

Fall 2019

# PHIL 334-459: Engineering Ethics

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## Recommended Citation

George, Amber E., "PHIL 334-459: Engineering Ethics" (2019). *Humanities Syllabi*. 167.  
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PHL 334  
Engineering Ethics  
Fall 2019

Dr. Amber E. George  
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**Instructor Office Hours:** Monday & Friday 10:00 AM- 12:00 PM EST

**Course Description:** This course presents a philosophical examination of the nature of engineering practice and applied technology. We will consider such questions as: How do the societal functions of engineers and the practical application of technologies relate to basic moral and intellectual values? What moral obligations are implied by the uses and creation of technology? What are the ethical duties of engineers in the practice of their careers?

**Course Objectives:** Illustrate an understanding of engineering as a profession. Convey the range of ethical issues in an engineering career. Analyze, evaluate, and apply case study examples and important codes of ethics as developed by engineering organizations in engineering ethics. Formulate and communicate one's philosophical thoughts through both verbal and written communication, with emphasis on moral philosophy and ethical decision making.

**Student Attendance Policy:** Students who fail to participate by posting in two consecutive discussion board assignments will be instructor-initiated withdrawn from the course.

**Instructor Feedback & Response Time:** I will reply to your questions, concerns, and comments typically within 24-48 hours. Assignments will typically be graded within 1 week from due date.

**Teaching/Learning Strategies:**

Discussion board  
Written assignments  
Readings/Audio Visual Components

**Required Text:** Harris, C. E., et al. (2019). *Engineering Ethics: Concepts and Cases*, 6<sup>th</sup> ed. Boston, MA: Cengage. Additional course materials will be listed in each module.

**Evaluation Methods:**

Discussion Board	35%
Media Case Study	15%
Assignments	15%
Visual Project	15%
Final Essay	20%

**Topical Outline:** Each week, students are required to read course materials and complete discussion board requirements. There will be additional assignments, a case study, and a final essay to complete this term.

**Textbook Reading:** Course requires that a great deal of intellectual and philosophical ground be covered. The course is rather reading-intensive, as the readings that form the basis of all other course activities. Hence, it is the student's responsibility to carefully complete all readings before contributing to a discussion forum or otherwise engaging in a course-related activity. In other words, you must complete the readings, complete them well, and do this before attempting anything else. Without these, it is impossible to derive any benefit from the course.

**Schedule of Modules:** Each module begins on Monday and ends Sunday. The material for the following week will be made available to you by Thursdays, so feel free to work ahead. This course has been developed to promote asynchronous learning. Students will have a designated time period (as identified on the course schedule) to complete all readings and assignments for each lesson. Students may work at their own pace throughout each lesson but they must adhere to the deadlines as outlined on the course schedule.

**Reading/Assignment Schedule:**

<b>Module 1</b> 9/3 – 9/15	<b>Introduction to the Course</b> <ul style="list-style-type: none"> <li>Chapter 1 “Engineers: Professionals for the Human Good”</li> <li><i>Module 1 Content</i></li> </ul>
<b>Module 2</b> 9/16 – 9/22	<b>Ethical Approaches to Engineering</b> <ul style="list-style-type: none"> <li>Chapter 2 “A Practical Ethics Toolkit”</li> <li><i>Module 2 Content</i></li> </ul>
<b>Module 3</b> 9/23 – 9/29	<b>Code of Ethics</b> <ul style="list-style-type: none"> <li>Appendix (pp. 269-174)</li> <li><i>Module 3 Content</i></li> </ul>
<b>Module 4</b> 9/30 – 10/6	<b>Responsibility, Accountability, and its Challenges in Engineering</b> <ul style="list-style-type: none"> <li>Chapter 3 “Responsibility in Engineering”</li> <li><i>Module 4 Content</i></li> </ul> <p><u>** Media Assignment Due</u></p>
<b>Module 5</b> 10/7 – 10/13	<b>Tensions Between Responsibilities and Organizations</b> <ul style="list-style-type: none"> <li>Chapter 4 “Engineers in Organizations”</li> </ul>

	<ul style="list-style-type: none"> <li>• <i>Module 5 Content</i></li> </ul> <p><u>**Stage One of Final Essay Development - Topic Declaration</u></p>
<b>Module 6</b> 10/14 – 10/20	<p><b>Trustworthiness in Relationships</b></p> <ul style="list-style-type: none"> <li>• Chapter 5 “Trust and Reliability”</li> <li>• <i>Module 6 Content</i></li> </ul>
<b>Module 7</b> 10/21 – 10/27	<p><b>Responsibility in Design and Operation of Products or Engineered Systems</b></p> <ul style="list-style-type: none"> <li>• Chapter 6 “The Engineer’s Responsibility to Assess and Manage Risk”</li> <li>• <i>Module 7 Content</i></li> </ul>
<b>Module 8</b> 10/28 – 11/3	<p><b>Engineering Meets Environmental Ethics</b></p> <ul style="list-style-type: none"> <li>• Chapter 7 “Engineering and the Environment”</li> <li>• <i>Module 8 Content</i></li> </ul> <p><u>**Stage Two of Final Essay Development - Write an Outline</u></p>
<b>Module 9</b> 11/4 – 11/10	<p><b>International Engineering</b></p> <ul style="list-style-type: none"> <li>• Chapter 8 “Engineering in the Global Context”</li> <li>• <i>Module 9 Content</i></li> </ul>
<b>Module 10</b> 11/11 – 11/17	<p><b>Future Challenges for Engineers</b></p> <ul style="list-style-type: none"> <li>• Chapter 9 “New Horizons in Engineering”</li> <li>• <i>Module 10 Content</i></li> </ul> <p><u>** Visual Project Assignment Due</u></p>
<b>Module 11</b> 11/18 – 12/1	<p><b>Selected Topics in Ethical Engineering</b></p> <ul style="list-style-type: none"> <li>• Cases (pp. 210-268)</li> <li>• <i>Module 11 Content</i></li> </ul>
<b>Module 12</b> 12/2 – 12/11	<p><b>Wrap up and Review</b></p> <ul style="list-style-type: none"> <li>• <i>Module 12 Content</i></li> </ul> <p><u>**Final Essay Due</u></p>

**Discussion Board Forums:** You must have all your posts for each week’s discussion board completed by the date listed online. Students are expected to respond to the **discussion prompt** post no later than Friday 11:59 PM each week. Students must also post a **minimum of two (2) replies to classmates’ posts per discussion board/week by Sunday 11:59PM**. Posts will be graded principally on quality, but also on quantity. It is important that you post throughout the week, **at**

**least two different days.** Additional guidelines about expectations will be displayed online.

**Assignments:** These activities are meant to be interactive and help you engage with ideas and experiences through writing. They should bring about questions, comparisons, insights, criticisms, speculations, and tentative conclusions. The specific requirements along with a grading rubric for each assignment are located online.

**Final essay:** This essays will engage you in the process of reflective, analytical, and argumentative philosophical thinking. Specific instructions and guidelines for the essay will be given online.

<b>Grading System:</b>	A 95-100	A- 92-94	B+ 89-91	B 85-88	B- 82-84
	C+ 79-81	C 75-78	C- 72-74	D 67-71	F 0-66

**Late Policy:** Late assignments will be penalized 10% for each day late. If you know you will be offline the day an assignment is due, please make sure to post it early. If any student feels that he or she might be falling behind in the course, it is best to contact me to discuss the situation as early as possible. No assignments will be accepted after the final day of class. No assignments will be accepted after the final day of class. Students with an excused absence (hospitalization, jury duty, or family emergencies) may be asked to produce proper documentation in order to make up graded work. All make up work is at the discretion of the instructor.

**Academic Integrity:** Any form of cheating or dishonesty, including plagiarism, is a fundamental violation of the nature and purpose of the college. Such behavior will not be tolerated and will result in at least lowered grades, possible failure in a class, program dismissal, and, in the most severe cases, dismissal from the college. The responsibility for maintaining personal integrity and honor in academic activities rests with the student. Each faculty member will provide information on academic integrity to students in the course outline at the beginning of the semester, including any necessary explanation of violations, possible infractions of academic integrity and the scope of sanctions, e.g., warning, lowering of the grade on the assignment or course, course failure, or dismissal from the program or university.

**Disability Statement:** In Accordance with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act (ADA) of 1990, this college strives to ensure that “no otherwise qualified individual with a disability shall, solely by reason of her or his disability, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program” administered by the University. If you are a student who requires academic accommodations due to a disability, please contact the disability support office.

**Instructional Requirements and Support:** You should have the following: At least an Intel or AMD 2.0 GHz processor, but an Intel Dual Core 2 Duo would be best. At least 2 Gb of memory (RAM), but 4 Gb would be best. A broadband Internet connection (DSL, cable, or T1). A 56K dial-up connection should work but is not recommended. Have the recommended software, Microsoft Office, and

Adobe Acrobat Reader. Scan your PC for viruses each week and keep up-to-date with the latest virus definitions and Windows updates. If you have questions about your computer and the technology used at the college please call the Student Help Desk.