

Scientific Writing and Presentation Skills

Academic unit or major:	School of Engineering
Instructor(s):	Daniel Berrar (daniel.berrar@ict.e.titech.ac.jp)
Course components:	Lecture
Day / Period):	Monday and Thursday 9-10 (16:50-18:20)
Room No.:	undecided
Course number:	undecided
Academic year:	2017
Syllabus updated:	2017/10/07
Language used:	English
Credits:	2
Offered quarter:	4Q

Course description and aims

This course is designed as a practical “how-to” course for graduate students (Master and PhD) of science and engineering who plan to write up and publish their research results and give presentations at international conferences.

This course consists of two parts. In the first part, the students will learn how to write and publish a scientific paper, including how to structure a paper, how to write the abstract, introduction, materials & methods, results, discussion, and conclusions. The students will also learn how to represent experimental and analytical results graphically. The students will learn about the entire publication process, from writing the first paper draft to finalizing the camera-ready version. Publishing a scientific paper involves more than just writing – a scientist also needs to understand how the editorial and peer review process work. We will pay particular attention to how to respond to reviewers’ comments and revise a paper accordingly. Another important component of this course is how to avoid common mistakes and pitfalls in the writing process, including problems of grammar and style. In practical exercises, the students will hone their academic writing skills.

The second part of the course focuses on academic presentation skills. Here, we will study how to design effective presentation slides, how to give an oral presentation, and particularly how to handle the Q&A session.

Student learning outcomes

After successful completion of this course, the students will know

- (1) how to write and publish a scientific paper;
- (2) how to respond to reviewer’s comments;
- (3) how to design effective presentation slides;
- (4) how to give a scientific presentation and handle the Q&A session.

Keywords

scientific writing; presentation; academic publication; review process; Q&A session

Competencies that will be developed

Intercultural skills	Communication skills	Specialist skills	Critical thinking skills	Practical and/or problem-solving skills
-	✓	-	✓	-

Class flow

The first part of the course consists of lectures on scientific writing (Thursday classes). In the second part, the students will practice scientific presentations with Q&A sessions (Monday classes).

Course schedule / Required learning

	Course schedule	Required learning
Class 1	(1) Introduction to the course (2) Ethical principles in publishing (3) Open access and open science principles (4) How the editorial and peer-review process work	-
Class 2	(1) Good academic presentation principles (2) How to prepare presentation slides (3) How to avoid common mistakes	Revision
Class 3	(1) How to begin and structure a paper using IMRaD (2) How to write the section Materials & Methods (3) How to use effective words, sentences, and paragraphs	Assignment
Class 4	(1) Listening comprehension techniques (2) Note taking tips & tricks (3) Classroom exercises	Revision
Class 5	(1) How to write the section Results (2) How to produce effective figures and tables (3) How to describe figures and tables	Assignment
Class 6	(1) How to handle the Q&A session (2) Classroom exercises (3) Students' presentations with Q&A session (practice)	Prepare talk
Class 7	(1) How to write the section Discussion and Conclusions (2) How to choose a good title (3) How to cite the literature	Assignment
Class 8	(1) Students' presentations (2) Q&A session (practice)	Prepare talk
Class 9	(1) How to write a paraphrase and a summary (2) How to write the Abstract (3) How to avoid common mistakes: misplaced modifiers	Assignment
Class 10	(1) Students' presentations (2) Q&A session (practice)	Prepare talk
Class 11	(1) How to express criticism (2) How to respond to reviewers' comments and revise a paper	Assignment
Class 12	(1) Students' presentations (2) Q&A session (practice)	Prepare talk
Class 13	(1) How to write a review paper (2) How to write the Acknowledgements	Assignment
Class 14	(1) Students' presentations (2) Q&A session (practice)	Prepare talk
Class 15	(1) Students' presentations with Q&A (2) Q&A session (practice)	-

Textbook(s)

None required. Course materials are provided during class.

Reference books, course materials, etc.

H. Glasman-Deal (2009) *Science Research Writing: A Guide for Non-Native Speakers of English*, Imperial College Press.

J.L. Lebrun (2009) *When the Scientist Presents: An Audio and Video Guide to Science Talks*. World Scientific Publishing Company.

Assessment criteria and methods

Students' grades will be based on their completed assignments and presentations.

Related courses

LAC.C662: Scientific Communication

ENR.E610: Academic Writing A

ENR.E611: Academic Writing B

Prerequisites (i.e., required knowledge, skills, courses, etc.)

At least an intermediate level of English is required.

Note

This course is for all graduate students who are planning to submit their papers to an international journal or conference, and students who are planning to give a presentation at an international conference. Although this course is designed primarily for non-native speakers of English, native speakers who are not yet familiar with the academic publishing process or with scientific presentations will also benefit from this course.