**San José State University**

# Electrical Engineering Department EE295, Technical Writing-Engineering Ethics, Sect 02, Fall, 2019

## Course and Contact Information

|  |  |
| --- | --- |
| **Instructor**: | Tom Wrappe |
| **Office** **Location**: | E261 |
| **Telephone**: | (408) (829-3816) |
| **Email**: | [thomas.wrappe@sjsu.edu](mailto:thomas.wrappe@sjsu.edu) |
| **Office Hours**: | Tu & Thu, 6:00 pm to 7:15 pm |
| **Class Days/Time**: | Tu & Thu, 7:30 pm to 8:45 pm |
| **Classroom**:  **Prerequisites:**  **Course Category** | E 339  Graduate Standing in EE  EE295 satisfies Graduation Writing Assessment Requirement (GWAR)  Normal Letter Grade Rules  3 units |

## Course Format

### Technology Intensive, Hybrid, and Online Courses

This course utilizes a live classroom format complemented by assignments via Canvas Learning Management System. Course materials such as syllabus, handouts, notes, assignment instructions, etc., can be found in Canvas as well. Students can access Canvas at [http://sjsu.instructure.com](http://sjsu.instructure.com/) with student ID and password.

## Course Description

Students learn to analyze and write about issues in engineering ethics. Three types of ethics are explored: ethics of the person, the process, and the product. This course satisfies graduate-level GWAR in EE master's program.

### Course Learning Outcomes (CLO)

Upon successful completion of this course, students will be able to:

1. Develop structurally sound organization and flow processes leading to clear, concise technical communications

2. Develop technical writing skills supporting multiple phases of the engineering process-invention, development, and deployment

3. Analyze, assess, critically discuss and effectively communicate the ethics of the engineer, engineering process, and engineered products

4. Describe and interpret the key elements of ethical issues emerging from a consideration of case studies, and report on findings orally and in written form both individually and in group settings

## Required Texts/Readings

### Textbook

Eugene Moriarty, “The Engineering Project: Its Nature, Ethics, and Promise, (Penn State University Press), 2008. (EP)”

### Other Readings

Additional materials may be introduced including case studies related to ethics topics as well as timely technology topics intended to illustrate the analysis and writing skills fundamental to this course. The instructor will make these readings available either via Canvas as appropriate for prepared writing assignments or in the classroom for impromptu exercises.

### Other technology requirements / equipment / material

Students are expected to provide notebook paper (8.5 by 11 in) and writing instruments for exercises that will be turned in during class. The course is managed online using the SJSU CANVAS system. This can be found at [sjsu.instructure.com](file:///C:\Users\twrappe\Desktop\sjsu.instructure.com). Login with your SJSUone credentials (Student number and password)

## Course Requirements and Assignments

The main deliverables of EE295 will consist of writing submissions totaling about 19,000 words during the course. This class-required experience will consist of multiple types of submissions, which will prepare students for writing success as working engineers.

Almost every week, one of the following items:

1) An in-class individual writing exercise (½ page, 125 words x 14 weeks=1750 words) based on a topic introduced in class or identified in advance,

2) An in-class group exercise (forming into small groups of 3-5 students, discuss a handout from the literature, and write as a team a ½ page response and have the group’s spokesperson, report to the class with each student having the opportunity to report at least once during the semester). These may include revising and writing as a group.

3) A take-home individual writing exercise (1-2 pages, 600 words x 12 weeks=7200 words) based on an assigned topic or reading from the text.

## Project papers:

The course will require an individual midterm project paper with 2800 words minimum and an **individual final project paper (GWAR Assignment) with 7200 words minimum**.

Both project papers will require use of the IEEE style format as documented in the IEEE References Manual (<https://www.ieee.org/content/dam/ieee-org/ieee/web/org/conferences/style_references_manual.pdf>).

* The individual midterm project paper topics will be student-selected and instructor approved and will consist of developing a business proposal for a technical item such as a commercial product or an invention.

The individual final project paper (GWAR assignment) topic will be student-selected and must be approved in advance by the instructor. Strong preference is given for topics appropriate to the student’s expected engineering specialization.

**Extra Credit**:

Extra credit may be available on a time-limited basis and must be instructor-approved at least 2 weeks in advance. The extra credit may be applied to the homework or in class writing scores. The extra credit typically takes the form of attending an engineering seminar, and writing a 600-word summary, or analyzing an IEEE paper and writing a summary and critique of the document. The extra credit opportunities will only be available for a short period of time during the semester. You cannot do one later when you recognize the need for extra points. In the spirit of fairness, all extra credit must be available on the same basis to all class members. “Special” or “personal” extra credit opportunity will not be granted.

“Success in this course is based on the expectation that students will spend, for each unit of credit, a minimum of 45 hours over the length of the course (normally three hours per unit per week) for instruction, preparation/studying, or course related activities, including but not limited to internships, labs, and clinical practice. Other course structures will have equivalent workload expectations as described in the syllabus.”

### Final Examination or Evaluation

## Students will submit the final project paper approximately a week before the semester ends. In addition to the final paper, each student will present a short 3-minute summary of why someone should read your paper as the final exam exercise. This final presentation will utilize a standard PowerPoint template and should not contain a summary of the final project material, but rather support why someone should invest the time to read the final paper. This is a focused messaging exercise and will occur during the scheduled final exam time with a full class audience.

## Grading Information

Grading will be based on a total points basis weighted as follows:

* Weekly individual homework, individual and group in-class writing submissions (45% of total course)
* Individual Midterm Project Paper (15% of course total)
* Individual Final Project Paper (GWAR Assignment) (30% of course total)
* Final Presentation (10% of course total)
* **Weekly homework and in-class writing submissions (45%):**

Weekly submissions will consist of a mix of writing exercises and quizzes, produced both in and out of the classroom. Critical thinking techniques will be required to solve problems and develop ethical arguments. The homework is designed to reinforce lecture concepts and prepare the student for class projects. Homework assignments will be due according to the Canvas online system.

**In-class writings and quizzes cannot be made up**. You must inform the instructor in writing at least one week in advance if you will miss a class to arrange a substitute writing exercise. Class assessments (quizzes) may be included in the homework scores. Each student needs to solve the homework problems individually.

All weekly submissions will be scored on a scale of 0-10 (10 being the highest). Copied homework or homework with unacceptable plagiarism score above 15% will initially receive a score of one (to indicate that it was submitted and graded). Both the source and destination of the copying will ultimately receive a “0” score for the assignment. Online assignments and quizzes must be completed and submitted individually.

* + In class writing exercises must be performed in the classroom and turned in at the designated time. Writings may be assigned at the beginning of the class or later in the class, so tardiness may shorten the student time to generate the submission. **In class writing may not be made up later**. The class does not grade on attendance, but about 1/2 of the class periods will have an in class writing assignment or quiz.
  + Out of class homework shall be submitted on the Canvas system and must be submitted in the teacher-designated format, usually Word.
    - You can scan paper documents, if appropriate, at the academic success center or utilize other means (in all cases, student is responsible for legibility)
    - Homework is to be submitted to the instructor at the assigned delivery time (**never at office hours**). No late homework is accepted. Students should bear in mind that Canvas “cuts off” at the deadline and should allow for a 2- to 5-minute download.
  + You are expected to do your own homework.
  + Developing professional discipline through on-time homework submission is expected and required. The Canvas system will not inform you an assignment is due or late. Late homework is not accepted. Homework must be submitted through the electronic system. **No homework is accepted on paper, through email, attached to a Canvas message, or by other means**.
  + Online homework will be plagiarism checked, and receive a score of 1 (out of 10) if above 15% Turnitin limit. If resubmitted after the deadline by 2 days or less, 20% of the score will be deducted. After 2 days late, the score of 1 out of 10 will be retained.
  + All late homework (whether due to Turnitin or other factors) will have 20% of the total points deducted if submitted within 2 days of the deadline. Beyond two days late, 90% will be deducted.
* **Major individual paper Projects (15% for midterm and 30% for final GWAR Assignment):**

The specifications for these technical papers will be found in the Assignments section on Canvas. The minimum acceptable lengths are 2800 words for midterm (15% of grade) and 7200 words for final GWAR Assignment (30% of grade). These project papers will not be accepted late and are subject to the 15% Turnitin limit on plagiarism.

* **Final Presentation (10% of total course points):**

This is not a presentation of the paper content, but a well-developed argument convincing an audience to read the paper, that will be delivered in the final examination timeslot to a full class audience.

### Determination of Grades

### (NOTE: GRADES WILL NOT BE ROUNDED. THE WHOLE NUMBER GRADE MUST BE MET TO ACHIEVE A GRADE. FOR EXAMPLE, 89.99999 = B plus, not A minus)

|  |  |
| --- | --- |
| **Percentage:** | **Letter Grade:** |
| 96% and above | A |
| 90% to 95% | A minus |
| 87% to 89% | B plus |
| 83% to 86% | B |
| 80% to 82% | B minus |
| 77% to 79% | C plus |
| 73% to 76% | C |
| 70% to 72% | C minus |
| 67% to 69% | D plus |
| 63% to 66% | D |
| 60% to 62% | D minus |
| below 60% | F |

## Classroom Protocol

On time, regular attendance of the class is expected along with appropriate cellphone etiquette.

Attendance, per se, will not be taken on a regular basis. However, if absence occurs on a day where there is an in-class writing assignment, students not participating will be assigned a grade of “0” (out of 10) for that assignment. In-class assignments may be assigned at the beginning of the class and the time for submission of the work will be strictly enforced, thus tardy students will have less effective time than if they had been on time.

## University Policies

Per University Policy S16-9 (<http://www.sjsu.edu/senate/docs/S16-9.pdf>), relevant information to all courses, such as academic integrity, accommodations, dropping and adding, consent for recording of class, etc. is available on Office of Graduate and Undergraduate Programs’ Syllabus Information web page at <http://www.sjsu.edu/gup/syllabusinfo/>"

*The Electrical Engineering Department will enforce the following Honor Code that must be read and accepted by all students.*

*“I have read the Honor Code and agree with its provisions. My continued enrollment in this course constitutes full acceptance of this code. I will NOT:*

1. *Take an exam in place of someone else, or have someone take an exam in my place*
2. *Give information or receive information from another person during an exam*
3. *Use more reference material during an exam than is allowed by the instructor*
4. *Obtain a copy of an exam prior to the time it is given*
5. *Alter an exam after it has been graded and then return it to the instructor for re-grading*
6. *Leave the exam room without returning the exam to the instructor.”*

***Measures Dealing with Occurrences of Cheating***

1. *Department policy mandates that the student or students involved in cheating will receive an “F” on that evaluation instrument (paper, exam, project, homework, etc.) and will be reported to the Department and the University.*

# EE295 / Technical Writing-Engineering Ethics

# Spring 2019 Course Schedule

**Schedule is subject to change with fair notice by email and class announcement, or on Canvas**.

The class often gets ahead of the lectures, and then reviews/discusses the concepts for a week.

## Course Schedule

| **Week** | **Date** | **Topics, Readings, Assignments, Deadlines** | **Midterm Paper** | **Final Paper (GWAR Assignment)** | **Final Presentation** |
| --- | --- | --- | --- | --- | --- |
| 1 | Th, Aug 22, 2019 | Introduction, Class Overview, Processes, Why we are here |  |  |  |
| 1 | Tu, Aug 27 | First Writing Rules, Ethics and Engineering |  |  |  |
| 2 | Th, Aug 29 | **Engineering Project, Chapter One, Process** |  |  |  |
| 2 | Tu, Sep 3 | Technical Writing-Product Description, Organization and Flow |  |  |  |
| 3 | Th, Sep 5 | Gadget Day, Organization and flow |  |  |  |
| 3 | Tu, Sep 10 | **Engineering Project, Chapter Two, Process Ethics** |  |  |  |
| 4 | Th, Sep 12 | **Engineering Project, Chapter Three, Colonization** | **Midterm paper topic proposals due** |  |  |
| 4 | Tu, Sep 17 | **Engineering Project, Chapter Four, Person** |  |  |  |
| 5 | Th, Sep 19 | Writing discussion, Outlines and organization, | **Midterm topic Feedback** |  |  |
| 5 | Tu, Sep 24 | Abstracts and Executive Summaries |  |  |  |
| 6 | Th, Sep 26 | Research and Citations, **Engineering Project, Chapter Five, Virtue Ethics** | **Midterm Abstract/ Summary Outline due** |  |  |
| 6 | Tu, Oct 1 | **Engineering Project, Chapter Six, Contextualization** | **Midterm Research Due** |  |  |
| 7 | Th, Oct 3 | Ethics discussion, Case studies |  | **Final Paper Topic due** |  |
| 7 | Tu, Oct 8 | **Engineering Project, Chapter Seven, Product; Gadget (Product) Description grades and feedback available** |  |  |  |
| 8 | Th, Oct 10 | **Engineering Project, Chapter Eight, Material Ethics and Chapter 9, Balance;**  Writing a Resume – Forming and supporting a message to your audience | **Midterm First Full Draft due** | **Final Paper Topic Feedback** |  |
| 8 | Tu, Oct 15 | Ethics Situations; Resume Analysis | **Midterm Draft Feedback** | **Final Project References due (20 sources)** |  |
| 9 | Th, Oct 17 | The audience, Resume discussion |  |  |  |
| 9 | Tu, Oct 22 | Ethics Situations, Case Study | **Completed Midterm due** |  |  |
| 10 | Th, Oct 24 | Ethics discussions, Materialism; **Resumes Research due** |  |  |  |
| 10 | Tue, Oct 29 | Spring Vacation |  |  |  |
| 11 | Th, Oct 31 | Ethics discussions, Elements of high-quality paper; | **Midterm papers grades and feedback available** | **Final Paper Abstract/ Summary Outline due** |  |
| 11 | Tu, Nov 5 | Ethics discussions, The engineering process and product; **Resume Paper due** |  |  |  |
| 12 | Th, Nov 7 | Ethics Discussions, Case study |  | **Final Paper First Draft due** |  |
| 12 | Tu, Nov 12 | Presentation Preparation, Ethics discussions -Situation Ethics |  |  |  |
| 13 | Th, Nov 14 | Ethics discussions, Situation vs Utilitarianism vs Materialism;  **Resumes feedback and grades available** |  | **Final Paper First Draft feedback** |  |
| 13 | Tu, Nov 19 | Ethics Discussions, Case Studies |  |  | **Final Presentation Draft Slides** |
| 14 | Th, Nov 21 | Writing and Ethics Discussions |  |  | **Final Presentations Draft Feedback** |
| 14 | Tu, Nov 26 | Ethics Discussions and Case study |  | **Final Papers Due** |  |
|  | Th, Nov 28 | Thanksgiving Holiday (no class) |  |  |  |
| 15 | Tu, Dec 3 | Technical writing review |  |  | **Final Presentations Due** |
| 15 | Th, Dec 5 | Ethics Review, Engineer's place in society, **(Final Presentations depending on class size)** |  |  |  |
| Th, Dec 12, 19:45 - 22:00 | | **Final Exam (Presentation)** per University assigned date/time  Final Exam grades – Dec 20  Final Papers grades – Dec 20 |  | **Final Papers Graded and feedback** | **Final Presentations graded and feedback available** |