

## Professional Ethics: Global Engineering Ethics (section one)

Instructor: Rockwell F. Clancy  
Course: VG496 – Professional Ethics  
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Meeting: 2-3:40 pm Tuesday (every week) and Thursday (weeks one and two)  
Location: Dong Zhong Yuan, building 4, room 401  
Office Hrs: 6-7:40 pm Tuesday and Thursday, and by appointment  
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### Teaching assistants

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### 1. Course Description

The ultimate goal of this course is your development as not only better engineers but also more responsible global citizen. It is designed with the educational goals of increasing your awareness and understanding of professional and ethical responsibilities in national, international, and cross-cultural environments, helping to anticipate, identify, and navigate issues that will likely arise in your working lives. Towards this end, reflection on your own experience and its ethical ramifications is a fundamental component. The main concern of this course will be with developing your abilities to identify and resolve ethical issues related to the implementation of technology and contemporary issues in global, economic, environmental, and social contexts. The course readings, case studies, and exercises are geared towards the development of a well-researched original case study, informed by your past experiences and future aspirations related to technology, which you will present. (Just to dispel any misunderstanding: This is NOT a “water course” (水课) but will be a serious engagement with issues that have the potential to gravely affect you and others in your professional capacities as engineers.)

The texts and materials used in this course have been developed for classes on engineering ethics and science, technology, and society studies taught in the US, Japan, Taiwan, and mainland China. For that reason, your active participation is essential – your perspectives as students are invaluable!

### 2. Texts

The primary text for this course is *Global Engineering Ethics*, by Heinz Luegenbiehl and Rockwell Clancy, published by Elsevier Press. If you’re connected to SJTU’s network, then you should be able to download a copy of the book from here: <http://www.sciencedirect.com/science/book/9780128112182>. **As laptops, tablets, and other electronic devices are not allowed in class, please acquire a printed version and bring it to each class.** Throughout the semester, you will be required to consult news sources, academic articles, books, etc. as well.

### 3. Course Requirements

Rather than primarily lectures, the format of this course is based on out-of-class reading, reflection, and research, as well as in-class discussion and exercises. The primary focus will be on discussions of and reflections on the assigned materials, as well as answering reflective questions and completing exercises related to the course readings/case studies. To contribute to class discussions in a meaningful way, it is important that you do the assigned readings before class. Additionally, you should always bring **paper** and a **writing utensil** to this course, since there'll be a variety of short writing/reflection exercises you'll be required to turn in at the end of class.

**A. Reading/attendance quizzes/exercises (20%):** To insure you have understood the reading and as a jumping-off point for class discussion, most classes will begin with a short (two to three questions) quiz, concerning the assigned reading for that day, personal reflection, and/or the content covered in the previous class. You will have **seven** minutes to complete the quiz, beginning from the time the bell rings. For that reason, you should arrive to class **on time**, **putting away** any books, notes, etc., **before** the class and quiz begin. On other days, this part of your grade will be based on in-class reflection/writing exercises.

According to JI regulations, class attendance is **required**, and students who miss over 1/3 of classes **cannot pass**. Participation consists in not only attendance but also, for example, answering questions, asking questions, and completing exercises. You are responsible for all the material covered in class, including lecture content, schedule and policy changes, and other general information. (TIP: Be sure to ask for the contact information of several classmates so you can contact them about what you missed.)

To quote the JI policy on leave/missed classes:

- a) "An advance request for leave of absence is required if the student cannot attend the class due to illness or other reasons. Absence without approval will be regarded as skipping classes."
- b) "A note that a student visited a medical facility is not a sufficient excuse for missing an assignment. The note must specifically indicate that the student was incapable of completing an assignment due to medical problems and that this condition was sudden enough that it was impractical to contact the instructor in advance."

Even with an excused absence, you are required to hand in any work due for the class on time. For example, if you have an approved leave of absence on Monday, you are responsible for handing in any homework at the same time as other students.

As research indicates that students learn conceptual content better through taking notes by hand<sup>1</sup>, **you should not use your laptop/tablet in class. Check the syllabus and Canvas regularly to keep up with assignments and other information related to the course.** Your lowest **two** quiz grades will be **dropped**.

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<sup>1</sup> See <http://www.npr.org/2016/04/17/474525392/attention-students-put-your-laptops-away> and - with regard to the perils of laptops/tablets in the classroom in general - <https://theconversation.com/facebook-fight-why-we-banned-laptops-ipads-and-smartphones-in-lectures-32116>.

**B. Homework assignments (20%):** To think through/reflect on the topics covered and practice employing skills introduced in the course, you will have written homework assignments, consisting mainly in case-study analyses. Be sure to give reasons for your answers, which can be based on information in the case study itself and/or your own knowledge/personal experience. As with other written work for this course, you will be assessed on **form** as much as **content**. Check the **guidelines/grading criteria** for your written work posted on Canvas. If writing is especially troublesome for you, then I encourage you to seek help from the JI's Writing Center. All late work will be penalized **ten-percentage points** per day. No homework handed in more than **four** days late will be accepted. In addition to bringing hardcopies of your homework assignments to class, submit them electronically on Canvas.

**C. Final exam (25%):** To assess your overall grasp of the materials covered and skills taught throughout the semester, you will have one exam in this course. The exam will consist of short answer questions and a case-study analysis. Without a medical excuse or a verifiable emergency, the exam cannot be made up.

**D. Final case study (35% – 10% poster; 15% written report; 10% abstract):** The largest part of your grade will be based on the development and presentation of a case study related to science/technology and broader social issues, for example, ethics, society, economics, and/or politics. It will consist in multiple steps that you complete with team members. Based on your past experience and future goals related to science/technology, you and your team members will research and develop an original case. **You should utilize at least four reputable English-language sources in writing up your case, using 1-inch margins, 2.0 spaced, twelve-point Times New Roman font, APA style.** (NOTE: **Wikipedia** is not a bad place to start learning about a new topic, but isn't itself a reputable source. In some cases – especially in those of new technologies and perceptions of and experiences with those technologies – blogs can offer a lot of information/be a useful resource. You can use and refer to blogs, although they should not comprise more than one of your four reputable sources.)

There should not be any significant overlap in cases, meaning each group will present on a different case. Priority will be given on a first-come, first-serve basis. Hence, if you want to present on a particular case/incident/topic, then you should decide this and inform the TA as soon as possible. I'll post a list of potentially interesting topics early in the semester, in case you're having a difficult time choosing a topic. The average length of the report will be **ten to thirteen** pages (**four to five** pages of your reports will **outline/explain** the case, while the second **six to eight** pages will **analyze** the case according to the case-study procedure). **Hardcopies of drafts** of the written case studies are due in class on **November 21**, while **hardcopies and e-versions** of the final versions of case studies are due the week after, **November 28**.

The written cases will outline and analyze what happened/the relevant issues. Late reports will be penalized ten points per day. No case study handed in more than four days late will be accepted.

Your group will also be responsible for a poster and poster presentation of the case, which will occur during the final week of the semester, **December 12**. You are not allowed to simply read something you've written beforehand. If you do so, then you'll fail this part of the project. Make your posters visually interesting, for example, by using illustrations, pictures, or graphs.

In preparation for both your written report and poster presentation, you'll submit a short abstract – no longer than **one** page, **including** your four English-language sources – with a summary of your topic, list of ethical issues, and four English-language sources. You'll receive feedback on these to improve your final report and presentation. Your grade on all of these will be determined as much by **form** as content – in other words, that your written work follows the conventions of the English language, employs APA style for the references, is free of punctuation, grammar, and syntactical mistakes, etc. Again, check the guidelines/grading criteria for your written work posted on Canvas, and if writing is especially troublesome for you, then I encourage you to seek help from the JI's Writing Center.

**E. Extra-credit (2-percentage points added to your final grade):** To continue to improve the course and materials used therein, you can earn extra-credit points by commenting extensively on *Global Engineering Ethics*, submitting these comments near the end of the semester. To earn the points, you should make at least **five** comments on **each** chapter in a PDF of the book. These comments could consist in identifying typos, words or phrases you don't understand, explanations you think are either too complicated or simple, parts you find particularly uninteresting or interesting, or other more general suggestions/criticisms/questions.

#### 4. Grading Policy

Final grades for this course will be determined as follows:

Reading/attendance quizzes (and/or other in-class activities)	20%
Homework assignments (four case-study analyses)	20%
Final exam	25%
Final case study	35%
Extra credit	+2%

Grades will be assigned according to this chart:

Final average	Course grade	Final average	Course grade
98% and above	A+	77% and above	C+
93% and above	A	73% and above	C
90% and above	A-	70% and above	C-
87% and above	B+	60% and above	D
83% and above	B	59.9 and below	F
80% and above	B-		

#### 5. Academic Integrity

All work handed in for this class must be your own. The inclusion of any data, words, or ideas from any other source must be acknowledged, and that source must be given proper credit. Failure to do so is a violation of the Honor Code. Any suspected violation of the Honor Code will be reported to Honor Council for investigation. **In addition to any sanctions you might receive from the Honor Council, plagiarism will result in a failing grade on the assignment, as it will be deemed to have not been satisfactorily completed.** For this course, plagiarism is defined as:

- a) The use of any passage of **three words or longer** from another source without proper attribution. Use of any phrase of three words or more must be enclosed in quotation marks

(“**example, example, example**”). The source of the material must be identified in the text, by a parenthetical reference, footnote, or endnote.

- b) Use of material from an uncredited source, making very minor changes (like word order or verb tense) to avoid the three-word rule.
- c) Inclusion of **facts, data, ideas, or theories** originally thought of by someone else, without giving that person (organization, etc.) credit. You must identify the source, whether in an endnote, footnote, parenthetical reference, or in the text.
- d) **Paraphrasing** ideas or theories (writing them in your own words) without giving the original thinker proper credit.
- e) Allowing another person to make extensive changes to your paper. This is considered “unauthorized aid.” (Allowing a friend to check your work for minor errors is fine.)
- f) Use of an electronic translation program such as Google Translate. The use of machine translation programs is classified as “unauthorized aid.”

Even assignments that you have struggled with will probably result in a grade higher than that of plagiarized work. If you have any questions about what constitutes or how to avoid plagiarism, please do not hesitate to ask.

### 6. Courtesy

Please foster a learning atmosphere by respecting classmates, TAs, and the me. Students are asked to turn off their cell phones or put them on silent when class begins. Please do not play with electronic devices during class. Any discussions about grades should take place calmly. It is recommended that students wait twenty-four hours before contacting an instructor or TA about a disputed grade. If you are speaking while either myself or other students are speaking – or not speaking in English – then I reserve the right to ask you to leave class, as this is disruptive to the learning environment of the course.

### 7. Language

As long as students are in the classroom, they should speak English. Students should also speak English when meeting with the TA, although they can (try) to speak with **me** or their fellow, **non-native-Chinese-speaking** classmates in Chinese. I will ask students not speaking in English to leave class.

\*This syllabus is tentative and subject to revision as the instructor sees fit.

### 8. Assignments and tentative course schedule

Class	Topic(s)	Reading/homework	Work due/exam
1 – 9/12 Introduction to the course	Complete pre-course survey, introduce ourselves, the course/reviewing the syllabus, and what is ethics/an exercise	Read the syllabus and chapter one, submit a recent picture of yourself, and complete the plagiarism tutorial	
2 – 9/14 Introduction to global engineering	A global perspective – the problem of theory, role of reason, role responsibilities, consideration of cases, and	Read chapter two and the guided analysis (appendix III), complete steps	Attendance/reading quiz on chapter one

ethics	reflection questions	one through five of the case study procedure on the Uberlingen mid-air collision, submit a recent picture of yourself, and complete the plagiarism tutorial	
3 – 9/19 Working with cases	Review the Uberlingen mid-air collision – why study cases? steps for case analysis	Read chapter three, begin thinking about who'll be in your group and your final group topic	Attendance/reading quiz on chapter two, steps one through five of the case-study procedure on the Uberlingen Mid-Air Collision, a recent picture of yourself, and the plagiarism tutorial
4 – 9/21 Professionalism and organizations	What is “professionalism”? professions and society – characteristics, professions and individuals – engineering as a profession – professional organizations, codes of ethics – history of codes – content of codes of ethics (ABET)	Chapter four and analyze Development and its Broader Contexts, finalize who's in your group and your final group topic	Attendance/reading quiz on chapter three
5 – 9/26 Basic ethical principles for global engineering	Explanation – justification – the nature of engineering, deriving the principles – the principles, review Development and its Broader Contexts	Read chapter five, complete abstracts	Attendance/reading quiz on chapter four, analysis of Development and its Broader Contexts, let the TA know who's in your group and what your final group topic is
6 – 10/10 The prime responsibility of public safety	Watch <i>Deepwater Horizon</i> – safety, the environment, and economy		Attendance/reading quiz on chapter five, final case study abstracts
7 – 10/17 The prime responsibility of public safety	Safety and engineers – the nature of safety: safety and other responsibilities	Chapter six and analyze the Volkswagen Case	Attendance/reading quiz on chapter six
8 – 10/24	Employee ethical principles – engineering and business:	Chapters seven and eight	Attendance/reading quiz and analysis of the

	business and engineering ethics, potential for conflicting duties? – Volkswagen case		Volkswagen Case
9 – 10/31 Cross-cultural issues and autonomy	Universalism in norms, relativism, the nature of values, values and ethics: values and engineering ethics – principles for engineering ethics – the concept of autonomy, autonomy and engineers	Read chapter nine and analyze The Case of John’s Friendship	Attendance/reading quiz
10 – 11/7 Conflicting duties and dissent	The duty of loyalty – employers’ legitimate authority, faithful agency – conflicts of interest, engineers and dissent – whistleblowing – review The Case of John’s Friendship	Chapter ten	Attendance/reading quiz, Analysis of The Case of John’s Friendship
11 – 11/14 Issues of Broader Concern	Watch an episode of <i>Black Mirror</i> – social media, information security, and politics	Finish drafts of written portion of case study	Attendance/reading quiz
13 – 11/21 – Issues of Broader Concern	Two cultures: engineers’ relationship with the public – principles, ethics and the law – peer review of final case studies	Chapter eleven and revise written portions of case studies	Attendance/reading quiz, draft of written portion of case study
14 – 11/28 The rights of engineers	The nature of rights – moral or human rights, employee rights, special rights of engineers, and enforcement of rights – review for the final exam	Study for the final exam	Attendance/reading quiz and final written portion of case study
15 – week of 12/5 Final exam	Final exam	Complete posters/short presentations	Final exam
16 – 12/12 Present posters	Poster presentations		Poster and presentation