



SCIE11023 Science Communication

Term 1 - 2019

Profile information current as at 30/04/2024 05:59 am

All details in this unit profile for SCIE11023 have been officially approved by CQUniversity and represent a learning partnership between the University and you (our student). The information will not be changed unless absolutely necessary and any change will be clearly indicated by an approved correction included in the profile.

General Information

Overview

Students will explore, synthesise and apply the fundamentals of the scientific method in this unit. Students will develop skills in scientific communication beyond reading and writing - through a series of seminars, lectures and self-guided tasks students will learn appropriate manipulation of mathematical and statistical data as well as data presentation. Students who successfully complete this unit will enhance their knowledge and understanding of a range of fundamental scientific concepts and will also consider issues relating to ethics, experimentation and professional practice.

Details

Career Level: *Undergraduate*

Unit Level: *Level 1*

Credit Points: 6

Student Contribution Band: 8

Fraction of Full-Time Student Load: 0.125

Pre-requisites or Co-requisites

There are no requisites for this unit.

Important note: Students enrolled in a subsequent unit who failed their pre-requisite unit, should drop the subsequent unit before the census date or within 10 working days of Fail grade notification. Students who do not drop the unit in this timeframe cannot later drop the unit without academic and financial liability. See details in the [Assessment Policy and Procedure \(Higher Education Coursework\)](#).

Offerings For Term 1 - 2019

- Bundaberg
- Emerald
- Online
- Rockhampton

Attendance Requirements

All on-campus students are expected to attend scheduled classes - in some units, these classes are identified as a mandatory (pass/fail) component and attendance is compulsory. International students, on a student visa, must maintain a full time study load and meet both attendance and academic progress requirements in each study period (satisfactory attendance for International students is defined as maintaining at least an 80% attendance record).

Website

[This unit has a website, within the Moodle system, which is available two weeks before the start of term. It is important that you visit your Moodle site throughout the term. Please visit Moodle for more information.](#)

Class and Assessment Overview

Recommended Student Time Commitment

Each 6-credit Undergraduate unit at CQUniversity requires an overall time commitment of an average of 12.5 hours of study per week, making a total of 150 hours for the unit.

Class Timetable

[Regional Campuses](#)

Bundaberg, Cairns, Emerald, Gladstone, Mackay, Rockhampton, Townsville

[Metropolitan Campuses](#)

Adelaide, Brisbane, Melbourne, Perth, Sydney

Assessment Overview

1. **Group Discussion**

Weighting: 10%

2. **Written Assessment**

Weighting: 40%

3. **Presentation and Written Assessment**

Weighting: 50%

Assessment Grading

This is a graded unit: your overall grade will be calculated from the marks or grades for each assessment task, based on the relative weightings shown in the table above. You must obtain an overall mark for the unit of at least 50%, or an overall grade of 'pass' in order to pass the unit. If any 'pass/fail' tasks are shown in the table above they must also be completed successfully ('pass' grade). You must also meet any minimum mark requirements specified for a particular assessment task, as detailed in the 'assessment task' section (note that in some instances, the minimum mark for a task may be greater than 50%). Consult the [University's Grades and Results Policy](#) for more details of interim results and final grades.

CQUniversity Policies

All University policies are available on the [CQUniversity Policy site](#).

You may wish to view these policies:

- Grades and Results Policy
- Assessment Policy and Procedure (Higher Education Coursework)
- Review of Grade Procedure
- Student Academic Integrity Policy and Procedure
- Monitoring Academic Progress (MAP) Policy and Procedure – Domestic Students
- Monitoring Academic Progress (MAP) Policy and Procedure – International Students
- Student Refund and Credit Balance Policy and Procedure
- Student Feedback – Compliments and Complaints Policy and Procedure
- Information and Communications Technology Acceptable Use Policy and Procedure

This list is not an exhaustive list of all University policies. The full list of University policies are available on the [CQUniversity Policy site](#).

Previous Student Feedback

Feedback, Recommendations and Responses

Every unit is reviewed for enhancement each year. At the most recent review, the following staff and student feedback items were identified and recommendations were made.

Feedback from "Have your say" feedback on Moodle.

Feedback

Students continue to enjoy the flexibility they are given in choosing their own topics for assessment pieces.

Recommendation

Lecturers will continue to allow flexibility in assessment topics for students.

Feedback from "Have your say" feedback on Moodle.

Feedback

Students enjoy the style and format of shorter length lectures as well as the overall unit organisation and structure.

Recommendation

Lecturers will continue to provide multiple shorter lectures in future iterations of this unit.

Unit Learning Outcomes

On successful completion of this unit, you will be able to:

1. Use information and numerical literacy skills to communicate science
2. Discuss the importance and role of ethical practice to scientific practice
3. Use digital information technology to communicate science
4. Interpret and explain scientific data

Alignment of Learning Outcomes, Assessment and Graduate Attributes



Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes			
	1	2	3	4
1 - Group Discussion - 10%	•	•		•
2 - Written Assessment - 40%	•		•	•
3 - Presentation and Written Assessment - 50%	•	•	•	•

Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes			
	1	2	3	4
1 - Communication	•	•	•	•

Graduate Attributes	Learning Outcomes			
	1	2	3	4
2 - Problem Solving	•			•
3 - Critical Thinking	•	•	•	•
4 - Information Literacy	•	•	•	•
5 - Team Work	•			
6 - Information Technology Competence			•	•
7 - Cross Cultural Competence				
8 - Ethical practice	•	•		
9 - Social Innovation				
10 - Aboriginal and Torres Strait Islander Cultures				

Alignment of Assessment Tasks to Graduate Attributes

Assessment Tasks	Graduate Attributes									
	1	2	3	4	5	6	7	8	9	10
1 - Group Discussion - 10%	•	•	•			•		•		
2 - Written Assessment - 40%	•		•	•		•				
3 - Presentation and Written Assessment - 50%	•	•	•	•				•		

Textbooks and Resources

Textbooks

There are no required textbooks.

IT Resources

You will need access to the following IT resources:

- CQUniversity Student Email
- Internet
- Unit Website (Moodle)
- Microsoft word AND excel or equivalent Mac or Open Source packages
- Zotero citation management software (free download, used on all operating/web systems, instructions in class).

Referencing Style

All submissions for this unit must use the referencing style: [Harvard \(author-date\)](#)
 For further information, see the Assessment Tasks.

Teaching Contacts

Amie Anastasi Unit Coordinator
a.anastasi@cqu.edu.au

Schedule

Week 1 - 11 Mar 2019

Module/Topic	Chapter	Events and Submissions/Topic
Stand back...I'm doing science!	See Moodle for readings and activities.	

Week 2 - 18 Mar 2019

Module/Topic	Chapter	Events and Submissions/Topic
One size does NOT fit all: the scientific method.	See Moodle for readings and activities.	

Week 3 - 25 Mar 2019

Module/Topic	Chapter	Events and Submissions/Topic
Ethics is NOW!	See Moodle for readings and activities.	

Week 4 - 01 Apr 2019

Module/Topic	Chapter	Events and Submissions/Topic
The problem of science research: ethics in science.	See Moodle for readings and activities.	Online group discussion Due: Week 4 Friday (5 Apr 2019) 11:45 pm AEST

Week 5 - 08 Apr 2019

Module/Topic	Chapter	Events and Submissions/Topic
When is a question not a question? When it's a hypothesis!	See Moodle for readings and activities.	

Vacation Week - 15 Apr 2019

Module/Topic	Chapter	Events and Submissions/Topic
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Week 6 - 22 Apr 2019

Module/Topic	Chapter	Events and Submissions/Topic
The scientific output - what do those journal articles actually mean? An introduction to scientific mathematics that we will encounter every time we read research work.	See Moodle for readings and activities.	

Week 7 - 29 Apr 2019

Module/Topic	Chapter	Events and Submissions/Topic
Operator please: Using scientific mathematics and mathematical symbols properly so that you can complete a laboratory with confidence!	See Moodle for readings and activities.	Communicating science to the public Part A submission Due: Week 7 Friday (3 May 2019) 11:45 PM AEST

Week 8 - 06 May 2019

Module/Topic	Chapter	Events and Submissions/Topic
Scientific mathematics for professionals: The application of that high school math stuff to real field science.	See Moodle for readings and activities.	

Week 9 - 13 May 2019

Module/Topic	Chapter	Events and Submissions/Topic
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Becoming EXCELlent: using spreadsheets in mathematics, statistics, and formal presentations.

See Moodle for readings and activities.

Communicating science to the public Part B submission Due: Week 9 Friday (17 May 2019) 11:45 PM AEST

Week 10 - 20 May 2019

Module/Topic	Chapter	Events and Submissions/Topic
Bringing it together: thinking like a scientist, writing and speaking like a boss.	See Moodle for readings and activities.	

Week 11 - 27 May 2019

Module/Topic	Chapter	Events and Submissions/Topic
Let's talk assessment!	See Moodle for readings and activities.	

Week 12 - 03 Jun 2019

Module/Topic	Chapter	Events and Submissions/Topic
Unit wrap-up.	See Moodle for readings and activities.	3-minute video presentation Due: Week 12 Monday (3 June 2019) 11:45 pm AEST

Review/Exam Week - 10 Jun 2019

Module/Topic	Chapter	Events and Submissions/Topic
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Exam Week - 17 Jun 2019

Module/Topic	Chapter	Events and Submissions/Topic
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Assessment Tasks

1 Online group discussion

Assessment Type

Group Discussion

Task Description

Choose ONE of the following questions:

- Do you think that scientists should be allowed to study whatever they like in the name of research? At what point should we draw the line, or should everything be investigated?
- Do you think that the media have a responsibility to accurately report scientific findings? How should they go about this? What are the consequences of sensationalised or pre-mature reporting?
- Do you think that animal experimentation should be allowed? Why / why not? Are there certain circumstances under which animal experimentation is acceptable and others that are not? Give examples.
- Should medical professionals be allowed to choose whom they can preferentially treat? Should all persons be given equal access to medical care, or should professionals be allowed to discriminate on the basis of the patients' lifestyle?

Read the relevant reference materials provided on Moodle and post a comment responding to your chosen question by using the Moodle forum on the Moodle site in the Assessment One link. Write between 5 and 10 lines of text (directly into the forum), making direct reference to the source materials provided on the Moodle page. You can initiate discussion or respond to previous comments about your chosen question.

You may make more than one post, however, your grade will be determined based on your initial post. You may also disagree with another student's post, but you must justify your position, and take care not to use language that may offend.

The aim of this exercise is to think about an issue and to justify your opinion with scientific information. You will be assessed on the quality of your argument and supporting evidence, not your opinion. Further detail will be provided on the Moodle site.

Assessment Due Date

Week 4 Friday (5 Apr 2019) 11:45 pm AEST

Return Date to Students

Week 6 Friday (26 Apr 2019)

Weighting

10%

Minimum mark or grade

40% of available marks for the task.

Assessment Criteria

Your grade is determined by three key criteria based on your initial forum post:

1. You have identified a position on the topic (2 marks);
2. You have justified your position, using the source material provided on Moodle (6 marks);
3. You have displayed evidence that you considered other views from the literature provided in constructing your argument (2 marks).

More detail will be provided on the Moodle site.

Referencing Style

- [Harvard \(author-date\)](#)

Submission

Online

Submission Instructions

Make one (or several) posts to an online forum, accessed under the Assessment One link.

Learning Outcomes Assessed

- Use information and numerical literacy skills to communicate science
- Discuss the importance and role of ethical practice to scientific practice
- Interpret and explain scientific data

Graduate Attributes

- Communication
- Problem Solving
- Critical Thinking
- Information Technology Competence
- Ethical practice

2 Communicating science to the public

Assessment Type

Written Assessment

Task Description

Note - this assignment has two parts.

Part A is due Friday 3 May, Week Seven, 11:45 pm AEST.

Part B is due Friday 17 May, Week Nine, 11:45 pm AEST.

PART A

Using plain English, write a scientific magazine article (in the style of the This Week section of New Scientist magazine) about a scientific study that explains what was done, why it was done and identifies the most important findings. Your audience will be people who have studied science at a first year university level.

You will be assessed on your skills in locating scientific information and your ability to understand and communicate complex information. Please note – you are being asked to write about the article not to paraphrase the article. Your magazine article should be 800 words.

For the purposes of the peer review, please ensure your name does not appear in the header or footer of your Part A submission document.

PART B

You will be provided with a partner's submission to review on Monday 6 May. You will need to prepare a word-processed review of your partner's Part A submission. This is called a peer review and should be a general commentary on the

overall quality of your partner's submission. Your peer review should be 500 words. Further detail, including detailed marking criteria, will be provided on the Moodle site.

Assessment Due Date

This task is due in TWO parts. PART A: Week 7, Friday 3 May, 11:45 pm (AEST); PART B: Week 9, Friday 17 May, 11:45 pm (AEST).

Return Date to Students

Parts A and B of this task are marked together and will be returned together, with a feedback sheet, on Moodle, Friday of Week 12.

Weighting

40%

Minimum mark or grade

40% of the combined task (Part A and B).

Assessment Criteria

You are being assessed on:

Part A (25 marks):

1. Selection of an appropriate scientific article;
2. Ability to clearly and concisely communicate the relevance, results and implications of the article;
3. Appropriate communication to a general audience with little knowledge of the area of science.

Part B (15 marks):

1. Identification of the critical components of general science communication by highlighting the positive and negative aspects of your partner's submission;
2. Ability to read and interpret scientific literature beyond your interest area when reviewing your partner's source article for 'newsworthiness' or scientific importance.

More detail will be provided on the Moodle site.

Referencing Style

- [Harvard \(author-date\)](#)

Submission

Online

Submission Instructions

Submit each part of the task separately on Moodle to the Assessment Two A and Two B links in the assessment block.

Learning Outcomes Assessed

- Use information and numerical literacy skills to communicate science
- Use digital information technology to communicate science
- Interpret and explain scientific data

Graduate Attributes

- Communication
- Critical Thinking
- Information Literacy
- Information Technology Competence

3 3-minute video presentation

Assessment Type

Presentation and Written Assessment

Task Description

Prepare a 3 minute video based on any one of the topics available from the Assessment 3 link on the Moodle site.

For this assessment, you will need to find your own references. Remember, not all material you find on the web is of sound scientific quality and you will have to use your own judgement to decide which references are appropriate to use in your video!

This is a challenging assessment piece, but you will be supported with a series of background lectures on the scientific mathematics, evaluation of sources and also on effective communication. You will be required to include appropriate

mathematical calculations, graphs, tables etc. that you have produced yourself, along with references within your video. Further detail, including detailed marking criteria, will be provided on the Moodle site.

Assessment Due Date

Week 12 Monday (3 June 2019) 11:45 pm AEST

Return Date to Students

After certification of grades, Friday 12 July.

Weighting

50%

Minimum mark or grade

40% of available marks for the task.

Assessment Criteria

You will be marked on your ability to select appropriate information (Information Literacy), the quality of your discussion (Critical Thinking) and the quality of your presentation and referencing (Communication).

You will need to include a minimum of eight (8) references in your video (no web pages unless of the data repository type). You will also be required to submit your supporting documents and a reference list alongside your video.

More detail will be provided on the Moodle site.

Referencing Style

- [Harvard \(author-date\)](#)

Submission

Online

Submission Instructions

Submit your video, supporting documents and reference list to Moodle under the Assessment Three link.

Learning Outcomes Assessed

- Use information and numerical literacy skills to communicate science
- Discuss the importance and role of ethical practice to scientific practice
- Use digital information technology to communicate science
- Interpret and explain scientific data

Graduate Attributes

- Communication
- Problem Solving
- Critical Thinking
- Information Literacy
- Ethical practice

Academic Integrity Statement

As a CQUniversity student you are expected to act honestly in all aspects of your academic work.

Any assessable work undertaken or submitted for review or assessment must be your own work. Assessable work is any type of work you do to meet the assessment requirements in the unit, including draft work submitted for review and feedback and final work to be assessed.

When you use the ideas, words or data of others in your assessment, you must thoroughly and clearly acknowledge the source of this information by using the correct referencing style for your unit. Using others' work without proper acknowledgement may be considered a form of intellectual dishonesty.

Participating honestly, respectfully, responsibly, and fairly in your university study ensures the CQUniversity qualification you earn will be valued as a true indication of your individual academic achievement and will continue to receive the respect and recognition it deserves.

As a student, you are responsible for reading and following CQUniversity's policies, including the [Student Academic Integrity Policy and Procedure](#). This policy sets out CQUniversity's expectations of you to act with integrity, examples of academic integrity breaches to avoid, the processes used to address alleged breaches of academic integrity, and potential penalties.

What is a breach of academic integrity?

A breach of academic integrity includes but is not limited to plagiarism, self-plagiarism, collusion, cheating, contract cheating, and academic misconduct. The Student Academic Integrity Policy and Procedure defines what these terms mean and gives examples.

Why is academic integrity important?

A breach of academic integrity may result in one or more penalties, including suspension or even expulsion from the University. It can also have negative implications for student visas and future enrolment at CQUniversity or elsewhere. Students who engage in contract cheating also risk being blackmailed by contract cheating services.

Where can I get assistance?

For academic advice and guidance, the [Academic Learning Centre \(ALC\)](#) can support you in becoming confident in completing assessments with integrity and of high standard.

What can you do to act with integrity?



Be Honest

If your assessment task is done by someone else, it would be dishonest of you to claim it as your own



Seek Help

If you are not sure about how to cite or reference in essays, reports etc, then seek help from your lecturer, the library or the Academic Learning Centre (ALC)



Produce Original Work

Originality comes from your ability to read widely, think critically, and apply your gained knowledge to address a question or problem