



**COURSE OUTLINE : T ED 140**  
**D Credit – Degree Applicable**  
**COURSE ID 001539**  
**Cyclical Review: September 2020**

**COURSE DISCIPLINE :** T ED  
**COURSE NUMBER :** 140  
**COURSE TITLE (FULL) :** Fundamentals of Technical Documentation and Communication  
**COURSE TITLE (SHORT) :** Fund of Technical Doc and Comm

**CATALOG DESCRIPTION**

T ED 140 introduces the principles and practices of writing a range of technical documents for use in the engineering and industrial technology industries. Examples include emails, technical evaluations and reports, and academic and scientific papers used in engineering, and industrial technology fields. Students engage the use of graphical information such as tables and charts as well as technical resumes, letters, and instruction and operation manuals. Student writing includes online technical documentation such as web-page, computer aided design information management, and professional technical social media and project management tools.

Total Lecture Units: 3.00

Total Laboratory Units: 0.00

**Total Course Units: 3.00**

Total Lecture Hours: 54.00

Total Laboratory Hours: 0.00

Total Laboratory Hours To Be Arranged:0.00

**Total Contact Hours: 54.00**

**Total Out-of-Class Hours: 108.00**

Recommended Preparation: ENGL 100 or ESL 141, or equivalent.



**ENTRY STANDARDS**

	Subject	Number	Title	Description	Include
1	ESL	141	Grammar And Writing IV	Compose a 400 to 450-word thesis-based essay which:	Yes
2	ESL	141	Grammar And Writing IV	a. summarizes and cites appropriately a reading passage provided as a prompt;	Yes
3	ESL	141	Grammar And Writing IV	b. includes a clear thesis statement;	Yes
4	ESL	141	Grammar And Writing IV	c. uses evidence to support the thesis;	Yes
5	ESL	141	Grammar And Writing IV	d. shows clear organization into an introduction, body and conclusion;	Yes
6	ESL	141	Grammar And Writing IV	e. uses appropriate rhetorical modes such as comparison/contrast, cause/effect and persuasion in order to support a thesis;	No
7	ESL	141	Grammar And Writing IV	demonstrate control of verb tenses in active and passive voice, gerunds and infinitives, conditionals real and unreal, adjective, noun, and adverb clauses, and transitional expressions;	No
8	ESL	141	Grammar And Writing IV	comprehend multi-paragraph reading passages in textbooks.	Yes
9	ENGL	100	Writing Workshop	Read, analyze, and evaluate contemporary articles and stories to identify topic, thesis, support, transitions, conclusion, audience, and tone;	Yes
10	ENGL	100	Writing Workshop	read, analyze, and evaluate contemporary articles and stories for the comprehension of difficult content and the identification of main ideas and (topic-based) evidence;	Yes
11	ENGL	100	Writing Workshop	read, analyze, and evaluate student compositions for unity, development, use of evidence, interpretation, coherence, and variety of sentence form;	No
12	ENGL	100	Writing Workshop	write a summary of a contemporary article or story with correct citation techniques;	No
13	ENGL	100	Writing Workshop	write an argumentative essay that has an introduction, body paragraphs, and a conclusion, demonstrating a basic understanding of essay organization;	No
14	ENGL	100	Writing Workshop	write an argumentative essay that addresses the topic, is directed by a thesis statement, uses appropriate textual evidence, develops logical interpretations, and concludes with some compelling observations;	No



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15	ENGL	100	Writing Workshop	write an argumentative essay that integrates the ideas of others (i.e., authors) through paraphrasing, summarizing, and quoting with correct citation techniques;	No
16	ENGL	100	Writing Workshop	write an argumentative essay that generates novel ideas (those that add to the conversation rather than repeating the author's ideas) related to the topic and the readings;	No
17	ENGL	100	Writing Workshop	write compositions (e.g., summaries and argumentative essays) that are easy to read and follow, though some errors in grammar, mechanics, spelling, or diction may exist;	Yes
18	ENGL	100	Writing Workshop	proofread and edit essays for content, language, citation, and formatting problems.	Yes

**EXIT STANDARDS**

- 1 Summarize the main ideas of a peer reviewed engineering, technical or scientific paper;
- 2 write a short technical memo the communicates engineering or scientific information in an unambiguous manner;
- 3 demonstrate technical communication skills by presenting on an engineering topic;
- 4 create graphical material that clearly shows relationships of physical phenomena;
- 5 write an executive summary or abstract on a complicated technical issue;
- 6 describe an environmental impact of an engineering design or process.

**STUDENT LEARNING OUTCOMES**

- 1 practice technical report writing standards for a variety of modes of communication such as preliminary design review presentation, technical memos and engineering data sheets;
- 2 create clear and concise technical reports and presentations;
- 3 synthesize technical information from engineering or scientific reports.

**COURSE CONTENT WITH INSTRUCTIONAL HOURS**

	Description	Lecture	Lab	Total Hours
1	Introduction to Technical Writing <ul style="list-style-type: none"> <li>• Styles and types of technical writing</li> <li>• Readers of technical reports</li> <li>• Importance of technical writer in the engineering workplace</li> <li>• Characteristics of a good writing and reporting</li> </ul>	3	0	3



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2	<p>Gathering Information</p> <ul style="list-style-type: none"> <li>• Reference works</li> <li>• Periodicals</li> <li>• Professional journals</li> <li>• Government publications</li> <li>• Military and civilian standards</li> <li>• Industrial standards</li> </ul>	3	0	3
3	<p>Technical Instruction</p> <ul style="list-style-type: none"> <li>• Technical description</li> <li>• Technical definition</li> <li>• Robust design</li> <li>• Clarity and ambiguity issues</li> <li>• Specifications</li> </ul>	3	0	3
4	<p>Organizing Information</p> <ul style="list-style-type: none"> <li>• Topical arrangement</li> <li>• Formal outlines</li> <li>• Informal outlines</li> <li>• Editing and drafts</li> </ul>	3	0	3
5	<p>Industry Standards and Writing Styles</p> <ul style="list-style-type: none"> <li>• Discipline specific words and jargon</li> <li>• Society for Technical Communication (STC)</li> <li>• Institute of Electrical and Electronics Engineers (IEEE)</li> <li>• American Society of Mechanical Engineers (ASME)</li> <li>• American Society of Civil Engineers (ASCE)</li> <li>• APA, MLA and journal specific styles</li> </ul>	3	0	3
6	<p>Graphical Communication</p> <ul style="list-style-type: none"> <li>• Informal tables</li> <li>• Formal tables</li> <li>• Graphs</li> <li>• Bar forms</li> <li>• Drawings and diagrams</li> <li>• Photographs</li> <li>• Military and civilian standards</li> <li>• Flow charts</li> </ul>	6	0	6



7	<p>Correspondence</p> <ul style="list-style-type: none"> <li>• Email</li> <li>• Letters of inquiry</li> <li>• Request for information</li> <li>• Request for proposal</li> <li>• Technical memos</li> <li>• Purchasing specifications</li> <li>• Engineering change orders</li> <li>• Documentation</li> </ul>	3	0	3
8	<p>Scheduling</p> <ul style="list-style-type: none"> <li>• Gantt Charts</li> <li>• Critical pathways</li> <li>• Bottlenecks</li> <li>• Progress reports</li> <li>• Project planning documents</li> </ul>	3	0	3
9	<p>Research Reports</p> <ul style="list-style-type: none"> <li>• Laboratory journals</li> <li>• Literature</li> <li>• Materials</li> <li>• Methods</li> <li>• Results</li> <li>• Summaries and conclusions</li> <li>• Abstracts</li> <li>• Patents</li> </ul>	3	0	3
10	<p>Feasibility Reports</p> <ul style="list-style-type: none"> <li>• Factual summary</li> <li>• Reporting outcome</li> <li>• Military standard report methods</li> <li>• Conclusions</li> </ul>	3	0	3
11	<p>Security</p> <ul style="list-style-type: none"> <li>• Information security</li> <li>• Proprietary information</li> <li>• Non disclosure agreements</li> <li>• Data breaches and hacking</li> <li>• Security clearances and secrecy</li> </ul>	3	0	3



12	<p>Online Writing Environment</p> <ul style="list-style-type: none"> <li>• Websites and technical blogs</li> <li>• Professional social media</li> <li>• Intranet report sharing software</li> <li>• Video for technical communication</li> </ul>	3	0	3
13	<p>Manuals and Technical Instructions</p> <ul style="list-style-type: none"> <li>• Operation manuals</li> <li>• Repair manuals</li> <li>• Service and maintenance</li> <li>• Training handbooks</li> <li>• Field manuals</li> <li>• Policy and procedure manuals</li> <li>• Data sheets</li> </ul>	6	0	6
14	<p>Writing for Employment in Engineering and Technology</p> <ul style="list-style-type: none"> <li>• Traditional print resumes</li> <li>• Electronic technical resumes</li> <li>• Professional technical networking media</li> </ul>	6	0	6
15	<p>Academic Writing for Technical Reports and Publications</p> <ul style="list-style-type: none"> <li>• Technical abstract</li> <li>• Cover page</li> <li>• Title pages</li> <li>• Tables of content</li> <li>• Lists of illustration, tables, figures</li> <li>• Notes, footnotes</li> <li>• Reference lists</li> <li>• Copyright</li> <li>• Pagination</li> </ul>	3	0	3
				<b>54</b>

**OUT OF CLASS ASSIGNMENTS**

- 1 writing assignments (e.g. write a technical memo, technical description or instruction manual)
- 2 projects (e.g. using library resources, research a technical topic and write a project report)

**METHODS OF EVALUATION**

- 1 Quizzes
- 2 Presentation (e.g. presentation of the environmental impact of a large wind turbine)
- 3 Final Writing Project (e.g. technical academic paper on autonomous underwater vehicles)



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**METHODS OF INSTRUCTION**

- Lecture
- Laboratory
- Studio
- Discussion
- Multimedia
- Tutorial
- Independent Study
- Collaboratory Learning
- Demonstration
- Field Activities (Trips)
- Guest Speakers
- Presentations

**TEXTBOOKS**

<b>Title</b>	<b>Type</b>	<b>Publisher</b>	<b>Edition</b>	<b>Medium</b>	<b>Author</b>	<b>ISBN</b>	<b>Date</b>
Technical Communication	Required	Macmillan Learning	12	Print	Mike Markel	10:1-319-05861-2	2018