** Have questions about choosing the right course? Contact an advisor today. Phone: (631) 632-7082 (option 2); email: advising@stonybrook.edu; website: <http://www.stonybrook.edu/commcms/advising/>
- **Amazon @ Stony Brook:** Order your books before classes begin. Phone: (631) 632-9828; email: Bookstore_Liaison@stonybrook.edu; website: <http://www.stonybrook.edu/commcms/bookstore/>

- **Bursar:** For help with billing and payment. Phone: (631) 632-9316; email: bursar@stonybrook.edu; website: <http://www.stonybrook.edu/bursar/>
- **Career Center** The Career Center's mission is to support the academic mission of Stony Brook University by educating students about the career decision-making process, helping them plan and attain their career goals, and assisting with their smooth transition to the workplace or further education. Phone: (631) 632-6810; email: sbucareercenter@stonybrook.edu; Website: <http://www.stonybrook.edu/career-center/>
- **Counseling and Psychological Services:** CAPS staff are available by phone, day or night.
- **Disability Support Services:** Students in need of special accommodations should contact DSS. Phone: (631) 632-6748; email: dss@stonybrook.edu; <http://www.stonybrook.edu/commcms/studentaffairs/dss/>
- **Library:** Access to online databases, electronic journals, eBooks, and more!
 - **Library Instruction Website -**
<http://library.stonybrook.edu/workshops-this-week-citation-skills-worldcat-and-endnote-the-hsc/>
 - **SBU Library Research Guides and Tutorials**
<http://library.stonybrook.edu/research/research-basics/>
- **Registrar:** Having a registration issue? Let us know. Phone: (631) 632-6175; email: registrar_office@stonybrook.edu; <http://www.stonybrook.edu/commcms/registrar/>
- **Writing Center:** Students are able to schedule face-to-face and online appointments.
<http://www.stonybrook.edu/writingcenter/>
- **Support for Online Learning** <http://www.stonybrook.edu/commcms/onlineed/student.html>
- **Ombuds Office** The Stony Brook University Ombuds Office provides an alternative channel for confidential, impartial, independent and informal dispute resolution services for the entire University community. We provide a safe place to voice your concerns and explore options for productive conflict management and resolution. The Ombuds Office is a source of confidential advice and information about University policies and procedures and helps individuals and groups address university-related conflicts and concerns. <http://www.stonybrook.edu/ombuds/>

Weekly Course Schedule – fall 2020, last updated 9/9/2020

<i>Weeks</i>	<i>Dates</i>	<i>Lecture(s)</i>	<i>Case Studies/ Group Discussion</i>	<i>Textbook Readings</i>	<i>Weekly Exams, Writing Assignments due dates</i>
Week 1	August 24 – August 30	<i>The Ethics Gap in Engineering</i>	<i>The Trolley Problem</i> <i>Group Discussion in Packback, due August 30th</i>		
Week 2	August 31 – September 6	<i>Normative Ethical Theories</i>	<i>Social Media</i> <i>Group Discussion in Packback, due September 6th</i>		<i>Exam, due date: Tuesday, September 1</i>
Week 3	September 8 – September 13	<i>Normative Ethical Theories</i>	<i>Digital Privacy, Surveillance</i> <i>Group Discussion in Packback, due September 13th</i>	<i>Chapters 1 & 2</i>	<i>Exam, due date: Tuesday, September 8th</i>
Week 4	September 14 – September 20	<i>Normative Argument</i>	<i>Vaccines</i> <i>Group Discussion in Packback, due September 20th</i>	<i>Chapter 3, 4, & 5</i>	<i>Exam, due date: Tuesday, September 15</i>

Week 5	September 21– September 27	<i>Values and Moral Responsibilities</i>	<i>Facial Recognition</i> <i>Group Discussion in Packback, due September 27</i>	<i>Chapters 6 & 7</i>	<i>Exam, due date: Tuesday, September 22</i>
Week 6	September 28 – October 4	<i>Ethical Responsibilities of Engineers - Codes of Conduct</i>	<i>The Ford Pinto</i> <i>Group Discussion in Packback, due October 4</i>	<i>Chapters 8 & 9</i>	<i>Exam, due date: Tuesday, September 29</i> <i>First writing assignment due, Sunday, October 4th</i>
Week 7	October 5 – October 11	<i>Workplace Responsibilities and Rights</i>	<i>Whistle Blowers, Intellectual Property</i> <i>Group Discussion in Packback, due October 11</i>	<i>Chapters 10, 11, & 12</i>	<i>Exam, due date: Tuesday, October 6</i>
Week 8	October 12 – October 18	<i>Ethical questions in the Design of Technology</i>	<i>Deepwater Horizon Explosion</i> <i>Group Discussion in Packback, due October 18</i>	<i>Chapters 13, 14, & 15</i>	<i>Exam, due date: Tuesday, October 13</i>

Week 9	<i>October 19 – October 25</i>	<i>Designing Morality</i>	<i>Robert Moses</i> <i>Group Discussion in Packback, due October 25</i>	<i>Chapters 16 & 17</i>	<i>Exam, due date: Tuesday, October 20</i>
Week 10	<i>October 26 – November 1</i>	<i>Ethical Aspects of Technical Risks</i>	<i>Artificial Intelligence</i> <i>Group Discussion in Packback, due November 6</i>	<i>Chapters 18, 19, & 20</i>	<i>Exam, due date: Tuesday, October 27</i> <i>Second writing assignment due Sunday, November 1</i>
Week 11	<i>November 2 – November 8</i>	<i>Reducing Risks in Emerging Technologies</i>	<i>Driverless cars</i> <i>Group Discussion in Packback, due November 8</i>	<i>Chapters 21, 22, & 23</i>	<i>Exam, due date: Tuesday, November 3</i>
Week 12	<i>November 9 – November 15</i>	<i>Sustainability, Ethics and Technology</i>	<i>Climate Change and Technology</i> <i>Group Discussion in Packback, due November 13</i>	<i>Chapters 24, 25 & 26</i>	<i>Exam, due date: Tuesday, November 10</i>

Week 13	<i>November 16 – November 22</i>	<i>Global Issues</i>	<i>Global ethical codes</i> <i>Group Discussion in Packback, due November 22</i>	<i>Chapters 27 & 28</i>	<i>Exam, due date: Tuesday, November 17</i>
Week 14	<i>November 23 – December 4</i>				<i>Exam, due date: Tuesday, December 1, 2020</i> <i>Third writing assignment due Friday, December 4th</i>