

LANG4034 Technical Communication 2 for Mechanical and Aerospace Engineering students

1. Course Information

LANG4034 is a three-credit, one semester core course offered to third-year students from Mechanical and Aerospace (MAE) engineering. Students attend three hours of class and complete up to six hours of out-of-class work per week. The course is offered in Spring semester. The course focusses on two areas:

Laboratory report writing

Students will develop effective organisational strategies and enhance their ability to use appropriate language and skills to write laboratory reports for their MAE courses; having developed an understanding of what constitutes an effective laboratory report, they will then use this knowledge to critique laboratory reports.

Communication skills for technical projects

Students will develop effective organisational strategies and enhance their ability to use appropriate language and skills to write an academic project report for MAE. They will also learn how to present information coherently, and for maximum impact on the audience, in a pitch and a presentation on an MAE design idea.

- 2. Pre-requisites and co-requisites:** LANG2030 or LANG2030(H). The course is open to MAE students undertaking MECH3690 or MECH3830. The most appropriate time to take this course is in Spring Semester Year 3.

3. Aims of the course: Intend Learning Outcomes

1. Knowledge and content related	Students can: <ul style="list-style-type: none">a. identify and address the needs and concerns of a variety of academic and professional audiences in speaking and writing.b. support claims with appropriate evidence, and properly acknowledge sources.c. critically analyze and discuss major issues and recent developments in your major and related professions.
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2. Academic skills and competencies	<p>Students can:</p> <ul style="list-style-type: none"> a. recognize and use appropriate organizational structure, tone, and formatting in written and spoken communication for different audiences and purposes. b. select, summarize, and synthesize information from texts in your major subject. c. use accurate and fluent language (vocabulary, structures, and style) relevant to engineering-related communication tasks.
3. Ethical standards	<p>Students can:</p> <ul style="list-style-type: none"> • demonstrate academic integrity in course assignments.
4. Vision and orientation to the future	<p>Students can:</p> <ul style="list-style-type: none"> • recognize the need to communicate courteously and appropriately in professional contexts.

4. Course assessments

Assessments	Weighting (%)	ILOs
Practice Task: Laboratory report Review	5	1. b, c 2. b, c 3.
Design proposal report Part 1 (individual assessment)	10	1. a, b, c 2. a, b, c 3.
Design proposal report Part 2 (individual assessment)	35	1. a, b, c 2. a, b, c 3.
Presentation 1: A. Pitch for your design idea (individual assessment)	10	1. a, b, c 2. a, b, c 3, 4
Presentation 1: B. Peer feedback on Presentation 1 (individual assessment)	5	1. a, b, c 2. a, b, c 3, 4
Presentation 2: Presentation of your design idea (group and individual assessment)	35	1. a, b, c 2. a, b, c 3, 4

5. Course content

Part 1 Laboratory report writing

- Course Overview
- Introduction and experiment objectives
- Theory and Citation
- Apparatus and procedure
- Results and discussion
- Abstract and conclusion
- Review and practice

Part 2 Communication skills for technical projects

- Introducing a technical project
- Introductions: Overview, Objectives and Scope
- Pitching a project to Investors
- Presentation Skills (I): Revision
- Reviewing the Work of Others
- Describing a prototype
- Testing a prototype
- Discussing and Evaluating Results
- Drawing Conclusions and Talking about the Future
- Presentation Skills (II): Team Presentation
- Explaining Technology to Business People
- Estimate Market Potential
- Presentation Skills (III): Putting It All Together