

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

Course Overview

Expected Implementation in Academic Year (New format)	AY2025-2026
Semester/Trimester/Others (specify approx. Start/End date)	Semester 2
Course Author * Faculty proposing/revising the course	Dr Pavel Adamek
Course Author Email	padamek@ntu.edu.sg
Course Title	WRITING SCIENCE FOR NON-SCIENTISTS
Course Code	ES0238
Academic Units	2
Contact Hours	26
Research Experience Components	Not Applicable

Course Requisites (if applicable)

Pre-requisites	ES0138 Introduction to Scientific Writing
Co-requisites	NIL
Pre-requisite to	NIL
Mutually exclusive to	NIL
Replacement course to	NIL
Remarks (if any)	

Course Aims

This course, which builds on ES0138, is designed to provide you with tools for writing in more engaging and impactful ways, and to familiarise you with authorial positioning. During the course, you will analyse written texts, and experiment with stylistic features, vocabulary choices, and grammatical structures to better understand how you can craft effective scientific messages for both specialist and non-specialist audiences.

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

- 1) Writing is intertwined with thinking. In academic writing, but also in writing beyond academia, 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 writing beyond the school environment may well be 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 features that contribute to engaging (non-)scientific writing and authorial positioning
ILO 2	Analyse written texts for the presence or absence of features of engaging writing and authorial positioning, and suggest alternatives
ILO 3	Appropriately use strategies of engagement and authorial positioning to produce texts about scientific findings intended for (non-)specialist audiences

Course Content

The module starts with an introduction to engaging writing, verbal fitness, and with a brief review of important aspects of reader-centred writing encountered in ES0138 (flow and emphasis). The subsequent course content can be divided into three broad topics:

- 1) Storytelling about scientific phenomena (plots and sub-plots, narrative features, vocabulary, transitivity)
- 2) Selected topics from impactful writing (opening paragraphs and introductions, exemplification, titles, rhetorical appeals)
- 3) Authorial positioning and reader engagement (hedging, boosting, attitude markers, personal asides, self-mention, reader pronouns, questions, directives, etc.)

Reading and References (if applicable)

Pinker, S. (2014). *The sense of style: The thinking person's guide to writing in the 21st century*. London: Allen Lane.

Phillips, J. (2012). Storytelling in Earth sciences: The eight basic plots. *Earth-Science Reviews*, 115 (3), 153-162.

Sword, H. (2009). Writing higher education differently: A manifesto on style. *Studies in Higher Education*, 34 (3), 319-336.

Sword, H. (2012). *Stylish academic writing*. Cumberland, RI, USA: Harvard University Press.

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

Planned Schedule

Week or Session	Topics or Themes	ILO	Delivery Mode	Activities	Readings
1	Preliminaries What is stylish writing? Avoiding unnecessary jargon Verbal fitness	1,2,3	In-person	Textual analysis, class and group debate	Sword (2009), Pinker, Chapters 2+3
2	Preliminaries Review of writing fundamentals: Flow and emphasis	1,2,3	In-person	Textual analysis, class and group debate	Notes from ES0138
3	Storytelling about scientific phenomena The eight basic plots in earth science Whose story	1,2,3	In-person	Textual analysis, class and group debate	Phillips
4	Storytelling about scientific phenomena Narrative features in texts (four narrative lessons)	1,2,3	In-person	Textual analysis, class and group debate	
5	Storytelling about scientific phenomena Telling a research story through sensory language Rise in the use of positive vocabulary in research articles	1,2,3	In-person	Textual analysis, class and group debate	Sword (2012), Chapter 8 Sword (2016), Chapter 4

Week or Session	Topics or Themes	ILO	Delivery Mode	Activities	Readings
6	Storytelling about scientific phenomena Transitivity-grammar and storytelling	1,2,3	In-person	Textual analysis, class and group debate	Sword (2016), Chapter 1
7	Selected topics from impactful writing Writing an opening paragraph CARS model of introductions Writing a literature review/short proposal	1,2,3	In-person	Textual analysis, class and group debate	Sword (2012), Chapter 7
8	Selected topics from impactful writing Semantic gravity (review) Show & tell (examples, metaphors, similes, analogies, scenarios, anecdotes, concrete verbs)	1,2,3	In-person	Textual analysis, class and group debate	
9	Selected topics from impactful writing Writing titles Rhetorical appeals	1,2,3	In-person	Textual analysis, class and group debate	Sword (2012), Chapter 9

Week or Session	Topics or Themes	ILO	Delivery Mode	Activities	Readings
10	Authorial positioning and reader engagement Self-mention Reader engagement (questions, directives, personal asides, reader pronouns, appeals to shared knowledge)	1,2,3	In-person	Textual analysis, class and group debate	
11	Authorial positioning and reader engagement Expressing stance through hedging, boosting, and attitude markers	1,2,3	In-person	Textual analysis, class and group debate	Sword (2012), Chapter 6
12	Oral presentations: Round 1	1,2,3	In-person	Group presentations	
13	Oral presentations: Round 2	1,2	In-person	Group presentations	

Learning and Teaching Approach

Approach	How does this approach support you in achieving the learning outcomes?
Lecture	To effectively convey information about key concepts and to bring all of you up to similar levels of knowledge
Interactive activities	Various activities (homework, individual and group presentations, 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)	3		40		Individual	Analytic	Extended Abstract
2	Continuous Assessment (CA): Oral Test(Oral presentation)	1, 2		22.5		Team	Analytic	Extended Abstract
3	Continuous Assessment (CA): Class Participation(Class participation)	1,2,3		15		Individual	Analytic	Not Applicable
4	Continuous Assessment (CA): Others(Homework)	1,2,3		22.5		Team	Analytic	Extended Abstract

Description of Assessment Components (if applicable)

Final paper

The final paper is due at the end of week 13. (Late submission = final score minus 15%.) The final paper can assume two formats, both focused on knowledge building/transforming rather than on knowledge display:

- a research proposal/literature review/an introduction to a research paper, following the CARS model, in which you identify a gap for a research study (which you are not expected to conduct), evaluate the previous literature on the topic, and describe expected benefits
- an evaluation/critique/argument for a non-specialist audience in which you will focus on an issue that you think the reader should know and care about (Note that while you may distil a complex concept/issue for a general audience in part of your paper, a pure summary or exposition is not your goal.)

Regardless of which format you select, the final paper is still an academic text, which has implications for information sequencing, vocabulary, and grammar. You should make an appropriate (again, I remind you the paper is academic) and balanced (i.e., unexaggerated) use of as many of the features discussed in the course as possible (see the grading rubric below). Since your target reader is an educated non-specialist, you are expected to use less jargon, even if you are going to write a research proposal (think of it, then, as writing a grant proposal that will be read by non-specialist academics). Your paper will be based on at least five reputable sources. The topic of your paper may or may not be from your specialization at the ASE. Choose your topic early (please consult your ideas with me) and start making notes. The final paper should be about 900 to 1000 words long (excluding the references). Use iThenticate to check for similarity with submitted works.

Past final papers covered a variety of topics, for example:

o A helping hand or an upper hand? Questioning the role of elite philanthropy and aid in Haiti

Unveiling the dark side of the green transition: A tale from Kiruna o Invasive superstars: Can social media aid in the removal of invasive species?

Nature is all around us, if we care to look: A story of biomimicry o Wheels of change: An evaluation and recommendations for

Singapore's cycling infrastructure o Red cannot make "green": Exploring labour exploitation in

"sustainable" industries o Conservation conundrum: Climate change threatens terrestrial

Protected Areas (Pas) amidst capitalistic pressures o Let's not recycle? Re-evaluating the impact of plastic

recycling o Shh...: Uncovering the hypocrisy of artistes' carbon footprint and the significance of concerts' carbon footprint in Singapore

Our understanding of microplastics is marred by flawed communication. How?

Before you submit the paper, you are allowed to run it through The writer's diet test

(<https://writersdiet.com/writing-test/>). 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.

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.

Use the following template:

Name:

ES0238 Final Paper

Apart from being evaluated on your ideas and ability to reflect critically, you will also be assessed on your

effective and conscious use of engagement. In the text, highlight in these colours the following language features:

- Sensory language (excluding the opening paragraph)
- Examples/anecdotes/analogies/similes/scenarios/metaphors (excluding the opening paragraph)
- Collective reference we (representative or guide) (excluding the opening paragraph)
- Rhetorical question(s) (excluding the opening paragraph)
- Appeal(s) to shared knowledge (excluding the opening paragraph)
- Personal aside(s) and attitude marker(s) (excluding the opening paragraph)

All statements/questions (a.k.a. working titles) will be pooled in a document available to the entire tutorial group (potential duplicates will be removed). You will then select one topic that you want to critically engage with/assess the merits of. You can engage with your own topic, or choose a topic proposed by another group.

In the past, you seniors wrote about the following topics:

- Overcoming the monster: Who is the real monster in nuclear energy?
- Hungry for more: Singapore's 30x30 expedition towards food security
- Singapore's high usage of sand for land reclamation: Causes and impacts
- Burning issues: Re-evaluating the use of cookstove carbon credits
- An analysis of conservation programs: A case study of the Arabian oryx reintroduction program
- The loss and damage fund: Who can claim from it?
- The success of tree planting is rooted in many caveats
- The emperor's new clothes: The facade of sustainability reporting

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 in the light of new information/different perspectives. 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 start identifying at least five published sources that you can potentially draw on when writing your text. When selecting 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 the subsequent weeks, you will draft and redraft your text, focusing on applying the content of weekly lessons. The group homework schedule is as follows:

- Homework 1: Topic selection with comments on your choice (see the five questions above) and proposed paper outline (Feedback provided, work not graded.)
- Homework 2: Flow and emphasis + Plots, sub-plots, and narrative features (Feedback provided, work not graded.)
- Homework 4: Sensory language (Feedback provided, work graded.)
- Homework 5 : Transitivity (Feedback provided, work graded.)
- Homework 6: Opening paragraph and show&tell + Titles, reader engagement, and self-mention (Feedback provided, work graded.)

In week 11 or 12, all group texts will be available to everybody else. You will evaluate texts from three 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?

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 poster and presentation tasks. In addition, I will be available to answer questions regarding the poster and oral presentations 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 09:51:55

Last Updated By: Sze Chun Chau (Dr)