

LANG 2030/H Technical Communication (I)

Course Description and Syllabus

1. Course Information

Technical Communication 1 is a three-credit course offered to students from the School of Engineering. Over one semester, students will attend three hours of class, and will be expected to complete up to six hours of out-of-class work, per week. The course focuses on three areas:

The Communicating Engineer: In this short introductory section, students will examine what characteristics make engineers different from other professionals and analyze the language that is typically used in engineering texts.

Engineers and social responsibility: Students will analyze and discuss some of the major ethical issues that engineers face in their work, with reference to real-world cases. They will work in a group to prepare and deliver a presentation and lead a seminar discussion on an engineering ethics issue. They will also write a short analytical report.

Engineers and creativity: Students will discuss and evaluate engineering innovations and will work in a group to devise an innovative engineering idea. They will present the innovation to their classmates and submit an individual proposal report.

The course aims to develop students' ability to deliver presentations and take part in discussions on topics relevant to the work of a professional engineer. It also aims to enhance their ability to write about engineering-related topics, combining the use of sources with their own ideas. Language work focuses on developing the vocabulary, language structures, writing and speaking skills which will allow students to fulfill these aims.

2. Pre-requisites: LANG (CORE) 1403 OR LANG (CORE) 1404 OR LANG 1003 (prior to 2022-23)

3. Aims of the course: Competencies and Intended Learning Outcomes

HKUST competency	CLE sub-competency and LANG2030 ILOs
Problem-solving	1. Synthesis and substance

	<ul style="list-style-type: none"> a) You can critically analyze and discuss general engineering issues and semi-technical topics. b) You can select relevant and appropriate information from general to semi-technical engineering texts. c) You can summarize and synthesize this information appropriately and properly acknowledge sources. d) You can support claims with appropriate evidence.
Communication	<p>2. Coherence</p> <ul style="list-style-type: none"> a) You can develop well-framed ideas clearly and fully, in both speaking and writing, using relevant information, ideas and arguments. b) You can organize ideas coherently using appropriate organizational structures and formatting for engineering-related communication tasks.
	<p>3. Language Accuracy and Use</p> <ul style="list-style-type: none"> a) You can identify the different needs and concerns of a non-technical audience and are able to adapt the way you communicate accordingly. b) You can use language accurately and appropriately (pronunciation, intonation, vocabulary, linguistic structures and style) in engineering-related communication tasks.
	<p>4. Mode of Communication</p> <ul style="list-style-type: none"> a) You can use different modes of communication, e.g. audio, written and visual/graphical, effectively. b) You can use effective body language in presentations. c) You can interact effectively with participants in a seminar and/or in a Q&A session.
Personal Development	<p>5. Professionalism</p> <ul style="list-style-type: none"> a) You can work effectively in a team. b) You can give constructive feedback to others for performance improvement.
Social responsibility	<p>6. Cultural Knowledge and Ethical Awareness</p> <ul style="list-style-type: none"> a) You can evaluate the benefits and dangers of engineering technologies for society.

	b) You can recognize major ethical issues and career pressure faced by engineers.
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4. Course assessment

A group presentation and seminar discussion on an engineering ethics issue (group and individual)	30%	1. a, b, c, d 2. a, b 3. a, b 4. a, b, c 5. a, b 6. a, b
An analytical report on an engineering ethics issue (individual)	20%	1. a, b, c, d 2. a, b 3. a, b 4. a 5. a, b 6. a, b
A group presentation of a proposal for an engineering innovation (group and individual)	30%	1. a, b, c, d 2. a, b 3. a, b 4. a, b 5. a, b 6. a
A proposal report for an engineering innovation (group and individual), including two quizzes on research skills and citing sources based on the online library workshop & guide (2%)	20%	1. a, b, c, d 2. a, b 3. a, b 4. a

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5. Course Content

Introduction: The Communicating Engineer

- How engineers speak
- How engineers write

Part 1 Engineers and Social Responsibility

- What are engineering ethics?
- Analyzing ethical issues in engineering
- Identifying causes in engineering disasters
- Analyzing ethical implications arising from engineering incidents
- Finalizing your analytical report and citing sources
- Presenting ethical issues
- Taking part in seminar discussions

Part 2 Engineers and Creativity

- The creative engineer
- Introducing a creative project
- Reviewing literature and comparing technologies
- Giving a technical description
- Describing feasibility and benefits, concluding and putting together your proposal
- Presenting an innovation