LANG4034 Technical Communication II for Mechanical and Aerospace Engineering

Course Code: LANG4034	**Course Title:** Technical Communication II for Mechanical and Aerospace Engineering
Required Course Or Elective Course: Required	**Terms Offered (Credits):** Spring (3 credits)
Faculty In Charge: Keith Tong & Eunice Tang	**Pre/Co-Requisites:** Pre-requisite(s): LANG 2030 Co-requisite(s): MECH 3690 OR MECH 3830

Course Structure:

(weekly, blended teaching format)

Class: 3 hours compulsory class each week

Out-of-class work: Up to 6 hours per week. Supplementary materials and resources (texts and videos) on Canvas for self-study, out-of-class group work is required for assignments.

Textbook/Required Material:

Electronic materials and handouts. Course materials for each lesson are provided on the course Canvas site.

Course Description:

1. This course teaches lab report writing through communicative task-based language activities and analysis of sample lab reports. For example, students will read and compare examples of real lab reports to identify good and bad practice in terms of task achievement, language and formatting. There will also be pre- and post-task activities focusing on discussion, language and literacy skills, for example using the past tense and the passive voice to describe an experimental procedure in a narrative style.
2. The second part of the course is related to the final year design project. Students develop a design project idea in a small group and practice language for writing a presenting their idea, focusing on specific functions that support their idea, for example justifying the design specifications. Students will participate in communicative task-based language activities and analyze samples of real final year design project reports to identify good and bad practice in terms of task achievement, language and formatting.
3. The course will be taught using specially designed materials provided on Canvas. Each individual lesson will consist of a main task related to an aspect of lab report writing or communications skills for final year design projects, and supporting tasks focusing on discussion, language and literacy skills, for example proposing ways to overcome engineering challenges when developing a design project idea. The themes of the lessons and the input materials (texts and videos) will all be related to Mechanical and Aerospace Engineering.

Course Topics:

Lab report writing
1. Introduction to lab report writing: Why do we write lab reports?
2. Formatting and referencing
3. Writing an Introduction and Theory
4. Describing apparatus and procedure
5. Describing and analyzing data
6. Writing a Conclusion and Abstract
7. Evaluating and commenting on lab reports

Communication skills for final year design projects

8. Explaining a design project idea and showing the motivation
9. Defining the scope of a design project
10. Justifying design specifications for a design project
11. Showing the technical viability of a design project idea
12. Explaining methods for testing design requirements
13. Showing the manufacturing market potential of a design project idea
14. Presenting a design project and handling critical questions

Course Objectives:	1. To equip students with effective organizational strategies and enhance their ability to use appropriate language and skills to write lab reports. 2. To provide students with an understanding of what constitutes an effective lab report, and to encourage students to use this knowledge to peer review their classmates' lab reports. 3. To equip students with organizational strategies and enhance their ability to use appropriate language and skills to write a design project report. 4. To equip students with effective presentation skills to present information coherently, and for maximum impact on the target audience.
Course Outcomes:	A. Students will gain a deeper awareness of effective lab report writing and be able to apply this to their lab report assignments on other courses and in future. B. Students will be able to communicate their Final Year Design Project idea and progress informatively and persuasively, both through oral presentation and written reports, to a technical and semi-technical audience.
Assessment Tools:	Critical analysis of a sample lab report — 10% Group design project idea overview presentation — 15% Group design project idea proposal presentation and Q&A — 20% Group written project idea overview report — 20% Group design project idea proposal report — 25% Class participation and satisfactory completion of out-of-class work — 10%