Course Overview and Objectives

As engineers, around half of your time will be spent in the lab or in the field, devising new designs and numerical models and collecting experimental data. The other half (actually up to 64%, according to one study) will be spent communicating your findings and proposing new research to your colleagues, the industry you work in, and the public. Without this communication, the results of your work are meaningless. In this course, you will learn to write and give oral presentations for the different types of audiences with whom you will communicate with in your careers: professional audiences, academic audiences, and public audiences. We’ll also talk and write about engineering ethics (engineering writing and communication is, in fact, an ethical issue itself), and we’ll look at the ways engineering and technology intersect with society.

The theme of our readings and writing this semester will be the engineering of climate change and sustainability. A problem that requires an interdisciplinary solution, climate change and sustainability poses technical, ethical, and communication problems, and thus lends itself well to the skills you’ll acquire in this course. This semester, you’ll be writing articles and reports, giving oral presentations, and learning to present data in drawings and graphs. As a group project, you’ll undertake a literature review on a topic related to climate change and sustainability.

By the end of this course, you should be able to:

- Write for academic, public, and professional audiences.
- Demonstrate research and documentation abilities at the upper-division level.
- Identify and analyze pressing ethical issues within an engineering discipline.
- Compose a professional report that reflects the importance of engineering solutions in society.
- Revise and edit to advanced academic and professional standards.
- Prepare and give professional oral presentations for a variety of audiences and purposes.
- Use visual aids in both written and oral communications.
- Articulate the impact engineering has on everyday life.
- Work collaboratively to research, write, and present information and ideas.
- Write accurate, precise technical prose.
Catalogue Description
WRIT 340 Advanced Writing (3-4, FaSpSm): Instruction in writing for various audiences on topics related to a student’s professional or disciplinary interests, with some emphasis on issues of broad public concern. Prerequisite: WRIT 130 WRIT 140, or WRIT 150. Required.

Contact Me
Please contact me if you have questions about the course or your progress in it. The best way to contact me outside of class is by email; I do my best to respond to emails as quickly as possible (but expect a longer turnaround over the weekend). You are also welcome to drop by my office anytime during office hours; one of the best ways to enhance your education is to interact with your instructors one-on-one. My office hours and location are listed at the top of this syllabus.

A word about emailing your professors
You should think of your emails to me and your other professors as professional documents rather than texts to your friends; that is, your email should represent your best professional self. This means, in part, that you should not use a salutation of “Hey prof!” and you should use an appropriate closing (e.g., “Best regards” or “Regards” if “Sincerely” sounds too formal) and your name. The body of your email should be clear, concise, well organized, and free of grammatical errors.

Blackboard
This syllabus (including updates to it as necessary), the paper assignment sheets, course handouts, your grades, announcements, and other course materials will be posted on our course Blackboard space. Please check Blackboard often.

Assignments and Grading
You will be evaluated on the following assignments and activities:

Persuasive blog
A short blog that seeks to persuade a specific audience about climate change.

Ethics position paper
An academic research paper in which you analyze an ethical issue related to climate change or sustainability.

Literature review
A collaboratively written literature review on a topic related to climate change or sustainability.

Technical description
A brief description of a technology related to climate change or sustainability. This description will become a part of your literature review.

Illumin magazine article
An article in an online magazine that shows a general audience how environmental engineering or engineering for climate change or sustainability affects our everyday lives. This will be submitted for publication in the magazine.

Oral presentation of *Illumin* article

Portfolio

Revisions of your ethics paper and *Illumin* article.

Participation

Your level of involvement and professionalism in the class (see below).

Overall class participation

In general, I will award high participation grades to those who demonstrate an active engagement in the class. You can gain participation points by attending class regularly and arriving on time, acting professionally in class, doing the readings before class, and making valuable contributions to the class during draft workshops, group work sessions, and class discussions.

You can lose points by being absent, being consistently late, texting during class or taking phone calls, working on assignments for other courses during class, coming to class unprepared, or otherwise disrupting the class.

Grade breakdown

Each assignment will receive a specified number of points, for a total of 1,000 points.

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Points</th>
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<tbody>
<tr>
<td>Persuasive blog</td>
<td>100</td>
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<tr>
<td>Ethics paper</td>
<td>200</td>
</tr>
<tr>
<td>Literature review</td>
<td>125</td>
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<tr>
<td>Proposal memo for lit review</td>
<td>50</td>
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<tr>
<td>Technical description for lit review</td>
<td>75</td>
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<tr>
<td><em>Illumin</em> article</td>
<td>175</td>
</tr>
<tr>
<td><em>Illumin</em> presentation</td>
<td>100</td>
</tr>
<tr>
<td>Portfolio</td>
<td>125</td>
</tr>
<tr>
<td>Class participation</td>
<td>50</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1000</strong></td>
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There is no curve in this course: an A is 94% and above, A- 90-93.5%, B+ 87-89.5% and so on.

**Attendance**

There is no official attendance policy for this course. However, I will take roll at the beginning of each class period, and a portion of your participation grade will be based on your attendance. Furthermore, you can expect your paper grades to suffer as a result of excessive absences. As you would for a supervisor at work, if you must miss class it is a good idea to give me an explanation, particularly if the absence is justified and/or if you have several absences. You should also talk to a classmate about what you missed and check Blackboard for announcements or schedule changes.

**Paper submissions**

Unless otherwise directed, papers will be submitted through Turnitin as PDFs. Papers should be formatted as required by the assignment.

*File names*

Please use the following file name for your papers: “Last name Major Assignment.” For example, “Turner ME Ethics.”

**Late papers**

Papers are due by 11:59 p.m. on the day specified on the schedule of assignments. However, you will be allowed one late paper without penalty, for whatever reason, for the persuasive blog, ethics paper or Illumin article. You have one class period (until midnight) after the original due date to turn in the paper; after that, it will be penalized one plus- or minus- letter grade for each additional class period it is late. After you have used your free extension, any paper turned in late will be penalized one-half letter grade for each class period it is late. You do not need to inform me in advance that you will be using the extension.

Any paper not turned in will result in a 0, which will significantly lower your course grade. *It is therefore always in your best interest to turn in a paper, even if it is very late. I will always accept late papers.*

**Academic Integrity**

Plagiarism is an issue in both academia and the professional world. With the proliferation of digital resources on the Internet, many of which cut and paste information from one website to another with no acknowledgement of the original source, it can be difficult for students to understand the importance of clear documentation. However, both students and professionals can face serious consequences for claiming someone else’s work as their own.
Because we are in an academic setting, plagiarism (e.g., submitting someone else's work—in whole or in part—as your own, submitting your own work completed for another class without my permission) or falsifying information will not be tolerated. This includes failing to document sources properly, paraphrasing too closely to the original, and, of course, outright stealing. Depending on the violation, according to official University sanctions, you may fail the paper, fail the course, and risk suspension from the school. For an overview of the University’s policies concerning academic integrity, including what constitutes plagiarism, see http://breeze.usc.edu/academicintegrity.

Students with Disabilities

Any student requesting academic accommodations based on a disability is required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP. Please be sure the letter is delivered to me (or to TA) as early in the semester as possible. DSP is located in GFS 120 and is open 8:30 a.m.–5:00 p.m., Monday through Friday. The phone number for DSP is 213-740-0776.

Required Texts and Materials

Available as an e-book ($2) or in print at http://www.edwardtufte.com/tufte/ebooks
Available in print at Amazon ($7)

Recommended Text

Available at Amazon and in the bookstore.

Course Schedule (subject to change)

Please complete any readings before coming to class on the day they appear on the schedule. Bring the reading to class on these days as well, as we will be working from it.

[BB] indicates reading is available on Blackboard

<table>
<thead>
<tr>
<th>Week 1</th>
<th>W 5/16</th>
<th>Introduction to course</th>
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</thead>
<tbody>
<tr>
<td>Week 2</td>
<td>M 5/21</td>
<td>Climate change communication</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Persuasive blogs—in-class writing</td>
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<tr>
<td></td>
<td>F 1/12</td>
<td>Persuasive blogs due by 11:59 p.m. on Blackboard</td>
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</tbody>
</table>
W 5/23  *Ethics of climate change and the role of technology*
Introduction to ethical theory and engineering codes of ethics
Case study: Ethics of geoengineering
Research day—bring laptops

**Week 3**

M 5/28  **Memorial Day holiday**

W 5/30  Reading: Gardiner, “A Perfect Moral Storm” [BB];
Woodhouse, “Consumerism” [BB]
Abstracts and introductions
**Abstracts due by midnight**

**Week 4**

M 6/4  Ethical issues of solar energy, nuclear energy, fossil fuels
Reading: Jamieson, “Energy, Ethics, and the Transformation of Nature” [BB]
Style: Clear verbs

W 6/6  Individual conferences—meet in my office at your assigned conference time

**Week 5**

M 6/11  **Ethics rough drafts due in class**
Draft workshop
Formatting
*Introduction to group project*
Select groups and topics
Style: Clear subjects
**Ethics papers due on Blackboard by 11:59 p.m.**

W 6/13  Group meetings
Style: Cohesion and coherence
**Proposals due by Friday at midnight**

**Week 6**

M 6/18  Technical description
Data visualization
Reading: Tufte, “Visual and Statistical Thinking: Displays of Evidence for Making Decisions”

W 6/20  **Technical description rough drafts due in class**
Draft workshop with group members
Individual technical descriptions due by midnight
Technical description due by 11:59 on Blackboard

Week 7  M 6/25  Class does not meet
         Group meetings—work on literature review
W 6/27  Class does not meet
         Group meetings—work on literature review

Week 8  M 7/2  Group meetings
         Elements of formal reports
         Style: Managing emphasis
W 7/4  Independence Day holiday

Week 9  M 7/9  Literature review rough drafts due in class
         Group meetings
         Style: Concision
W 7/11 Literature reviews due by 11:59 p.m. on Blackboard
            Writing for the public
            Introduction to Illumin

Week 10 M 7/16 How to give an effective technical presentation
         Slide design—bring laptops
W 7/18 Rough drafts due in class
         Draft workshop
         Illumin articles due by midnight

Week 11 M 7/23 Illumin presentations
W 7/25 Portfolio conferences

Week 12 M 7/30 Portfolios due