

HW0228
Scientific Communication

Study year	: BS Year 2; BSPY Year 2; DSAI Year 2; MACS Year 1; MAEO Year 3; SSM Year 3; SPMS Year 3
Academic units	: 2 AUs
Pre-requisite	: HW0128 Scientific Communication I / CC0001 Inquiry and Communication in an Interdisciplinary World / HW0111 Communication: A Journey of Inquiry through Writing and Speech
Tutorial hours	: 24 (weekly tutorials of 2 hours)

CONTENT

The aim of this course is to introduce students to the conventions of scientific texts using a project-based approach. It focuses on the linguistic features and structure of scientific texts such as critiques, proposals and academic reports. In addition, students will have an opportunity to share their research ideas with their peers through class presentations on their research proposals and projects. The course also includes conferencing sessions with tutors for discussion of their project work.

Please take note that this core course has been specially designed for NTU science students, taking into consideration their communication needs based on a university-wide survey. As such, it is excluded from course matching with other communication skills courses at overseas universities during exchange and summer studies.

LEARNING OUTCOMES

Upon successful completion of the course, students should be able to:

1. Critique scientific papers;
2. Write scientific texts such as critiques, proposals and reports; and
3. Present their scientific proposals and projects to their peers.

COURSE SCHEDULE

Week	Tutorial topics	Reading/Activities
1	No tutorial	-
2	Introduction to scientific research writing	Unit 1 <ol style="list-style-type: none"> 1. Recognise the steps involved in the process of scientific research; 2. Recognise the typical structure and format of a report; 3. Recognise the differences between experimental, review and survey research; and 4. Use an appropriate style for scientific writing.

Week	Tutorial topics	Reading/Activities
3	Scientific proposals	Unit 2 1. Prepare a research proposal that is informative and persuasive, in order to convince readers that the project is worth investigating; and 2. Present the proposal in a clear and systematic way to an academic audience.
4	Scientific reports: Introduction	Unit 3 1. Identify the different rhetorical moves in a research introduction using the CARS model; and 2. Write the introduction of a research report using the CARS model.
5	Scientific reports: Critiquing an introduction	Unit 3 1. Critique an introduction of a research paper; and 2. Complete the critique assignment.
6	Scientific reports: Methodology	Unit 4 1. Recognise the difference between the two key concepts of reliability and validity; 2. Identify the structure and language features of the methodology section of a scientific report; 3. Recognise the different kinds of sampling methods in a survey study and design a questionnaire survey; and 4. Write a methodology section using appropriate language features.
7	Presentation of scientific proposals	Unit 2 (Student presentations) 1. Prepare a research proposal that is informative and persuasive, in order to convince readers that the project is worth investigating; and 2. Present the proposal in a clear and systematic way to an academic audience.
8	Scientific reports: Results and discussion	Unit 5 1. Identify the rhetorical structure of the results and discussion section; 2. Distinguish between alternating and sequential patterns of organising the results and discussion; 3. Identify key language features used in this section; and 4. Write the results and discussion section of your report.

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Week	Tutorial topics	Reading/Activities
9	Scientific reports: Conclusion and abstract	Unit 6 1. Identify the rhetorical structure and key language features of the conclusion; 2. Identify the rhetorical structure and key language features of the abstract; and 3. Write the conclusion and abstract of your report.
10	Scientific reports: Revising and editing	Unit 8 1. Revise the content of your report; 2. Edit the language of the report; and 3. Provide feedback on your peers' work.
11	In-class presentations	Unit 7 (Student presentations) 1. Present your project clearly and succinctly to your peers and tutor; and 2. Learn to respond appropriately to questions/comments from the audience.
12	In-class presentations	Unit 7 (Student presentations) 1. Present your project clearly and succinctly to your peers and tutor; and 2. Learn to respond appropriately to questions/comments from the audience.
13	Course review and feedback	Units 1 to 8 1. Review topics covered during the course; and 2. Provide feedback on the course.

STUDENT ASSESSMENT

Students will be assessed by 100% continuous assessment. The assignments are designed to achieve the intended learning outcomes of the course.

Assessment

Weighting

Written assignments

70%

Students should demonstrate that they are able to write a critique of an academic paper and a scientific report relevant to their field of study.

Project presentation

15%

Students should demonstrate that they can deliver an academic presentation on their research projects and respond to questions from the class.

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Assessment

Weighting

Class participation

15%

Students should demonstrate that they can contribute meaningfully to class and group discussions.

TEXTBOOKS/REFERENCES

1. *HW0228 Scientific Communication II: Student's Course Guide*. Singapore: NTU Language and Communication Centre.

Further reference

1. Swales, J.M., & Feak, C.B. (2004). *Academic writing for graduate students: Essential tasks and skills (2nd ed.)*. Ann Arbor: University of Michigan.