

**EEO 300 Technical Communication for Electrical Engineers**  
**Semester: Spring 2017**

**2016-2017 Catalog Description:**

Topics include how technical writing differs from other forms of writing, the components of technical writing, technical style, report writing, technical definitions, proposal writing, writing by group or team, instructions and manuals, transmittal letters, memoranda, abstracts and summaries, proper methods of documentation, presentations and briefings, and analysis of published engineering writing. Also covered are the writing of resumes and cover letters.

**Course Designation:** Required

**Text Books:** Barry J. Rosenberg, *Technical Writing for Engineers and Scientists*, Addison-Wesley, Upper Saddle River, NJ: May 2005.

**Prerequisites:** Prerequisite: WRT 102; ESE or ECE major, U3 standing; Pre- or Corequisite: ESE 314 or 324 or 380 or 382

**Coordinator:** Ron Marge, Adjunct Professor (Lecturer)

**Goals:** The high-level goals of this class are as follows in accordance with professional engineering community standards:

- To improve the student’s technical and scientific writing skills.
- To improve the student’s technical presentation and public speaking skills.

**Course Learning Outcomes:**

Through multimedia lecture slides, homework, and reading assignments the student’s progress is monitored weekly for improvement in terms of technical writing and technical presentation skills, via individual and team projects. This course focuses on the real-world rigors of communicating effectively that the graduating engineer will encounter in the industry. There are a total of 14 lectures and 14 assignments for the course, plus a mid-term and a final exam given during finals week. All are analyzed and graded by the instructor from a professional engineering standard of communication. Ethics in technical communication is also covered in detail to make the student aware of the importance of good ethics in the engineering world. Deadlines and holding the student’s accountable for conforming to the required specifications for each assignment is also stressed.

**Topics Covered:**

Week 1.	<ul style="list-style-type: none"> <li>• Course requirements / expectations.</li> <li>• Technical communication overview.</li> </ul>
Week 2.	<ul style="list-style-type: none"> <li>• Review types of technical writing and oral communication tasks a professional engineer will encounter in their career.</li> <li>• To learn how to edit and revise your writing and others.</li> </ul>
Week 3.	<ul style="list-style-type: none"> <li>• To understand various audience analysis methodologies and parameters including vocabulary, sentence length, and learning style.</li> <li>• Lab report writing fundamentals.</li> <li>• Writing user / instructional manuals.</li> </ul>
Week 4.	<ul style="list-style-type: none"> <li>• To learn how to edit effectively.</li> <li>• To develop editing diplomacy skills.</li> <li>• Ethics in engineering (consequences of plagiarism, etc.).</li> </ul>
Week 5.	<ul style="list-style-type: none"> <li>• To deliver executive summaries.</li> <li>• To write abstracts.</li> <li>• Field, trip, and progress reports.</li> <li>• Composing effective PowerPoint presentations in a technical environment.</li> </ul>
Week 6.	<ul style="list-style-type: none"> <li>• To write effective proposals and grant applications.</li> <li>• How to write a proposal that gets the required action you desire.</li> <li>• Writing proposals for industry (solicited vs. unsolicited).</li> <li>• Evaluation criteria of proposals and grants.</li> </ul>
Week 7.	<ul style="list-style-type: none"> <li>• Proposal writing (cont).</li> </ul>

	<ul style="list-style-type: none"> <li>• Fundamentals of technical oral presentations.</li> <li>• To improve your tables and figures.</li> </ul>
Week 8.	<ul style="list-style-type: none"> <li>• Fundamentals of technical oral presentations (cont).</li> <li>• To learn how to write an effective manual.</li> <li>• To enhance sentence variety.</li> </ul>
Week 9.	<ul style="list-style-type: none"> <li>• To enhance your skills writing lab reports.</li> <li>• Detailed review of specifications for final projects (technical proposal and oral presentation based on proposal).</li> </ul>
Week 10.	<ul style="list-style-type: none"> <li>• To learn the secrets of effective oral presentations.</li> <li>• To improve students' speaking through practice and feedback.</li> </ul>
Week 11.	<ul style="list-style-type: none"> <li>• One-on-ones with each group to discuss final proposal project and final technical oral presentation based on proposal.</li> </ul>
Week 12.	Final project technical presentations by groups Class participation in analysis on effectiveness of each presentation
Week 13.	<ul style="list-style-type: none"> <li>• Final project technical presentations by groups</li> <li>• Class participation in analysis on effectiveness of each presentation</li> </ul>
Week 14	<ul style="list-style-type: none"> <li>• Review of Main Themes / Components of Course Prior to Final Exam during Finals Week.</li> </ul>

**Class/laboratory Schedule: 3 Lecture Hours and One Hour Office Hours**

<b>Student Outcomes</b>	<b>%contribution*</b>
<input type="checkbox"/> (a) an ability to apply knowledge of mathematics, science and engineering	
<input type="checkbox"/> (b1) an ability to design and conduct experiments	
<input type="checkbox"/> (b2) an ability to analyze and interpret data	
<input type="checkbox"/> (c) an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability	
<input type="checkbox"/> <b>(d) an ability to function on multi-disciplinary teams</b>	<b>25%</b>
<input type="checkbox"/> (e) an ability to identify, formulate, and solve engineering problems	
<input type="checkbox"/> (f) an understanding of professional and ethical responsibility	<b>15%</b>
<input type="checkbox"/> <b>(g) an ability to communicate effectively</b>	<b>50%</b>
<input type="checkbox"/> <b>(h) the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context</b>	<b>5%</b>
<input type="checkbox"/> <b>(i) a recognition of the need for, and an ability to engage in life-long learning</b>	<b>5%</b>
<input type="checkbox"/> (j) a knowledge of contemporary issues	
<input type="checkbox"/> (k) an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice	
<input type="checkbox"/> Any other outcomes and assessments?	
* Assume that the total contribution of any course will be 100%. Use the right hand column to indicate the approximate percent that the left hand columns contribute to the overall course.	<u>100%</u>

**Document Prepared by: Ron Marge**

**Date: 29 April 2017**