FOSC700

Research Communications in Science and Engineering

S2 Day 2019

Science and Engineering Faculty level units

Contents

General Information

Unit convenor and teaching staff
Convenor/Lecturer
Megan Brewer
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7 Wally's Walk, Ground Floor (Level 1)
Tuesdays 3 - 5pm; Wednesday 10 - 11:30am

Lecturer
Kathryn Korbel
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Kathryn Korbel
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Credit points
4

Prerequisites
Admission to MRes

Corequisites

Co-badged status

Unit description
This unit will skill students to effectively and appropriately communicate scientific research ideas and findings. Students will practice research communication in a variety of modes (written, oral and visual) suitable for both specialist and non-specialist audiences. The academic conventions for publication of research results will be critically examined. The Unit will provide general awareness of the critical link between research communications and disciplinary knowledge creation. It will also specifically address the steps needed for production of a quality research thesis.

Important Academic Dates

Information about important academic dates including deadlines for withdrawing from units are available at https://www.mq.edu.au/study/calendar-of-dates

Learning Outcomes

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

be confident in a variety of presentation forms utilised for scientific research,

refined your academic writing and presentation skills for both specialised and wider contexts,

understand what is involved in writing a research proposal, grant, journal article, and thesis,

provide constructive feedback on the written and verbal scientific dissemination of peers.

General Assessment Information

Applying for an Extension

To request an extension for an assignment, students should submit a Disruption to Studies Notification within 5 working days of the commencement of the disruption. The Disruption to Studies Notification must be submitted online through www.ask.mq.edu.au. Information on what constitutes a disruption and how to apply for an extension can be found on the MQ students' Special Consideration webpage. Students with a pre-existing disability/health condition or prolonged adverse circumstances maybe eligible for ongoing assistance and support. Such support is governed by other policies and may be sought and coordinated through Campus Wellbeing and Support Services.

Late Submissions

Unless an extension is granted, work that is submitted after the due date will attract a penalty of 10% of the total marks for each week it is overdue (i.e. -10% for 1-6 days late; -20% for 7-13days late; -30% for 14-20 days late). Work submitted more than 20 days late will not be accepted.

Assessment Tasks

Name	Weighting	Hurdle	Due
Written Reflection	15%	No	Weeks 7, 8, and 11
Abstract and Oral Presentation	35%	No	Week 5
Written Introduction	25%	No	Week 10
Poster Presentation	25%	No	Week 13

Written Reflection

Due: **Weeks 7, 8, and 11**
Weighting: **15%**

At three specific times during the session (weeks 7, 8, and 11) you will be required to complete a written piece of work which reflects on an activity that you have participated in. These reflections should be no more than 300 words and should reflect on your learning from each activity (specific details below).

Each reflection will contribute 5% of your total mark (15% in total) and should be submitted

through Turn-it-in.

Task 1: Reflection on Community Outreach Participation (5%)

Due Friday Week 7 11:59pm

In this task you are required to reflect on your communication techniques and what you learnt about effectively communicating to members of the general public. You need to address the following

- Which event did you speak at?
- What did you speak about?
- Were the audience engaged?
- Did you need to adjust the content that you spoke about?
- Did you feel the audience understood your topic?

Task 2: 3MT Review (5%)

Due Friday Week 8 11:59pm

In this task you are required to listen to a minimum of 3 speeches in the University 3MT competition.You should take notes as to how effective you though the speeches were and why some speeches were more engaging than others. You will need to address the following:

- Which speeches did you listen to?
- Did you have prior knowledge of the material presented?
- Which speech did you like the most and why?
- How has this activity improved your understanding of effective communication?

Task 3: Poster Review (5%)

Due Friday Week 11 11:59pm

Every department in the FSE has posters in their building/s. You are required to locate 1-2 posters within your department (Mathematics students may choose either Physics or Statistics posters if they cannot locate any in their department). You should assess the posters and provide a critique looking at the following:

- Where is the poster located?
- Is the layout/format immediately appealing?
- Are the aims and conclusions clear?
- Are there ways in which the information could be better presented?
- Have you learnt anything that you would avoid in preparing your poster?

On successful completion you will be able to:

- refined your academic writing and presentation skills for both specialised and wider contexts,

- provide constructive feedback on the written and verbal scientific dissemination of peers.

Abstract and Oral Presentation

Due: **Week 5**
Weighting: **35%**

Choose a completed piece of research from within your field or in STEM in general. From the published paper you will write an abstract and present a speech as if you are presenting at the *International Conference on Science, Engineering and Technology*. Inform your lecturer of your chosen topic before week 3.

Task 1: Abstract (10%)

Due Friday Week 5 11:59pm

Your abstract must be no more than 250 words. In your abstract you will need to show an understanding of your target audience and need to address:

1. the purpose of the presentation,
2. the broad scientific methods/procedures undertaken in the project,
3. the significance of the findings of the research paper.

Your abstract should be uploaded on should be submitted through Turn-it-in.

Task 2: Oral Presentation (20%)

Due Wednesday Week 5 in class

Your speech is strictly 3 minutes, with a maximum of 2 slides. Your presentation should convey the importance and main findings of your chosen research paper, and demonstrate your ability to communicate these findings to a broad scientific audience in an engaging manner.

Task 3: Peer Review on Oral Presentations (5%)

Due Wednesday Week 5 in class

You will be required to complete a peer review of 3 presentations using the provided peer review rubric. Your review will be assessed and compared to your lecturers review using the rubric provided (Rubric for peer review).

On successful completion you will be able to:

- be confident in a variety of presentation forms utilised for scientific research,
- refined your academic writing and presentation skills for both specialised and wider contexts,
- provide constructive feedback on the written and verbal scientific dissemination of peers.

Written Introduction

Due: **Week 10**

Weighting: **25%**

Due Friday Week 10 11:59pm

You are required to write a text that introduces either a topic within your department/field of expertise OR your proposed MRes research project. Give the project a title, and clearly explain the research problem and how your research is relevant to solving the issue you are addressing. Ensure you explicitly state the aims and objectives of your research as well as introduce the background information relevant to this research topic. Assume that your audience for this written piece will be a group of academics spanning the entire Faculty of Science and Engineering.

Your introduction should be uploaded on iLearn.

On successful completion you will be able to:

- be confident in a variety of presentation forms utilised for scientific research,
- refined your academic writing and presentation skills for both specialised and wider contexts,
- understand what is involved in writing a research proposal, grant, journal article, and thesis,

Poster Presentation

Due: **Week 13**
Weighting: **25%**

Task 1: Poster Presentation (20%)

Due Wednesday Week 13 in class

You will be required to create and present a poster on either a topic of your choice OR your research area (if known). Your poster should be targeted towards an audience attending the *International Conference on Science, Engineering and Technology*. You will be assessed on clarity, content and style of your poster.

Task 2: Peer Review on Poster Presentations (5%)

Due Wednesday Week 13 in class

You will be required to complete a peer review of 2 posters using the provided peer review rubric. Your review will be assessed and compared to your lecturers review using the rubric provided (Rubric for peer review).

On successful completion you will be able to:

- be confident in a variety of presentation forms utilised for scientific research,
- refined your academic writing and presentation skills for both specialised and wider contexts,

- provide constructive feedback on the written and verbal scientific dissemination of peers.

Delivery and Resources

FOSC700 is delivered as follows:

- 3 hours face-to-face teaching each week:
    - 1 hr lecture: Wednesday 9-10am, 9 Wally's Walk - 102 Theatrette
    - 2 hr tutorial: Wednesday 12-2pm, 12 Second Way - Rm 313 **OR** Wednesday 2-4pm, 6 Eastern Rd - Rm 316
- Students are also required to attend:
    - 1 outreach event (as discussed in class)
    - 1 Three Minute Thesis heat or final (as discussed in class)
- Lectures and related resources will available via the FOSC700 iLearn site.

Students will be automatically enrolled into the online FOSC700 iLearn unit. This unit enables students to receive announcements, download and submit assignments, handouts and slides, and participate in online discussion forums.

Policies and Procedures

Macquarie University policies and procedures are accessible from Policy Central (https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central). Students should be aware of the following policies in particular with regard to Learning and Teaching:

- Academic Appeals Policy
- Academic Integrity Policy
- Academic Progression Policy
- Assessment Policy
- Fitness to Practice Procedure
- Grade Appeal Policy
- Complaint Management Procedure for Students and Members of the Public
- Special Consideration Policy *(**Note:** The Special Consideration Policy is effective from 4 December 2017 and replaces the Disruption to Studies Policy.)*

Undergraduate students seeking more policy resources can visit the Student Policy Gateway (https://students.mq.edu.au/support/study/student-policy-gateway). It is your one-stop-shop for the key policies you need to know about throughout your undergraduate student journey.

If you would like to see all the policies relevant to Learning and Teaching visit Policy Central (https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central).

Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: https://students.mq.edu.au/study/getting-started/student-conduct

Results

Results published on platform other than eStudent, (eg. iLearn, Coursera etc.) or released directly by your Unit Convenor, are not confirmed as they are subject to final approval by the University. Once approved, final results will be sent to your student email address and will be made available in eStudent. For more information visit ask.mq.edu.au or if you are a Global MBA student contact globalmba.support@mq.edu.au

Student Support

Macquarie University provides a range of support services for students. For details, visit http://students.mq.edu.au/support/

Learning Skills

Learning Skills (mq.edu.au/learningskills) provides academic writing resources and study strategies to improve your marks and take control of your study.

- Workshops
- StudyWise
- Academic Integrity Module for Students
- Ask a Learning Adviser

Student Services and Support

Students with a disability are encouraged to contact the Disability Service who can provide appropriate help with any issues that arise during their studies.

Student Enquiries

For all student enquiries, visit Student Connect at ask.mq.edu.au

If you are a Global MBA student contact globalmba.support@mq.edu.au

IT Help

For help with University computer systems and technology, visit http://www.mq.edu.au/about_us/offices_and_units/information_technology/help/.

When using the University's IT, you must adhere to the Acceptable Use of IT Resources Policy. The policy applies to all who connect to the MQ network including students.

Graduate Capabilities

PG - Capable of Professional and Personal Judgment and Initiative

Our postgraduates will demonstrate a high standard of discernment and common sense in their professional and personal judgment. They will have the ability to make informed choices and decisions that reflect both the nature of their professional work and their personal perspectives.

This graduate capability is supported by:

Learning outcomes

- refined your academic writing and presentation skills for both specialised and wider contexts,
- provide constructive feedback on the written and verbal scientific dissemination of peers.

Assessment tasks

- Written Reflection
- Abstract and Oral Presentation
- Written Introduction
- Poster Presentation

PG - Discipline Knowledge and Skills

Our postgraduates will be able to demonstrate a significantly enhanced depth and breadth of knowledge, scholarly understanding, and specific subject content knowledge in their chosen fields.

This graduate capability is supported by:

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- be confident in a variety of presentation forms utilised for scientific research,
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Assessment tasks

- Abstract and Oral Presentation
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PG - Critical, Analytical and Integrative Thinking

Our postgraduates will be capable of utilising and reflecting on prior knowledge and experience, of applying higher level critical thinking skills, and of integrating and synthesising learning and knowledge from a range of sources and environments. A characteristic of this form of thinking is the generation of new, professionally oriented knowledge through personal or group-based critique of practice and theory.

This graduate capability is supported by:

Learning outcomes

- be confident in a variety of presentation forms utilised for scientific research,
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PG - Research and Problem Solving Capability

Our postgraduates will be capable of systematic enquiry; able to use research skills to create new knowledge that can be applied to real world issues, or contribute to a field of study or practice to enhance society. They will be capable of creative questioning, problem finding and problem solving.

This graduate capability is supported by:

Learning outcomes

- refined your academic writing and presentation skills for both specialised and wider contexts,
- provide constructive feedback on the written and verbal scientific dissemination of peers.

Assessment tasks

- Written Reflection
- Abstract and Oral Presentation
- Written Introduction

- Poster Presentation

PG - Effective Communication

Our postgraduates will be able to communicate effectively and convey their views to different social, cultural, and professional audiences. They will be able to use a variety of technologically supported media to communicate with empathy using a range of written, spoken or visual formats.

This graduate capability is supported by:

Learning outcomes

- be confident in a variety of presentation forms utilised for scientific research,
- refined your academic writing and presentation skills for both specialised and wider contexts,
- understand what is involved in writing a research proposal, grant, journal article, and thesis,
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PG - Engaged and Responsible, Active and Ethical Citizens

Our postgraduates will be ethically aware and capable of confident transformative action in relation to their professional responsibilities and the wider community. They will have a sense of connectedness with others and country and have a sense of mutual obligation. They will be able to appreciate the impact of their professional roles for social justice and inclusion related to national and global issues

This graduate capability is supported by:

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