

393mcd2018

## Master Course Description for EE-393 (ABET sheet)

**Title:** Advanced Technical Writing in Electrical Engineering

**Credits:** 4

### UW Course Catalog Description

**Coordinator:** Daniel Kirschen, Professor, Electrical and Computer Engineering

**Goals:** This advanced course in technical communication is designed to help students develop the writing skills that will enable them to produce clear and effective technical documents. The course focuses on the basic principles of good writing and on the types of documents common in technical fields. Students are also given opportunities to develop their oral presentation skills.

**Learning Objectives:** At the end of this course, the students will be able to:

1. *Create* technical documents based on their purpose, audience and context;
2. *Identify and apply* the principles of clear, concise, cohesive, and “noise-free” writing;
3. *Revise* documents for content, organization, and writing style;
4. *Write* short technical reports, using the correct format, structure and content;
5. *Create* effective graphics for technical documents;
6. *Design and deliver* a technical presentation;
7. *Provide* feedback to their peers on their written and oral presentation skills.

**Textbook:** Mike Markel, *Technical Communication, 11th Ed.* Bedford/St.Martin’s, 2012.

**Reference Texts:** Michael Alley, *The Craft of Scientific Writing*.

**Prerequisites by Topic:** Introduction to Technical Communication (HCDE-231 or ENGR-231)

**Topics:** In this course, students will learn to:

1. Use clear, concise, and noise-free language in technical writing;
2. Prepare professional quality technical documents;
3. Learn how to design effective illustrations;
4. Avoid common grammatical pitfalls and use appropriate punctuation;
5. Use modern software tools (e.g. Microsoft Word, Microsoft PowerPoint, and LaTeX) for technical communication;
6. Revise documents based on feedback;

7. Present a technical topic confidently and convincingly to an audience.

**Course Structure:** four one-hour active learning sessions per week.

**Computer Resources:** All work can be completed on any personal computer.

**Laboratory Resources:** None.

**Grading:**

- 45% for three writing assignments
- 15% for weekly short writing assignments
- 15% for oral presentations
- 15% for in-class activities
- 10% for portfolio and reflective essay

**ABET Student Outcome Coverage:** This course addresses the following outcomes:

H = high relevance, M = medium relevance, L = low relevance to course.

- (3) *An ability to communicate effectively with a range of audiences.* **(H)** This course is the culmination of the ECE students' coursework in written and oral communications, preparing them to complete material required in their capstone project and as professional engineers.

**Prepared By:** Daniel Kirschen and Penny Hinke

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