National University of Sciences & Technology (NUST)
School of Electrical Engineering and Computer Science (SEECS)
Department of Humanities

Technical and Business Writing			
Course Code:	HU212	**Semester:**	3rd
Credit Hours:	2 + 0	**Prerequisite Codes:**	Nil
Instructor:	Komal Malik	**Class**	BEE 12 ABCD
Office:	A-204	**Telephone:**	(051) 90852379
Lecture Days:	Tues, Wed, Thurs, Fri	**E-mail:**	Komal.malik@seecs.edu.pk
Class Room:	CR 16, 17, 18, 19	**Consulting Hours:**	Tuesday 11:00 am – 1:00 pm
Knowledge Group:	English	**Updates on LMS:**	Weekly

Course Description:

The course focuses on the need for effective technical aspects of writing for various forums. It covers topics like the process and style of technical writing, the audience, formal and informal writing, including but not limited to research, business, and professional writing.

Course Objectives:

The objective of the course is to augment students' proficiency in conveying and exchanging technical information in various technical and corporate situations. It also aims to help them pursue their research activities with an insight into the formal approaches to writing.

Books:

Text Book:	Technical Communication Process and Product 7th Ed. by Gerson & Gerson
Reference Book(s):	1. A Manual for Writers of Term Papers, Theses, and Dissertations by Kate L. Turabian. Sixth Edition. The University of Chicago Press 2. Technical writing by Steve M. Gerson. 3. Reporting Technical Information by Kenneth W. Houp, Thomas E.Persall, Tebeaux and Dragga Tenth Edition. 4. Technical Communication by Rebecca E.Burnett.

Course Learning Outcomes (CLOs):		
At the end of the course the students will be able to:	**PLO**	**BT Level***
1. Develop an ability to Comprehend technical/research writing strategies.	12	C-5
2. Adapt and formulate different technical writing skills for formal and informal situations.	10	A-4
3. Apply and **produce** documents for exchanging information in technical and corporate situations. (including, Technical proposals to contribute towards societal challenges etc.)	6	C-3
* BT= Bloom's Taxonomy, C=Cognitive domain, P=Psychomotor domain, A= Affective domain		

Mapping of CLOs to Program Learning Outcomes

PLOs/CLOs	CLO1	CLO2	CLO3
PLO 1 (Engineering Knowledge)			
PLO 2 (Problem Analysis)			
PLO 3 (Design/Development of Solutions)			
PLO 4 (Investigation)			
PLO 5 (Modern tool usage)			
PLO 6 (The Engineer and Society)			√
PLO 7 (Environment and Sustainability)			
PLO 8 (Ethics)			
PLO 9 (Individual and Team Work)			
PLO 10 (Communication)		√	
PLO 11 (Project Management)			
PLO 12 (Lifelong Learning)	√		

Mapping of CLOs to Assessment Modules and Weightages (In accordance with NUST statutes)

To be filled in at the end of the course.

Assessments/CLOs	
Quizzes: 10%	
Assignments: 10%	
OHT-1: 15%	
OHT-2: 15%	
End Semester Exam: 50%	
Total : 100 %	

Main Topics to be Covered:

1. **Technical Writing**
   a) Definition, Types, Objectives, and Skills Needed
   b) Features /Qualities, Do's for Tech Communication
   c) Stages of Writing (Planning, Drafting, Revising and Finishing
   d) Group Writing
   e) Audience (their knowledge level, roles, organizational distance, attitudes)
   f) Technical Writing Style (writing clear sentences, clear paragraphs, revising for clarity, organizing clearly)
2. **Personal Writing**
   a) CV/Resume, Job Application, Cover Letters
3. **Business Writing**
   a) Letters
   b) Agenda Points, Minutes of a Conference/Meeting
4. **Research Writing**
   a) Definition, Methodology
   b) Contents of a Research Paper: Abstract/Summaries, Introduction, Main Body, Conclusion, Recommendations, Referencing
   c) Report Writing

Week No	Topics
Week 1	Introduction to the subject, importance, definitions Types of Technical Writing, features, qualities Basic Principles
Week 2	Mechanics of Technical Writing Mechanics of Technical Writing (contd.) Communication Model – CMAPP
Week 3	Communication Principles (7C's) Writing Process – Three Stages Pre-writing - Techniques Writing/Drafting Revision / Editing
Week 4	Group/collaborative Writing (requirements, techniques) Group/collaborative (stages)
Week 5	Audience (Recognition, knowledge level, roles) Audience (organizational distance, attitudes, Involvement) Defining Purpose Clearly
Week 6	**OHT-1**
Week 7	Approaches to Writing Persuasive Message I (to motivate) Persuasive Message II (Sales Appeal- AIDA Plan)
Week 8	Approaches to Writing How to Compose: Good News Message (Direct Plan) Bad News Message Creating Buffer
Week 9	Memorandum Writing E Mail – Guideline to write an effective E-mail Letter Writing : Compulsory & Optional Elements Types of letter -Acknowledgment & Adjustment, Complaint Letters, Inquiries and Responses
Week 10	Resume Writing Writing Job Application Employability related skills Personal Statements
Week 11	Preparing summaries Preparing outlines
Week 12	**OHT-2**
Week 13	Proposal Writing Proposal Writing (contd.)
Week 14	Report Writing Report Writing (contd.)
Week 15	Research and Documentation (definitions, types,) Research and Documentation (methodologies)

Week 16	Research and Documentation (literature search, lib tools) Research and Documentation (abstract, introduction. main body, conclusion, recommendation) Research and Documentation (references, plagiarism)
Week 17	Students' Project Presentations
Week 18	**End Semester Exam**

Grading Policy:	
Quiz Policy:	The quizzes will be unannounced and normally last for ten minutes. The question framed is to test the concepts involved in last few lectures. Number of quizzes that will be used for evaluation is at the instructor's discretion.
Assignment Policy:	In order to develop comprehensive understanding of the subject, assignments will be given. Late assignments will not be accepted / graded. All assignments will count towards the total (No 'best-of' policy). The students are advised to do the assignment themselves. Copying of assignments is highly discouraged and violations will be dealt with severely by referring any occurrences to the disciplinary committee. The questions in the assignment are meant to be challenging to give students confidence and extensive knowledge about the subject matter and enable them to prepare for the exams.
Plagiarism:	SEECS maintains a zero-tolerance policy towards plagiarism. While collaboration in this course is highly encouraged, you must ensure that you do not claim other people's work/ ideas as your own. Plagiarism occurs when the words, ideas, assertions, theories, figures, images, programming codes of others are presented as your own work. You must cite and acknowledge all sources of information in your assignments. Failing to comply with the SEECS plagiarism policy will lead to strict penalties including zero marks in assignments and referral to the academic coordination office for disciplinary action.

PLO Description

(i) **Engineering Knowledge:** An ability to apply knowledge of mathematics, science, engineering fundamentals and an engineering specialization to the solution of complex engineering problems.

(ii) **Problem Analysis:** An ability to identify, formulate, research literature, and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences.

(iii) **Design/Development of Solutions:** An ability to design solutions for complex engineering problems and design systems, components or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.

(iv) **Investigation:** An ability to investigate complex engineering problems in a methodical way including literature survey, design and conduct of experiments, analysis and interpretation of experimental data, and synthesis of information to derive valid conclusions.

(v) **Modern Tool Usage:** An ability to create, select and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modelling, to complex engineering activities, with an understanding of the limitations.

(vi) **The Engineer and Society:** An ability to apply reasoning informed by contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional engineering practice and solution to complex engineering problems.

(vii) **Environment and Sustainability:** An ability to understand the impact of professional engineering solutions in societal and environmental contexts and demonstrate knowledge of and need for sustainable development.

(viii) **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice.

(ix) **Individual and Team Work:** An ability to work effectively, as an individual or in a team, on multifaceted and /or multidisciplinary settings.

(x) **Communication:** An ability to communicate effectively, orally as well as in writing, on complex engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

(xi) **Project Management:** An ability to demonstrate management skills and apply engineering principles to one's own work, as a member and/or leader in a team, to manage projects in a multidisciplinary environment.

(xii) **Lifelong Learning: An** ability to recognize importance of, and pursue lifelong learning in the broader context of innovation and technological developments.