

Annexe A: New/Revised Course Content in OBTL+ Format

Course Overview

Expected Implementation in Academic Year (New format)	AY2026-2027
Semester/Trimester/Others (specify approx. Start/End date)	Semester 1
Course Author * Faculty proposing/revising the course	Dr Pavel Adamek
Course Author Email	padamek@ntu.edu.sg
Course Title	INTRODUCTION TO SCIENTIFIC WRITING
Course Code	ES0138
Academic Units	2
Contact Hours	26
Research Experience Components	Not Applicable

Course Requisites (if applicable)

Pre-requisites	NIL
Co-requisites	NIL
Pre-requisite to	ES0238 Writing Science for Non-Scientists
Mutually exclusive to	NIL
Replacement course to	NIL
Remarks (if any)	

Course Aims

This is an introductory course aimed at equipping you with writing fundamentals, which will be applicable to all your future academic written communication, and which will form the pre-requisite for advanced courses. At the start, you will learn about the central roles of academic argument and referencing (citation practices). Further, the course will emphasise meeting the reader's basic expectations of a text's purpose, of where in the text information should appear, and how changes in information placement influence the impact of your text. The course will also provide you with guidance on making engaging presentations without slides to a non-specialist audience. Lessons will be highly interactive, and offer you multiple opportunities to write, present, and get and give feedback.

To reach these aims, the course will be guided by four general tenets:

- 1) Writing is intertwined with thinking. In academic writing, you are expected not to simply display knowledge. You are also expected to demonstrate, firstly, knowledge transformation, which "means, among other things, being able to shape a piece of writing to achieve intended effects and to reorganize one's knowledge in the process"¹, and secondly, knowledge building, which is "the production and continual improvement of ideas of value to a community".²
- 2) Writing is a process of planning, writing, editing, and revising. These steps are recursive and often non-linear.³
- 3) To make theoretical concepts meaningful, they need to be applied (a.k.a. learning by doing): Writing can hardly be learned by just listening to lectures.
- 4) Teamwork (discussion) sharpens idea formulation and critique (not to mention that most writing beyond the school environment, certainly if you work in academia, is collaborative).

After each lesson, the theory will be applied in a draft group text, which will be revised after feedback and new class material. In some weeks, you will be asked to provide feedback on another group's writing, since research indicates that peer reviewing improves the writing of those who provide feedback.⁴ By the end of the semester, you will have gained experience writing a text that can engage your reader more effectively. A secondary benefit of the group assignments is to prepare you for an individual paper at the end of the semester.

¹ Bereiter, C., & Scardamalia, M. (1987). *The Psychology of Written Composition* (p. 6). London: Routledge.

² Scardamalia, M., & Bereiter, C. (2003). Knowledge building. In *Encyclopedia of education* (2nd ed., pp. 1370–1373). New York: Macmillan Reference.

³ Mewburn, I., Firth, K., & Lehmann, S. (2019). *How to fix your academic writing trouble: A practical guide*. London; New York: McGraw-Hill Education.

⁴ Lundstrom, K., & Baker, W. (2009). To give is better than to receive: The benefits of peer review to the reviewer's own writing. *Journal of Second Language Writing*, 18, 30-43.

Course's Intended Learning Outcomes (ILOs)

Upon the successful completion of this course, you (student) would be able to:

ILO 1	Articulate and exemplify parts of arguments, differences in and purposes of referencing styles, and features of audience-centric communication
ILO 2	Use sources accurately, avoid plagiarism, and reduce your reliance on compensatory techniques (e.g., patchwriting) when drawing on published sources
ILO 3	Analyse a written/spoken text's argumentative structure and features of audience centric communication, evaluate their efficacy, and suggest improvements
ILO 4	Produce cohesive, argumentative, and appropriately referenced written/spoken text
ILO 5	Deliver an engaging talk (without slides) to a non-specialist audience

Course Content

The module content covers both written and oral academic communication. In the written communication part, the lessons will offer a way of deconstructing academic argumentation, and the types and purposes of referencing the work of others. The course will further cover the initial, middle, and end position in the clause, the overall clause length, and ways of connecting ideas. In the oral communication part, the lessons will focus on the presentation structure of introductions, main parts, and conclusions, and provide practice in oral delivery, including posture, body language, and eye contact.

Reading and References (if applicable)

Booth, W.C., Colomb, G.G., Williams, J.M., Bizup, J., & Fitzgerald, W.T. (2024). *The craft of research* (5th ed.). Chicago; London: Chicago University Press.

Carter, M. (2013). *Designing science presentations: A visual guide to figures, papers, slides, posters, and more*. Elsevier: Academic Press.

Gopen, G.D. (2004). *Expectations: Teaching writing from the reader's perspective*. Boston: Pearson.

Hotaling, S. (2020). Simple rules for concise scientific writing. *Limnology and Oceanography Letters*. doi: 10.1002/lol2.10165

Reinhart, S.M. (2013). *Giving academic presentations* (2nd ed.). Ann Arbor: The University of Michigan Press.

Sword, H. (2016). *The writer's diet*. Chicago: The University of Chicago Press.

Planned Schedule

Week or Session	Topics or Themes	ILO	Delivery Mode	Activities	Readings
1	Introduction to selected aspects of writing in academia Academic argument: Identify an issue and different perspectives on it	1,4	In-person	Textual analysis, class and group debate	Identify an issue of interest, and evaluate it (blind spots, assumptions, logical flaws, etc.) in the light of varied perspectives. Read two articles and watch one video by professor V. Smil. Booth et al., Chapters 5-9
2	Introduction to selected aspects of writing in academia Acknowledging sources and avoiding plagiarism	1,2,4	In-person	Textual analysis, class and group debate	Why does citation differ across disciplines? Demonstrate paraphrasing. Booth et al., Chapter 3.4
3	Meeting readers' expectations Sample paper analysis: Semantic gravity	1,3	In-person	Textual analysis, class and group debate	Sample papers
4	Meeting readers' expectations Flow in writing/ Cohesion and coherence	1, 3, 4	In-person	Textual analysis, class and group debate	Gopen, Chapter 4 Williams and Bizup, Lesson 5
5	Meeting readers' expectations Topic changing and topic stringing	1, 3, 4	In-person	Textual analysis, class and group debate	Gopen, Chapter 4
6	Meeting readers' expectations Nominalization and strong verbs	1,3,4	In-person	Textual analysis, class and group debate	Williams and Bizup, Lesson 3 Sword, Chapter 1

Week or Session	Topics or Themes	ILO	Delivery Mode	Activities	Readings
7	Meeting readers' expectations Stress position and emphasis	1,3,4	In-person	Gopen, Chapter 4 Williams and Bizup, Lesson 6	Gopen, Chapter 4 Williams and Bizup, Lesson 6
8	Meeting readers' expectations Concision	1,3,4	In-person	Textual analysis, class and group debate	Hotaling Williams and Bizup, Lesson 9 Sword, Chapter 5
9	Presentation skills Body language and eye contact	1,3,4,5	In-person	Video presentation analysis, class and group debate	Reinhart pp. 18-19, 79-81
10	Presentation skills The body of a talk	1,3,4,5	In-person	Video presentation analysis, class and group debate	Reinhart, Unit 5 as an example of a problem-solution speech
11	Presentation skills Opening a talk	1,3,4,5	In-person	Video presentation analysis, class and group debate	Carter (pp. 203-218, 295-303)
12	Presentation skills Closing a talk and presentation practice	1,3,4,5	In-person	Video presentation analysis, class and group debate	Reinhart (pp. 117-118)
13	Final presentations	4,5	In-person	Individual presentations	

Learning and Teaching Approach

Approach	How does this approach support you in achieving the learning outcomes?
Lectures	To effectively convey information about key concepts and to bring all of you up to similar levels of knowledge
Interactive (participation-based) activities	Various activities (homework, tutorial, group tasks, in-class discussion, etc.) to help you analyse and deepen your understanding of the concepts, develop your critical thinking, collaboration, and sharpen your communication skills

Assessment Structure

Assessment Components (includes both continuous and summative assessment)

No.	Component	ILO	Related PLO or Accreditation	Weightage	Description of Assessment Component	Team/Individual	Rubrics	Level of Understanding
1	Continuous Assessment (CA): Others(Paper)	2,4		40		Individual	Analytic	Extended Abstract
2	Continuous Assessment (CA): Oral Test(Oral presentation)	2,5		25		Individual	Analytic	Extended Abstract
3	Continuous Assessment (CA): Class Participation(Class participation)	1,2,3,4,5		10		Individual	Analytic	Not Applicable
4	Continuous Assessment (CA): Others(Homework)	2,3,4,5		25		Team	Analytic	Extended Abstract

Description of Assessment Components (if applicable)

Final paper

The final paper is due in week 12. (Late submission = final score minus 15%)

You will write a short text (of 900-1000 words, excluding the references) for a non-specialist audience on a selected scientific or social issue. The text will be based on your reading of at least five published academic sources (not Wikipedia or just newspaper articles). The goal of the paper can take varied forms: You can present an argument in favour of or against a point of view (not both), suggest how to resolve a theoretical or practical problem, critique a current (narrow) interpretation of an issue and propose a new one, answer a question, or find an explanation. In other words, the paper should not be purely informational (knowledge display); instead you should demonstrate you can transform or build knowledge, or come to a new understanding of an issue/phenomenon.

The paper should be structured by sub-headings. Use content sub-headings (i.e., sub-headings that indicate where you are going in the particular section) to communicate your positionality (your stance). Beyond Introduction and Conclusion, avoid conventional functional headings such as, Background & Significance or Analysis.

In the opening section:

- Include hook to attract the readers' attention.
- Rationalise the selected issue, discuss its significance, and critique current perspectives
- Lead to a thesis statement.
- Include the thesis statement, which is a claim/standpoint, often as the final sentence of the introduction. While it can include several points, it should be a single sentence. The statement often starts with "In this paper, I..."

In the following (body) section(s):

- Substantiate the point(s) in your thesis statement.

- Use various types of paragraphs (e.g., cause-effect, compare or contrast, illustration or exemplification, argument, classification, etc.).
- In each paragraph, include a topic sentence, followed by a supporting idea/evidence and a specific detail/example.

In the final section:

- Restate the thesis statement.
- Provide insights into the whole argument and its significance.

Previously submitted papers included the following topics (note how the titles represent varied forms a final paper can take):

- Evaluating TerraCycle's recycling programmes
- Is deforestation responsible for the collapse of the Classic-period Maya? What can modern societies learn?
- Assessment of the viability of carbon capture technology
- Fishy business: Loopholes and opportunities in the sustainability of Singapore's seafood
- Waste-to-energy: A different perspective
- Solar-powered energy: Are we heading towards a solar e-waste glut future?
- Will new farming technologies, specifically vertical hydroponic farming, be able to create a sustainable agriculture industry?
- Ecotourism: Wildlife conservation or exploitation? A case study of Oslob's whale shark tourism
- A sizzle or a fizzle? Assessing the environmental sustainability of lab-grown beef
- The illusion of sustainability

While the topic can be sourced from ES1001 readings/discussions, you cannot submit the same paper in ES1001 and ES0138; neither can your paper be on the same topic as your oral presentation in ES1001. Your text will present a developed idea in a concise but clear way within the word limit. You should utilize all the discourse features addressed in the course, acknowledge the sources of information, and make sure your text is free from grammatical and/or spelling errors. Include the word count.

The text should be submitted as an MS Word file, 1.5 or double spaced, with 1-inch margins on all four sides of each page, and in Times New Roman 12-point font. Your reference list should be in APA style

(<https://libguides.ntu.edu.sg/c.php?g=935202&p=6768552#s-lg-box-22493185>) and contain all the sources you cite or refer to in your text. This reference list is not included in the word count.

AI tools may be used to check grammar, spelling, punctuation, capitalisation, and reference formatting. They (e.g., consensus.app) can be used to find published sources and explain concepts. They can also be used to summarise information in the found sources so you can evaluate the information suitability for your paper—however, before information from such a summary is used in your text, you must verify the information is accurate to eliminate the possibility it has been hallucinated. AI tools cannot be used to brainstorm, generate ideas, produce drafts or feedback (i.e., suggestions for what you should change in your text). The restrictions are set to preserve the validity of the learning and skills you are expected to have done and acquired. Also, remember that outsourcing thinking to AI tools in the name of efficiency disadvantages your cognitive development—ask yourself why you decided to study at university. NTU expects students to uphold the Student Code of Conduct at all times. The act of taking words or ideas from other sources, including ChatGPT and other AI technologies, and present them as your own without proper citation of the source(s) will be treated as misconduct. Extending the practice of correctly citing references in your work under NTU's policies on citation and plagiarism, the University requires students to (i) identify any generative AI tools used and (ii) declare how the tools are used in submitted work. Please note that even with acknowledgement, copying of output generated by AI tools (in part or whole) may still be regarded as plagiarism. The instructor may, as part of assessing the written submission, conduct an oral presentation or the summary of the written work on the part of the student with follow up Q & A (i.e., the work will be subject to a viva voce examination) at a time and place of the instructor's specification during the semester.

Oral presentation

You will give a five-minute talk on a selected scientific issue to a non-specialist audience. While the topic can be sourced from ES1001 readings/discussions, it cannot be the same as your assessed presentation in ES1001 (i.e., you cannot present and be assessed on the same talk in ES1001 and ES0138). You will engage your audience with an effective hook, clearly laid out body of the talk, and end by emphasizing the main point. You will support your delivery with gestures and eye contact. No slides will be used.

AI tools may be used to generate ideas—but not drafts of or final speech scripts. The university requires students to identify and acknowledge how any generative AI tools were used in the submitted work (even in the case of “just” generating ideas).

Class participation

You will be evaluated by the instructor on your contribution to group tasks and discussions, support of other students, and interaction with the material and the instructor.

Homework

In the group homework, you will practise working in two problem spaces. In the content space, you will work on problems of knowledge; in the rhetorical space, you will work on problems of communication clarity and persuasiveness.¹ The homework assignments aim to achieve the following:

Aim 1: To develop evaluative judgement of stances/assertions on the topics of sustainability, economy, environment, and society. To support further development of critical thinking.

Aim 2: To apply and experiment with the language features taught in the course to be better prepared for an individual final paper.

Aim 3: To provide an alternative audience and more realistic purpose for writing group papers.

In week 1, in your group you will contribute three statements/questions on topics from sustainability, economy, environment, and society based on your current knowledge/beliefs/convictions. The topic selection should be guided by the following questions:

- What issues do you care about?
- What pressing issues should be addressed? Why should they be addressed?
- Is there a lot of misconception/misinformation on a particular issue?
- Are there any controversies you wish to weigh in on?

Example statements/questions are:

- Hydropower: Why it is not all it seems
- Cruising towards destruction: The case for a ban on Arctic passenger vessels
- Will plastic eating bacteria be enough to solve the plastic waste crisis?
- How effectively can reforestation mitigate the rising global temperatures?
- To what extent do Singapore's current plastic recycling efforts align with the ideal of a zero-waste society?
- What are the motivations for and challenges of establishing a successful ASEAN carbon trading system?
- How can individual action and mindset affect the global approach to curbing global carbon emissions?
- De facto free, but still controlled by a different oppressor: How socio-economic factors shape the Balinese attitude towards cultural tourism
- Ecotourism: Why the “Eco” seems to stand for Economy rather than Environment
- Is insect a viable food source for the future?

All statements/questions (a.k.a. working titles) will be pooled in a document available to your tutorial group (potential duplicates will be removed). You will then select one statement/question that you want to critically

engage with/assess the merits of. You can engage with your own statement/question, or choose a topic proposed by another group.

Note that critical engagement does not equate merely criticising, bashing, or finding flaws. Instead, you should evaluate the positions, claims, assumptions, ideologies, and feasibility of proposed solutions (if your selected texts include them). This task presupposes your willingness to change your stance on issues. In other words, your critical engagement with a topic does not mean that your mind is made up from the start, and you will be simply looking for sources and arguments that validate your a priori position.

Once you have selected a topic, you will identify two published sources that you can potentially draw on when writing your text, and evaluate the sources (RADAR evaluation). When identifying the sources, consider how you can bring to bear on the topic varied perspectives (e.g., from geoscience, ecology, society, ethics, history, global affairs, politics, economy, etc.).

In subsequent weeks, you will draft and redraft your text, focusing on applying the content of weekly lessons. The foci are as follows:

- Group homework 1: RADAR evaluation (feedback provided, work not graded)
- Group homework 2: Paraphrasing (feedback provided, work not graded)
- Group homework 3: Paper outline (feedback provided, work not graded)
- Group homework 4: Argument structure and flow (feedback provided, work graded)
- Group homework 5: Focus on strong verbs and emphasis (feedback provided, work graded)
- Group homework 6: Focus on brevity and overall shape (peer feedback provided, peer graded)
- Before peer feedback, all group texts will be available to everybody else in the tutorial group. You will evaluate texts from the other groups. Your feedback will focus on:
 - Is the writer's stance stated in the text explicitly?
 - Is the evidence that supports the writer's stance relevant?
 - Is the evidence reliable and presented persuasively?
 - Can you find potential weaknesses (e.g., something the writer overlooked or did not consider)?
 - How well did the writer apply the language features from the course?
- Group homework 7: Final version of the group paper (feedback provided, work graded)
- Your last submitted draft will be named Final group paper_names of group members.

1 Scardamalia, M., Bereiter, C., & Steinbach, R. (1984). Teachability of reflective processes in written composition. *Cognitive Science*, 8(2), 173– 190.

Formative Feedback

You will receive formative feedback from me continuously throughout the course while working on individual/group in-class tasks, and summative feedback following your individual paper and presentation. In addition, I will be available to answer questions regarding the group and individual papers and oral presentation throughout the course.

In addition to my feedback, you will give feedback to and receive feedback from your peers. This feedback will stimulate you to engage with the work of others and your work critically.

NTU Graduate Attributes/Competency Mapping

This course intends to develop the following graduate attributes and competencies (maximum 5 most relevant)

Attributes/Competency	Level
Collaboration	Advanced
Communication	Advanced
Creative Thinking	Intermediate
Learning Agility	Intermediate

Course Policy

Policy (Academic Integrity)

Good academic work depends on honesty and ethical behaviour. The quality of your work as a student relies on adhering to the principles of academic integrity and to the NTU Honour Code, a set of values shared by the whole university community. Truth, Trust and Justice are at the core of NTU's shared values. As a student, it is important that you recognize your responsibilities in understanding and applying the principles of academic integrity in all the work you do at NTU. Not knowing what is involved in maintaining academic integrity does not excuse academic dishonesty. You need to actively equip yourself with strategies to avoid all forms of academic dishonesty, including plagiarism, academic fraud, collusion and cheating. If you are uncertain of the definitions of any of these terms, you should go to the academic integrity website for more information. On the use of technological tools (such as Generative AI tools), different courses / assignments have different intended learning outcomes. Students should refer to the specific assignment instructions on their use and requirements and/or consult your instructors on how you can use these tools to help your learning. Consult your instructor(s) if you need any clarification about the requirements of academic integrity in the course.

Policy (General)

You are expected to complete all assigned readings, activities, assignments, attend all classes punctually and complete all scheduled assignments by due dates. You are expected to take responsibility to follow up with assignments and course related announcements. You are expected to participate in all project critiques, class discussions and activities.

Policy (Absenteeism)

In-class activities make up a significant portion of your course grade. Absence from class without a valid reason will affect your participation grade. Valid reasons include falling sick supported by a medical certificate and participation in NTU's approved activities supported by an excuse letter from the relevant bodies. There will be no make-up opportunities for in-class activities. If you miss a class, you must inform me via email (padamek@ntu.edu.sg) prior to the start of the class.

Policy (Others, if applicable)

Diversity and inclusion policy

Integrating a diverse set of experiences is important for a more comprehensive understanding of science.

It is our goal to create an inclusive and collaborative learning environment that supports a diversity of perspectives and learning experiences, and that honours your identities; including ethnicity, gender, socioeconomic status, sexual orientation, religion or ability.

To help accomplish this:

If you are neuroatypical or neurodiverse, have dyslexia or ADHD (for example), or have a social anxiety disorder or social phobia;

If you feel like your performance in the class is being impacted by your experiences outside of class;

If something was said in class (by anyone, including the instructor) that made you feel uncomfortable;

Please speak to your teaching team, our school pastoral officer Christina Tee Siew Khiaw or a peer or senior (either in-person or via email) about how we can help facilitate your learning experience.

As a participant in course discussions, you should also strive to honour the diversity of your classmates. You can do this by: using preferred pronouns and names; being respectful of others opinions and actively making sure all voices are being heard; and refraining from the use of derogatory or demeaning speech or actions.

All members of the class are expected to adhere to the NTU anti-harassment policy. if you witness something that goes against this or have any other concerns, please speak to your instructors or a faculty member.

Last Updated Date: 26-03-2026 09:50:02

Last Updated By: Sze Chun Chau (Dr)