



**Approved in 44<sup>th</sup> BoA Meeting (24-11-2021)**

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<b>Course number</b>	<b>: ME 519</b>
<b>Course Name</b>	<b>: Technical communication for Engineers</b>
<b>Credit Distribution</b>	<b>: 0-2-0-2</b>
<b>Intended for</b>	<b>: MTech / MS / PhD in Engineering</b>
<b>Prerequisite</b>	<b>: Nil</b>
<b>Mutual Exclusion</b>	<b>: Nil</b>

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1. **Preamble:** Help students get comfortable with technical writing and presentations through (tutorials and) hands-on work in the labs. The course aims to impress the recipe-based approach to technical communication.

**Course Outline:** This course will comprise two parts – technical writing and technical presentations. The course content constitutes two lab tutorial hours every week, stressing on the hands-on approach required to learning communication. The tutorial groups will be tutored by engineering faculty working in a related domain to ensure the technical aspect of the communication. Standard “models” will be presented to the students; the models will be analysed through comparisons with papers/reports and presentations in their field of study. By the end of this course, the students will become confident writing technical documents (report/dissertation) and preparing and presenting technical presentations. The students will be expected to submit assignments on the use of the “standard” models for writing technical reports on their planned research/project work.

**2: Course modules with quantitative lecture hours:**

- **Introduction:** What is technical writing and how it is different from non-technical writing. Standard writing models, building blocks and their description, and order of writing, case studies: establishing a clear distinction between “good” and “bad” writing (group activities are recommended), avoiding flowery language, word-processing tools (Latex). Writing assessment checklist. [4Hours]
- **Writing introduction section:** Structure of the introduction section, literature review and referencing, grammar (active/passive, signalling language), sentence structures and paragraphing, model development, testing model on relevant papers/reports, vocabulary (establishing significance, verbs for previous work, identifying gap, the present work). [5Hours]
- **Methodology:** Introduction, grammar and writing skills (tense pairs, ‘a’ vs ‘the’, countable and uncountable nouns, adverbs), model building, model testing exercise, vocabulary (general overview of the methods section, essential background information, providing precise details about materials and methods, justifying the choices made, taking appropriate care, comparison to other studies). [2Hours]

- **Results:** Importance of reporting objectively, correct use of tenses, the importance of sequence, comparison with previous work, model development, model testing, vocabulary (existing research, general overview, invitation to view results, key results, sequence, frequency, quantity, causality, comparison with other results, problems with results, implications). [3Hours]
- **Discussion and conclusion:** Structure, grammar and sentence structure (ability, possibility, probability, certainty, opinion, obligation), modals, model development, model testing, vocabulary (revisiting previous sections, summarising key results, refining implications, relationship to existing research, achievement/contribution, limitations, future work, applications). [4Hours]
- **Abstract and title:** Abstract models, grammar and writing skills (choice of verb tense), length, language, model development, model testing, vocabulary (background, aim, problem, paper description, methods, results, achievements, implication, limitation), title and keywords. [2Hours]
- **Technical presentations:** Data analysis and interpretation, specification of uncertainty, choice of scales, data density, difference between graphs for a manuscript and graph for a ppt, structure, tools, graphics, practice presentations. [8Hours]

### 3. Text Book:

1. Glasman-Deal, H., Science Research Writing for Non-native Speakers of English, World Scientific, 2010.

### 4. Reference Books:

1. McCaskill, M. K., Grammar, Punctuation and Capitalization, NASA, Scientific and Technical Information Division, Washington DC, 1990.
2. Vidoli, C. A., Technical Report Writing, NASA Technical Memorandum 105419.
3. Paradis, J. G. and Zimmerman M.L., The MIT Guide to Science and Engineering Communication by, Cambridge, Mass.: MIT Press, 1997.

### 5: Similarity Content Declaration with Existing Course

S.N	Course Code	Similarity Content	Approx. % of Content
1			

### 6: Justification for new course proposal if cumulative similarity content is > 30 %