



# WRIT 340 Communication for Engineers

## Engineering for Climate Change and Sustainability

**Instructor: Elisa Warford, Ph.D.**

Sections 66832 and 66830

MW 5:00-6:20

[warford@usc.edu](mailto:warford@usc.edu)

OHE 106N, 213-821-5832

TTh 12:00 - 2:00 and by appointment

### 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.

Assignment	Points
Persuasive blog	50
Ethics paper	200
Literature review	150
Proposal memo for lit review	50
Technical description for lit review	75
<i>Illumin</i> article	175
<i>Illumin</i> presentation	100
Portfolio	150
Class participation	50
Total	1000

There is no curve in this course: an A is 94% and above, A- 90-93.5%, B+ 87-89.5% and so on.

Paper grades will be based on a common WRIT 340 rubric, available at <http://viterbi.usc.edu/academics/programs/ewp/writing/>. The rubric for oral presentations can be found at <http://viterbi.usc.edu/academics/programs/ewp/presentation/>.

### **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 the University's sanctions, see <http://web-app.usc.edu/scampus/>. 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

Tufte, Edward. *Visual and Statistical Thinking: Displays of Evidence for Making Decisions*.

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

Available in print at Amazon (\$7)

### Recommended Text

Williams, Joseph M. and Gregory G. Colomb. *Style: Lessons in Clarity and Grace*. 11<sup>th</sup> ed. Boston: Longman, 2010.

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

<b>Week 1</b>	Tu 8/21	Introduction to course and climate change communication
	Th 8/23	Introduction to ethical theory and engineering codes of ethics Case study: Ethics of dams

	<b>M 8/27</b>	<b>Persuasive blogs due by 11:59 p.m. on Blackboard</b>
<b>Week 2</b>	Tu 8/28	<i>Climate change as an ethical issue</i> Reading: Gardiner, "A Perfect Moral Storm" [BB];
	Th 8/30	<i>Climate change and the role of technology</i> Reading: Jamieson, "Energy, Ethics, and the Transformation of Nature" [BB] Woodhouse, "Consumerism" [BB]
<b>Week 3</b>	Tu 9/4	Research day—bring laptops
	Th 9/6	Abstracts and introductions <b>Abstracts due by midnight</b>
<b>Week 4</b>	Tu 9/11	Reading: Example article TBA Style: Clear verbs
	Th 9/13	Individual conferences—meet in my office at your assigned conference time
<b>Week 5</b>	Tu 9/18	Individual conferences—meet in my office at your assigned conference time
	Th 9/20	<b>Ethics rough drafts due in class</b> Draft workshop Formatting
<b>Week 6</b>	Tu 9/25	<b>Ethics papers due on Blackboard by 11:59 p.m.</b> <i>Introduction to group project</i> Select groups and topics Style: Clear subjects
	Th 9/27	Group meetings Meeting notes Style: Cohesion and coherence <b>Meeting notes due by midnight via email</b>
<b>Week 7</b>	Tu 10/2	Group meetings <b>Proposals due by midnight via email</b>
	Th 10/4	Technical description
<b>Week 8</b>	Tu 10/9	<b>Technical description rough drafts due in class</b> Draft workshop with group members

	Th 10/11	<b>Technical description due by 11:59 on Black-board</b> Data visualization Reading: Tufte, "Visual and Statistical Thinking: Displays of Evidence for Making Decisions" [Note: This article is not on Black-board. See "Required Texts" above for link to PDF.]
<b>Week 9</b>	Tu 10/16	Group meetings Style: Managing emphasis
	Th 10/18	Group meetings Style: Concision
<b>Week 10</b>	Tu 10/23	Group meetings Elements of formal reports
	Th 10/25	<b>Literature review rough drafts due in class</b>
	<b>M 10/29</b>	<b>Literature reviews due by 11:59 p.m. on Black-board</b>
<b>Week 11</b>	Tu 10/30	<i>Writing for the public</i> Introduction to <i>Illumin</i>
	Th 11/1	Reading: Communication of climate change TBA
<b>Week 12</b>	Tu 11/6	How to give an effective technical presentation
	Th 11/8	<b>Illumin rough drafts due in class</b> Draft workshop
<b>Week 13</b>	Tu 11/13	<b>Illumin articles due by midnight</b> Slide design—bring laptops
	Th 11/15	<b>Illumin presentations</b>
<b>Week 14</b>	Tu 11/20	<b>Illumin presentations</b>
	Th 11/22	<b>Thanksgiving holiday</b>
<b>Week 15</b>	Tu 11/27	Portfolio conferences in class
	Th 11/29	<b>Portfolios due in class</b>