School of Biological, Earth and Environmental Sciences
UNSW Faculty of Science

BEES2680

Introduction to Science Communication

Term 1, 2022

Course Convenor: Associate Professor Carol Oliver
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Acknowledgement of Country

UNSW is located on the unceded territory of the Bedegal (Kensington campus), Gadigal (City and Paddington campus) and Ngunnawal peoples (UNSW Canberra) who are the Traditional Owners of the lands where each campus of UNSW is situated.

Find out more about the UNSW Indigenous Strategy, Education & Research and browse the collection of resources, media, events, and news: https://www.indigenous.unsw.edu.au/

Equity, diversity, and inclusion in the Faculty of Science

The UNSW Faculty of Science aims to provide an equitable place of work and study that will stimulate innovation, productivity, and progress and will enable staff and students to realise their potential regardless of background. We hold that diversity is required to foster an environment that produces robust, credible, and pioneering science of global impact and trains the next generation of scientists. UNSW Science commits to reducing barriers that impede equity, diversity, and inclusion via implementation of initiatives and practices that will benefit staff and students alike.

The Faculty of Science Equity, Diversity, and Inclusion working group (SEDI) aims to review and create initiatives within the school to contribute to an inclusive environment for staff and students. SEDI have an undergraduate and postgraduate student representative who you may contact to express concerns or make suggestions. To contact SEDI representatives or to read about SEDI initiatives, please visit https://www.science.unsw.edu.au/engagement/equity-diversity-inclusion

SEDI have created an extensive resource with resources and community groups across Science and USNW:
https://www.science.unsw.edu.au/sites/default/files/documents/Student%20EDI%20Offerings_0.pdf

Additionally, the UNSW Division of Equity, Diversity & Inclusion website highlights important policies, community groups, and initiatives (including grants for student EDI projects):
https://www.edi.unsw.edu.au/

1. Course overview

Units of credit: 6

Pre-requisites: None
Assumed knowledge: English communication skills to high school level or better

Indicative contact hours: 30 minutes per week plus 3.5 hours per week for undertaking the modules

Time commitment: BEES2680 is **a fully online course** mostly taught asynchronously via Moodle with a weekly synchronous 30-minute virtual class. While students do not have to attend the class, attendance is highly recommended, but it will be recorded for students in this Term's class.

Six-credit courses all have an assumed 150 hours of study, split broadly into three equal parts – for studying the content in the week it is provided and interacting with the instructor, for self-directed study in the form of recommended reading/viewing, and for assessments.

1.1. Course summary

Successful scientists - whether in the university environment or the outside workplace - need to be effective communicators. They need to craft their messages into different shapes for different audiences, whether writing a lecture, a report or research paper, or presenting to peers or public audiences.

This course seeks to provide science students with the opportunity to gain a solid foundation in the necessary science communication skills. These include active listening, reading critically, writing succinctly in the narrative, descriptive and academic styles, the steps in essay writing for science topics, using grammar effectively, the anatomy of a compelling presentation in science and collaborative learning.

Students also learn how to research science topics, including searching for and evaluating primary literature and in identifying quality non-academic secondary sources on the internet and elsewhere.

1.2. Course aims

The overall aim is to teach students foundational science communication skills they can apply in their science degrees, and future careers or postgraduate research.

Students gain skills that will enable them to articulate science topics in written and oral presentations, to think and read critically, and to be able to choose from, and adapt multiple communication techniques.

The course also aims to be a foundation for students wishing to consider adding a science communication career option to their degree by taking BEES6800 The Science of Science

Communication, which runs each year in Term 3. BEES6800 teaches students how to effectively communicate the nature and processes of science and scientific uncertainty, scientific risk in the context of the fake science news era, the models of science communication, the undermining of public trust in science, and evidence-based science communication.

1.3. Course learning outcomes for BEES2680

CLO 1	Compare and evaluate different modes of writing (descriptive, narrative, and academic) and apply to appropriate tasks.
CLO 2	Combine and apply the structural steps to create a cohesive and coherent essay on a science topic.
CLO 3	Synthesise research on a science topic, select the relevant communication techniques and apply them to creating a compelling and coherent presentation.
CLO 4	Think critically and creatively and be able to work collaboratively.
CLO 5	Communicate science topics with words, visuals, and in multimedia across multiple types of audiences from peer to public.

1.4. Staff

Convenors

Name	Email	Availability	Location	Phone
A/Prof Carol Oliver	carol.oliver@unsw.edu.au	Open	Online	0417 477 612

Tutors

Name	Email	Availability	Location	Phone
Bonnie Teece	b.teece@unsw.edu.au	Open	Online	0420 905 613

2. Assessment and feedback

This course uses the standard UNSW grading system.

Assessment task	Weight	Due Date	Related CLO
Three course questions	20	Weeks 1-3	1, 4, 5
Presentation skills Part A	20	Week 5	3, 4
Presentation skills Part B	20	Week 7	4, 5
Writing skills	40	Week 11	1, 2, 3, 4, 5

The provided dates are indicative and will be confirmed on the course Moodle page at the start of term.

Course Hurdles

Students should regularly engage with the course, completing a module in the week it is presented to avoid quickly falling behind. The goal is improving communication skills that need regular practise, not rote learning. There is no final exam.

Assessment overview

Assessments are designed as learning opportunities with the course content created to support them. Assessment 1 comes early in the course and consists of three short tasks that allow rapid feedback to students – note-taking, journalistic writing, and reflective writing - for a total of 20% of the course mark. Assessment 2 is divided into Part A just before Flexibility Week and Part B just after it and concentrates on presentation skills for 40% of the course mark. Assessment 3 is in Week 11 to avoid the crush of assessments from other courses in Week 10, and tests writing skills learned in the course in a 2000-word essay on a science topic of the student's choosing.

Every week except Flexibility Week (Week 6) has a 30-minute optional virtual class alternately on a Thursday or Friday at 9.30 am Sydney time to support students with their understanding of that week's module. The final virtual class will be on Tuesday 19 April at 9.30 a.m. to offer help with the final assessment. Virtual classes will be recorded, but attendance is strongly encouraged.

UNSW grading and assessment policies:

UNSW grading system: https://student.unsw.edu.au/grades

UNSW assessment policy: https://student.unsw.edu.au/assessment

2.1. Assessment descriptions

Overview

Students should read assessments and the marking rubrics and interpret their meaning. If they are uncertain of what is meant in the wording of these, students are strongly encouraged to ask the convenor or the tutor. Up to 70% of communication is visual – hence being clear about the meaning of words in the assessments is key to good grades. Students are also encouraged to avoid last-minute tackling of assessments to leave enough time for editing and to check for plagiarism on submission. Students are permitted to submit to Turnitin, check their plagiarism score, and resubmit as many times as they like up to the submission deadline. Students are encouraged to schedule in time for early work on assessments in their study timetables.

After each assessment the class marks are published as a graph so a student can estimate their place in the class. A pass is considered threshold skills, and high distinction mastery skills. Grades between a pass and a high distinction are on a spectrum between threshold and mastery skills.

Assessment task 1: (total 20% of the course mark)

Part A: Active note-taking: Insights into effective note-taking with an introduction to the Cornell Method to explore the difference between active and passive approaches to note-taking.

Part B: Journalistic writing: Discovering how to concisely express what you want to say in a 300-word science story in active voice.

Part C: Reflective writing: Read and reflect on a scientist's story of how he became a more effective writer (Up to 600 words). Reflective writing improves critical thinking skills.

Assessment task 2: (total 40% of the course mark)

Part A: Select a scientific discovery and express it as a story outline with PowerPoint slide selection in preparation to present to a public non-expert audience. Students receive feedback on Part A before they proceed to Park B. The assessment focusses on engagement and storytelling.

Part B: Present your story from Part A in a short video using the slides from Part A or no slides at all. The assessment practises presentation skills including the intent of the content for a specific audience, and the delivery in the tone and the pace.

Assessment task 3: (40% of the course mark)

Select a science topic and write a 2,000-word essay university-style. This assessment in an opportunity for the student to demonstrate the writing skills they have learned during the course.

Assessments 1 B and C, 2 A and B, and 3 all have the potential for portfolio pieces for those students who achieve mastery of the communication skills taught for each of those assessments.

2.2. Special Consideration

If circumstances beyond your control prevent you from completing a course requirement, submitting an assignment, or attending an exam or required in-person activity you can apply for a Special Consideration. You must apply for Special Consideration within **3 days of the sitting date or due date**, and you are required to supply medical documentation or other relevant evidence to support your application. Please also notify the course convenor that you have applied for Special Consideration.

UNSW also has a **"Fit to Sit/Submit**" rule, which means that if you sit an exam or submit an assessment, you are declaring yourself fit to do so, and cannot later apply for Special Consideration. Instead, you should notify the course convenor as soon as you realise you will not be well enough or will be unable to sit an exam or submit an assessment. After contacting the convenor, apply for Special Consideration as soon as possible. If you begin to feel unwell during an exam, you should stop working, notify the convenor, and apply for Special Consideration. Please review the requirements and procedures for Special Consideration and the Fit to Sit policy before the start of term: https://www.student.unsw.edu.au/special-consideration

If you must self-isolate due to COVID-19, you are advised to apply for Special Consideration if it means that you will miss one or more required assessments.

2.3. Late Submission Policy

This policy applies to all assessments that are subject to penalties. If you submit an assessment past the deadline without approved Special Consideration, a penalty of 5% of the maximum mark per day will apply. Penalties will accumulate each day that the submission is late (including weekends) for up to 5 days (120 hours past the submission deadline). After 5 days, you will not be able to submit the assessment and will receive a 0% for the assessment.

3. Teaching and learning in this course

Successful science students also need to be successful communicators, whatever their career or research goal. It is critical they learn how to think critically, to read effectively, to write in multiple modes, and to present to peers - and for many, the public too.

The rationale for Introduction to Science Communication is to provide students with a foundation in basic communication skills whether they intend to take BEES6800 or not. These are skills demanded by employers and required in research.

The teaching strategy is to provide students with the opportunity to learn and practice communication skills for science in listening, reading, writing, and presenting. We allow students to build on their communication skills, as well as gain confidence in delivering a compelling presentation.

The formative assessments are designed to explore three key areas. One offers opportunities to practise reading, writing, and framing in science communication. The second assessment explores storytelling and presenting science to public audiences. The final assessment allows a student to demonstrate they have not only learned the content of the course but have gained the required writing skills science students need for their future careers or research intentions.

3.1. Learning and teaching activities

The face-to-face mode of learning at UNSW includes lectures, tutorials, and (where appropriate) labs. In face-to-face mode, a student attends a lecture, takes notes, and can access the lecture online and the slides. Tutorials support learning. The online mode is a different format specifically designed for online learning. It transforms the face-to-face mode of delivery into Moodle books each equivalent to two lectures. Each Moodle book contains chapters. Each chapter approximately equates to around three slides from a face-to-face lecture. The chapters include text, imagery and usually videos too. Most videos are less than five minutes, but there are some longer ones.

The modules are strongly supported with weekly optional 30-minute virtual classes for interactive learning and the availability of one-on-one tutorials on request. See the course timetable below for dates. While recordings will be available, students are strongly encouraged to attend for the sense of learning community. Students will also be assigned ‘study buddies’ by Week 2 unless they request those study buddies to be friends also taking the course.

3.2. Teaching technologies

This course uses a variety of teaching approaches:

- *Moodle - Learning Management System -*
- *Zoom – Video and Audio Conferencing, Chat, and Webinars*
- *Microsoft Teams - Video and Audio Conferencing, Chat, and Webinars*
- *Socrative – anonymous polling and questions in topic discussions*
- *Leganto – a Library list that provides direct links to recommended readings*

Students should have access to a laptop or desktop and should have the University's free access to Office 365 on their machine for at least PowerPoint for video-making (available for both PC and Mac). Students should consider the free version of Grammarly.

3.3. Expectations of students

The course-specific expectations of students are as follows:

- All six-credit courses are 150 hours. A third of the hours are devoted to the modules, a third to additional reading or using LinkedIn to support your own learning, and a third to the assessments. Students are expected to schedule their week appropriately to study each module in the week it is released and to undertake assessment and additional learning support activities
- Students should check the course forum daily for course information updates.
- Students should post into the course on a regular basis to interact with other students.

3.4. Communication practices

It is important to only use your university email and specified communication hubs (e.g., Moodle and Teams) for course communication. Make sure to read all emails sent to your UNSW account, as they may contain important administrative or course information. Please check your UNSW email account and course communication hubs daily, when possible.

Emailing instructors and staff

Please contact convenors, lecturers, and staff on their UNSW email, from your UNSW email account only. Because convenors and instructors receive a large volume of emails related to multiple courses, **please indicate your name, zID, and the course code in your email** to facilitate clear communication.

Name and pronouns

Instructors are provided with students' full names as registered with UNSW. If you use an unregistered name, have a preferred name, or would like to share your gender pronouns, please inform the convenor as early as possible. You can also apply to change your name on your Moodle profile.

Administrative matters

Faculty of Science Rules and Policies: https://www.science.unsw.edu.au/study-us/student-resources/faculty-science-rules

4. Required resources and materials

There are no required resources and materials.

Referencing must be in APA style. Please visit: https://www.student.unsw.edu.au/apa

4.1. Recommended resources and materials

Students may find the following resources are helpful:

1. *The science of communicating science* (Craig Cormick, 2019). The relevant book chapters are available in the course Leganto list with the link posted in the relevant module.
2. LinkedIn Learning for writing help: Freely available to UNSW students. Go to this link: https://www.myit.unsw.edu.au/services/staff/educational-technology/linkedin-learning

4.2. Course learning support

Students are strongly encouraged to attend the 30-minute weekly tutorials to gain a sense of the learning community. See dates and times are in the timetable below. Tutorials are recorded for students unable to attend and shared only with course participants. They are deleted before the beginning of the following term.

Students should post into the course forum in the first week. At the end of the week, students will be assigned 'study buddies' or they can choose their own study buddy from the course posts to enable collaborative learning.

BEES2680 will also be participating in the new "students in partnership" program to enable the student perspective of the learning materials to enhance the learning experience for all participants.

The course convener, A/Prof Carol Oliver, offers one-on-one tutorials at mutually agreed times, seven days a week including evenings. These tutorials are up to 30 mins per session, depending on the student's needs.

Check the course forum regularly for course updates.

Seeking course help

Where to go if you need help during the course:

- Anything related to the content of the course: carol.oliver@unsw.edu.au.
- Circumstances that arise preventing assessment submission on time: https://www.student.unsw.edu.au/special-consideration. Please let me know at carol.oliver@unsw.edu.au if you have an application in process so that I can offer my support to you.

4.3. Equitable Learning Services

If your studies are being affected by personal circumstances or you require any amendments to or additional support for class activities, assessments, or teaching practices, please contact Equitable Learning Services to apply for support: https://www.student.unsw.edu.au/els . Equitable Learning Services provide confidential support and can develop a proactive and individualised Equitable Learning Plan (ELP) that outlines extra resources or accommodations to help students with carer responsibilities, students living with physical or mental health issues, students living with disabilities, and students living with other personal circumstances that affect their study. Contact ELS to develop an ELP and discuss it with the convenor before the start of the course to ensure accommodations can be arranged on time. You do not need to disclose your circumstances to your convenor – you only need to discuss a plan to accommodate your required adjustments.

5. Course schedule

Week	Topic (Module)	Activities	Related CLO	Assessment Due
Week 1	Introduction to communicating science	Science communication, audiences, and note-taking *Optional tutorial: Fri 18 Feb 9.30-10.00.*	CLO 4 CLO 5	
Week 2	Journalistic writing	Inverted pyramid, writing concisely and framing *Optional tutorial: Thur 24 Feb 9.30-10.00*	CLO 4 CLO 5	*Assessment 1 Part A Friday 25 Feb 23.59*
Week 3	Basic skills for communicating science	Listening and reading to improve writing and reflective writing skills *Optional tutorial: Fri 4 March 9.30-10.00*	CLO 1 CLO 5	*Assessment 1 Part B Friday 4 March 23.59*
Week 4	Storytelling in science communication	Storytelling, ABT formula, presentation planning and PowerPoint slide selection *Optional tutorial: Thur 10 March 9.30-10.00*	CLO 3 CLO 4 CLO 5	*Assessment 1 Part C Friday 11 March 23.59*
Week 5	Presenting science for a public audience	Presentation creation, practise, delivering confidently *Optional tutorial: Fri 18 March 9.30-10.00*	CLO 3 CLO 5	*Assessment 2 Part A Saturday 19 March 23.59*
Week 6	**Flexibility Week**			

Week 7	Information literacy in researching science topics	Critical thinking, confirmation bias, lateral reading, sources of information *Optional tutorial: Thur 31 March 9.30-10.00*	CLO 4 CLO 5	*Assessment 2 Part B Friday 1 April 23.59*
Week 8	Social media writing skills	Blogging, micro-blogging and tweeting *Optional tutorial: Fri 8 April 9.30-10.00*	CLO 1 CLO 5	
Week 9	Communicating science to peer audiences	Essay, report, and academic writing skills *Final optional tutorial: Thur 14 April 9.30-10.00 (Easter 15-18 April)*	CLO 2 CLO 4 CLO 5	
Week 10	Revision and help with final assignment	Revision and help with final assessment.	CLO 2	
Week 11	Final assessment due	No course content		*Assessment 3 Sunday 1 May 23.59*

Supplementary assessment

A supplementary examination may be offered in cases where you have applied for and received Special Consideration. The supplementary exam period for each term can be found here: https://www.student.unsw.edu.au/exam-dates.

The time, date and venue of your test will be confirmed via student email approximately one week before the exam date. All students granted a supplementary exam are expected to make themselves available to attend. No alternative dates or times will be guaranteed. A supplementary examination may consist of a written paper and in some cases an oral examination. Averages will not be given in place of a final exam mark or supplementary exam mark.

Student Code of Conduct

All UNSW students are expected to conduct themselves in a manner that is consistent with the values and shared goals of excellence in teaching and research, innovation, and community engagement. The Student Code of Conduct details the responsibilities and standards of behaviour which students are expected to meet. These responsibilities are underpinned by academic integrity and a shared responsibility to honour and promote a fair, honest, respectful, harmonious, and inclusive UNSW community.

All students are responsible for understanding and following the academic and non-academic rules outlined in the UNSW Code of Conduct: https://student.unsw.edu.au/conduct

Academic integrity, plagiarism, and referencing

Academic misconduct covers a wide range of actions that violate the academic expectations outlined in the Student Code of Conduct. Academic misconduct may result in disciplinary action as outlined in the Student Misconduct Procedure: https://student.unsw.edu.au/conduct

Academic integrity is fundamental to success at university. Academic integrity can be defined as a commitment to six fundamental values in academic pursuits**:** honesty, trust, fairness, respect, responsibility, and courage. At UNSW, this means that your work must be your own, and others' ideas should be appropriately acknowledged. If you don't follow these rules, plagiarism may be detected in your work.

Referencing is a way of acknowledging the sources of information that you use to research your assignments. You need to provide a reference whenever you draw on someone else's words, ideas or research. Not referencing other people's work can constitute plagiarism.

Further information about referencing styles: https://student.unsw.edu.au/referencing

Further information about academic integrity and **plagiarism**:

- The Current Students site https://student.unsw.edu.au/plagiarism
- The ELISE training site http://subjectguides.library.unsw.edu.au/elise/presentation
- Working with Academic Integrity self-paced Moodle module https://www.student.unsw.edu.au/aim

The Student Conduct and Integrity Unit provides further resources to assist you to understand your conduct obligations as a student: https://student.unsw.edu.au/conduct.

Student complaint procedures

For course matters, it is best to raise any complaints with the course convenor first. If you are unsatisfied with the resolution or you would like to discuss the matter with someone other than the course convenor, please contact the School Head or Grievance officer, or the Nucleus Student Hub. For non-course matters or to read more about the UNSW complaints procedure, please visit https://www.edi.unsw.edu.au/conduct-integrity/complaints-unsw/student. You can also seek advice from a conduct and complaint advisor: https://www.edi.unsw.edu.au/conduct-integrity/complaints-unsw/student/complaint-advisors

COVID policy

Please stay up to date with the latest COVID-19 policies and information from UNSW https://www.covid-19.unsw.edu.au/

Additional support and engagement resources

UNSW and the Faculty of Science offer a range of services, resources, and initiatives that aim to proactively support students' academic, social, and personal wellbeing and enrichment. We encourage you to enhance your experience at UNSW by engaging with services and contributing to our vibrant community.

Faculty of Science Support and Resources:

- Student resources: https://www.science.unsw.edu.au/study-us/student-resources
- Work placement, mentoring, and more: https://www.science.unsw.edu.au/student-life/student-opportunities
- Science peer-mentoring programs: https://www.science.unsw.edu.au/student-life/peer-mentoring
- Science student societies: https://www.science.unsw.edu.au/student-life/student-societies
- SciConnect (social platform on Microsoft Teams):
- ALLY@UNSW LGBTIQA+ network Science contacts: https://www.student.unsw.edu.au/ally/faculty

UNSW Support and Resources:

- The Current Students Gateway: https://www.student.unsw.edu.au/

Academic:

- The Nucleus: Student Hub: https://nucleus.unsw.edu.au/en
- Academic Skills and Support: https://student.unsw.edu.au/academic-skills
- Equitable Learning Services: https://www.student.unsw.edu.au/els
- Library Support Services: https://www.library.unsw.edu.au/students
- Student Support Advisors: https://www.student.unsw.edu.au/advisors
- IT Service Centre: https://www.it.unsw.edu.au/students/index.html
- Careers: https://www.student.unsw.edu.au/careers
- UNSW student mentoring: https://www.student.unsw.edu.au/mentor
- Indigenous Tuition Program tutoring: https://www.indigenous.unsw.edu.au/current-students/tutoring-itp

Wellbeing:

- Student wellbeing, health, and safety: https://student.unsw.edu.au/wellbeing
- Psychology and Wellness: https://www.student.unsw.edu.au/counselling
- Interfaith and quiet spaces: https://www.edi.unsw.edu.au/cultural-diversity/prayer-meditation-and-reflection-spaces
- International student hub: https://www.student.unsw.edu.au/international#main-content
- Parent rooms: https://www.hr.unsw.edu.au/diversity/flexibility-leave/breastfeeding-at-work.html
- Gender inclusive bathrooms: https://www.edi.unsw.edu.au/lgbtiq-inclusion/trans-and-gender-diverse/gender-inclusive-bathrooms

Community:

- Community hub: https://www.student.unsw.edu.au/community
- Arc student organisation (services, volunteering, clubs, etc.): https://www.arc.unsw.edu.au/
- Student Representative Council and Student Collectives (e.g., International Collective, Environment Collective): https://www.arc.unsw.edu.au/voice/src/
- SRC Collective spaces (e.g., Ethno-cultural room, Queerspace): https://www.arc.unsw.edu.au/voice/src/src-spaces

- Nura Gili Centre for Indigenous Programs (academic, community, and leadership opportunities): https://www.indigenous.unsw.edu.au/current-students
- The Student Representative Council Indigenous Collective: https://www.arc.unsw.edu.au/voice/src/indigenous