HW0128 Scientific Communication I

Study year	:	BS Year 2; BMS Year 2; BSPY Year 2; DSAI Year 1; MACS Year 1; MAEO Year 2; SPMS Year 1; SSM Year 1
Academic units	:	2 AUs
Co-requisite	:	HW0001 English Proficiency
Tutorial hours	:	24 (weekly tutorials of 2 hours)

CONTENT

The aim of the course is to enhance the abilities of science students to recognise and employ the conventions used by scientists in their fields, in both academic and public settings. In this course, the emphasis is on micro skills in scientific communication such as searching academic databases, critically reading scientific texts, citing from sources, composing scientific arguments and making effective presentations to a non-specialist audience. As this is a foundation course, it will ensure that students are ready to engage with the more challenging skills of the second and more advanced scientific communication course that follows.

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. Evaluate scientific texts;
2. Cite texts appropriately;
3. Produce short academic texts relevant to the field of science; and
4. Make presentations on key scientific topics.

COURSE SCHEDULE

Week	Tutorial topics	Reading/Activities
1	No tutorial	-
2	Writing for a specialist/non-specialist audience	Unit 1 1. Recognise major differences in expectations between specialist and non-specialist audiences; 2. Recognise key differences in language when writing for specialist and non-specialist audiences; 3. Recognise important differences between speech and writing; and

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Week	Tutorial topics	Reading/Activities
		4. Identify and apply in your writing an appropriate academic style of communication.
3	Reading scientific texts critically	Unit 2 1. Annotate a text effectively; 2. Apply appropriate strategies for identifying key ideas and arguments in a text; 3. Evaluate and respond to key ideas and arguments in a text; and 4. Examine the rhetorical context of a text.
4	Searching databases and writing from sources I	Unit 3 1. Find and evaluate sources of information; 2. Avoid plagiarism in your writing; 3. Paraphrase, summarise and quote information appropriately in your academic texts; 4. Learn basic conventions of referencing in in-text citations and end-of-text references; and 5. Identify parts of an annotated bibliography.
5	Searching databases and writing from sources II	Unit 3 1. Find and evaluate sources of information; 2. Avoid plagiarism in your writing; 3. Paraphrase, summarise and quote information appropriately in your academic texts; 4. Learn basic conventions of referencing in in-text citations and end-of-text references; and 5. Identify parts of an annotated bibliography.
6	Peer review of Assignment 1 – Annotated bibliography	Unit 3 1. Provide feedback to your peer on the content and organization of the assignment; 2. Provide feedback to your peer on the grammar and mechanics of the assignment; and 3. Provide overall comments on how your peer can improve the assignment.

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Week	Tutorial topics	Reading/Activities
7	Composing scientific arguments	Unit 4 1. Recognise the four key dimensions of effective scientific arguments, namely logos, ethos, pathos and kairos; 2. Empower yourself with the metalanguage used to identify parts of an argument; 3. Employ data or grounds and warrants effectively to support your claim and anticipate rebuttals; and 4. Identify some common logical fallacies.
8	Writing and revising a review paper	Unit 5 1. Synthesise and evaluate the issues surrounding a given topic; and 2. Write a review paper based on journal articles, leading to the completion of Assignment 2.
9	Peer review of Assignment 2 – Review Paper	Unit 5 1. Learn how to peer-review your classmates' review papers by applying a set of evaluation criteria; and 2. Revise your review paper based on the peer review.
10	Defining and explaining scientific concepts – Written Communication	Unit 6 1. Write clear definitions and explanations of scientific concepts.
11	Defining and explaining scientific concepts – Oral Communication	Unit 6 1. Explain scientific concepts clearly in informative presentations.
12	In-class presentations (Assignment 3)	Unit 6 1. Explain scientific concepts clearly in informative presentations; and 2. Critique each other's presentation skills using the peer evaluation form.
13	In-class presentations (Assignment 3); Course review	Unit 6 (Student presentations) and Units 1 to 6 1. Explain scientific concepts clearly in informative presentations; 2. Critique each other's presentation skills using the peer evaluation form; and 3. Review topics covered during the course.

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STUDENT ASSESSMENT

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

Assessment	Weighting
Written assignments Students should demonstrate that they are able to write an annotated bibliography of an academic paper and a review paper on a scientific topic based on academic papers in their field of study.	**60%**
Scientific presentations Students should demonstrate that they can deliver an informative presentation by defining and explaining scientific concepts in their field of study.	**25%**
Class participation Students should demonstrate that they can contribute meaningfully to class discussions and complete the microsite activities.	**15%**

TEXTBOOKS/REFERENCES

1. *HW0128 Scientific Communication I: Student's Course Guide*. Singapore: NTU Language and Communication Centre.

Further reference

1. Penrose, A. M., & Katz, S. B. (2010). *Writing in the sciences: Exploring conventions of scientific* discourse (3rd ed). New York: Longman.