MOLS3002

PACE: Engaging the Community in Science

Full year 1, In person-scheduled-weekday, North Ryde 2022

School of Natural Sciences

Contents

General Information

Unit convenor and teaching staff

Unit Convenor
Joanne Jamie
joanne.jamie@mq.edu.au
Contact via email or phone (9850 8283)
4 Wally's Walk room 231
Students are encouraged to arrange a meeting via email.

Unit Co-convenor
Ian Jamie
ian.jamie@mq.edu.au
Contact via email or phone (9850 8293)
4 Wally's Walk room 236
Students are encouraged to arrange a meeting via email.

Credit points
10

Prerequisites
120cp at 1000 level or above and permission by special approval

Corequisites

Co-badged status

Unit description
This PACE unit provides an opportunity for university students from all disciplines to undertake science outreach. Through participation and community engagement this unit aims to inspire an appreciation of the fascination of science and its relevance to everyday life as well as provide leadership skills and positive role models at the school and university levels. This unit will provide you with the opportunity to work with secondary and tertiary students and staff to run interactive science shows and other science activities for Indigenous and non-Indigenous students, rural and refugee students, Aboriginal community members and the wider public. The curriculum will develop your skills in mentoring and working with children and Indigenous people, as well as interactive science-based activities. Further, this unit will provide you with leadership and communication skills, and through the interaction with the wider community, will be an important part of preparing you to become a socially responsible global citizen. This unit is of value for all university students and does not require a science background.

If you are interested in finding out more about this unit, self-enrol in the MOLS3002 pre-enrolment iLearn Community Unit and review the available information.

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:

ULO1: Communicate an appreciation and understanding of the value of science community engagement, especially for those within Indigenous, rural and refugee communities.

ULO2: Demonstrate safe and responsible behaviour and respect while working with children and Indigenous people and the wider community.

ULO3: Demonstrate a knowledge of the science involved in a range of science activities and present these activities to students and/or the wider community at the appropriate level, in an interesting, safe and engaging manner.

ULO4: Research, plan and solve complex problems to execute science outreach activities, including those addressing global challenges in the 21st century.

ULO5: Exhibit cooperative skills appropriate for diverse contexts and necessary for working effectively and ethically with peers and external partners.

ULO6: Critically engage in reflective practices for both personal and professional learning and growth.

General Assessment Information

General Faculty Policy on assessment submission deadlines and late submissions:

*Online quizzes, in-class activities, or scheduled tests and exam must be undertaken at the time indicated in the unit guide. Should these activities be missed due to illness or misadventure, students may apply for Special Consideration.

All other assessments must be submitted by 5:00 pm on their due date. Should these assessments be missed due to illness or misadventure, students should apply for Special Consideration.

Assessments not submitted by the due date will receive a mark of zero **unless** late submissions are specifically allowed as indicated in the unit guide or on iLearn.

*If late submissions are permitted as indicated in the unit guide or on iLearn a consistent penalty will be applied for late submissions as follows:

A 12-hour grace period will be given after which the following deductions will be applied to the awarded assessment mark: 12 to 24 hours late = 10% deduction; for each day thereafter, an additional 10% per day or part thereof will be applied until five days beyond the due date. After this time, a mark of zero (0) will be given. For example, an assessment worth 20% is due 5 pm on 1 January. Student A submits the assessment at 1 pm, 3 January. The assessment received a mark of 15/20. A 20% deduction is then applied to the mark of 15, resulting in the loss of three (3) marks. Student A is then awarded a final mark of 12/20.

*MOLS3002 does not have quizzes, scheduled tests or exams. Late submission of assessment tasks are permitted, with the above penalties.

Assessment Tasks

Name	Weighting	Hurdle	Due
Induction	10%	No	Week 8, S1
Community Engagement Essay	10%	No	Week 5 S1
Group discussions	10%	No	Week 11 S1, Week 11 S2
Reflective Journal	10%	No	Week 7 & 13 S1, Week 7 & 13 S2
Presentations	10%	No	Week 12/13 S1, Week 12/13 S2
Science activities	50%	No	Week 13 S2

Induction

Assessment Type [1]: Participatory task
Indicative Time on Task [2]: 5 hours

Due: **Week 8, S1**
Weighting: **10%**

Completed through attending weekly classes/workshops (face to face), reading online resources, and online discussions

On successful completion you will be able to:

- Communicate an appreciation and understanding of the value of science community engagement, especially for those within Indigenous, rural and refugee communities.
- Demonstrate a knowledge of the science involved in a range of science activities and present these activities to students and/or the wider community at the appropriate level, in an interesting, safe and engaging manner.

Community Engagement Essay

Assessment Type [1]: Essay
Indicative Time on Task [2]: 10 hours
Due: **Week 5 S1**
Weighting: **10%**

1500 word essay describing the importance of outreach/community engagement

On successful completion you will be able to:

- Communicate an appreciation and understanding of the value of science community engagement, especially for those within Indigenous, rural and refugee communities.

Group discussions

Assessment Type [1]: Participatory task
Indicative Time on Task [2]: 10 hours
Due: **Week 11 S1, Week 11 S2**
Weighting: **10%**

Through weekly meetings

On successful completion you will be able to:

- Communicate an appreciation and understanding of the value of science community engagement, especially for those within Indigenous, rural and refugee communities.
- Demonstrate safe and responsible behaviour and respect while working with children and Indigenous people and the wider community.
- Research, plan and solve complex problems to execute science outreach activities, including those addressing global challenges in the 21st century.
- Exhibit cooperative skills appropriate for diverse contexts and necessary for working

effectively and ethically with peers and external partners.

Reflective Journal

Assessment Type [1]: Reflective Writing
Indicative Time on Task [2]: 15 hours
Due: **Week 7 & 13 S1, Week 7 & 13 S2**
Weighting: **10%**

Ongoing journal assessed end of S1 and S2

On successful completion you will be able to:

- Critically engage in reflective practices for both personal and professional learning and growth.

Presentations

Assessment Type [1]: Presentation
Indicative Time on Task [2]: 10 hours
Due: **Week 12/13 S1, Week 12/13 S2**
Weighting: **10%**

2 x 5 minute presentations to class

On successful completion you will be able to:

- Communicate an appreciation and understanding of the value of science community engagement, especially for those within Indigenous, rural and refugee communities.
- Critically engage in reflective practices for both personal and professional learning and growth.

Science activities

Assessment Type [1]: Participatory task
Indicative Time on Task [2]: 20 hours
Due: **Week 13 S2**
Weighting: **50%**

Achieved throughout the year as part of Placements

On successful completion you will be able to:

- Demonstrate safe and responsible behaviour and respect while working with children and Indigenous people and the wider community.
- Demonstrate a knowledge of the science involved in a range of science activities and present these activities to students and/or the wider community at the appropriate level,

in an interesting, safe and engaging manner.

---

[1] If you need help with your assignment, please contact:

- the academic teaching staff in your unit for guidance in understanding or completing this type of assessment
- the Writing Centre for academic skills support.

[2] Indicative time-on-task is an estimate of the time required for completion of the assessment task and is subject to individual variation

Delivery and Resources

Off-shore students

Off-shore students must email the convenor as soon as possible to discuss study options.

COVID Information and on-campus classes

On-campus teaching continues to be scheduled for Session 1, 2022. Masks are compulsory for all classes in indoor spaces and social distancing will be implemented wherever possible. Students will also be required to sanitise surfaces before and after use.

Students are requested to minimise the risk of spreading COVID to themselves and others in accordance with the university and NSW Health guidelines: https://www.mq.edu.au/about/coronavirus-faqs and https://www.nsw.gov.au/covid-19/stay-safe.

Any further requirements or changes to units in relation to COVID will be communicated to students via iLearn.

Required Reading

There is no textbook recommended. Instead Mols3002 makes use of web-based teaching resources on the unit iLearn web site (see below for more information). This includes resources especially designed for PACE units.

iLearn Unit Web Page and Other Technology

The web page for this unit can be found at ilearn.mq.edu.au. Just login and follow the prompts to Mols3002.

It is essential that you login to the unit iLearn web site on a regular basis. As well as web-based teaching resources, the iLearn web site will also provide other support for this unit, including an Announcement board for important notices, Discussion Forums, and access to your grades.

Please note information will also be sent by email to your student email account, incuding as calendar invites for events, so please look at your email account on a frequent basis.

Teaching and Learning Strategies

Mols3002 will consist of a mixture of face to face training workshops and group discussion

sessions, presentations, online discussions and interactive science activities. There will be a 2 hour dedicated session most weeks of both semesters for training workshops, seminars, discussion sessions and reflections and critiquing. The community engagement activities – the experiential science activities component of the unit – will be timetabled once the dates are known. Enrolled students will identify which activities they can be a part of. The range of activities provided over the year will allow sufficient choice for all students to be a part of many wonderful science outreach events.

Introduction: Week 1 will be a meet and greet session to get to know everyone's interests in the unit, the strengths you bring to the unit and the potential areas of growth and will also include discussion on reflective practice.

Meetings/group discussions: From weeks 2-8, the focus will be on workshops related to mentoring, working with children, working with Indigenous people and reflective practices, and an introduction to the overall science outreach activities to be undertaken and appropriate safe practices. These sessions will also be used throughout the year to discuss about upcoming activities, including with other teaching staff and community partners, to prepare and plan for the actual activities and evaluate and improve on resources; and following activities, to critique their effectiveness and consider changes needed for improvement. These sessions will also be used to reflect more broadly.

Online Discussion: You are expected to participate regularly in online discussion using the iLearn Discussion forum about the unit content, science activities and methods of presentation, and issues that may arise, as well as reflect more broadly.

Experiential Activities: The experiential component will involve engaging community (eg school students) in science activities including those of relevance to everyday life (eg examining the microscopic world, extracting DNA from fruit, making slime from wood glue and borax). The activities will be spread throughout the year. At least 40 hours of direct interaction with the community with the science activities will be expected from you and at least an average of 10 hours committed to the preparation and 10 hours to reflection on these activities.

Reflection: Reflection will be a particularly important tool for you in this unit. The participation activities will inherently challenge your approaches, ideas, and understandings about the communities around us and the communication of science therein. You will keep an on-going journal reflecting on your experiences and at the end of each semester, be required as a part of your assessment to present to fellow students and staff about the key achievements and the impact of the science engagement activities on you.

Workload expectation: Your overall workload across the unit is 150 hours in total.

Who to Contact

A/Prof Joanne Jamie is the convenor of this unit and should be your main point of contact. Ian Jamie is co-convenor and will also be involved in most of the classes and experiential components. You will get to meet the other staff during scheduled sessions and/or during the various activities. They will all be happy to help in answering questions relevant to their expertise throughout this unit. You are encouraged to direct any questions or queries first to A/Prof Jamie, who will pass them on to the other teaching staff as needed. A/Prof Jamie has an

open door policy, but you are encouraged to phone or email to organise a meeting. You may also wish to ask questions using the discussion board on the ilearn website.

Feedback

We are always open to suggestions for improving the content and delivery of this course. We are very happy to receive any constructive criticism that you may wish to provide. We hope you find this course both educational and fun!

Unit Schedule

The orientation/introduction will involve classes and directed reading of online resources and workshops related to mentoring, working with children, working with Indigenous people and ethical aspects, reflective practice and an introduction to various science outreach activities (and appropriate safety practices) that Mols3002 will encompass (weeks 1-8). Scaffolding for skills and knowledge development will include hands-on workshops early on to familiarise you with the main types of science experiments used in the science outreach activities and role playing with your peers (week 2-8). This orientation/introduction and knowledge development will contribute 10% of the mark.

Developing knowledge will also come from completion of a written report of ~1500 words (10%) on why such outreach/community engagement is important, especially to those in groups previously under-represented in higher education, and an example from the literature showing how such outreach can improve educational outcomes. This will be submitted in week 5. You will also attend weekly 2 hour meetings throughout S1 and S2 (excluding mid-session and mid-year breaks) to discuss as a group about upcoming activities, including with community partners, to prepare and plan for the actual activities and evaluate and improve on resources; and following activities to critique their effectiveness and consider changes needed for improvement. The active participation in these meetings will contribute 10% towards the assessment total. Feedback on this participation will be provided to allow opportunity for improvement.

The experiential component will incorporate the science activities with the community and on-going reflection. A range of science activities will be available. Activities and interaction with partner organisations will occur throughout the year subsequent to the initial orientation and familiarisation exercises. The activities will be spread throughout the year. At least 40 hours of direct interaction with the community with the science activities will be expected and an average of 10 hours committed to the preparation. This experiential component will be worth 50%. Feedback from peers and the community participants will be sought to determine your level of engagement and commitment. You will be expected to spend at least 10 hours reflecting on these specific activities and their impact.

You will undertake reflective practice as part of an on-going journal reflecting on your activities – to be filled in throughout the semester both before and following each science activity and class session. As part of this reflection process, an open web forum will be available for you to discuss your experiences online, as well as a private reflection site. These written reflections will contribute 10% towards the assessment. Feedback on your written reflections will be provided midway through S1 and S2 and at the end of S1 and S2.

In week 12/13 of S1 and S2, you will provide a 5 minute presentation describing the impact of

the engagement activities on yourself and others as part of a debrief wrap up session to the class. This will contribute 10% towards the assessment.

There will be no exam.

To summarise on assessment tasks:

Orientation/introduction and skills/knowledge development – attendance and active participation in weekly meetings/workshops and reading online resources 10% (weeks 1-8, S1 on introductory components, plus throughout via 2 hr weekly meetings (10%) PLUS ~1500 word report 10% (week 5, S1). (Total of 30% of assessment)

Experience/project – a minimum of 40 hours of direct community engagement will be expected of each student. Community engagement will be worth 50% (through academic, self-, peer- and community-assessment).

Reflection - Reflective practice (through journal entries will be worth 10%). Class presentations will be worth 10%. (Total of 20% of assessment)

Wrap up/debrief – presentations as above and general discussions occurring.

Your final mark will be an aggregate mark from all the assessment tasks.

Policies and Procedures

Macquarie University policies and procedures are accessible from Policy Central (https://policies.mq.edu.au). 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
- Assessment Procedure
- Complaints Resolution Procedure for Students and Members of the Public
- Special Consideration Policy

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

To find other policies relating to Teaching and Learning, visit Policy Central (https://policies.mq.edu.au) and use the search tool.

Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: https://students.mq.edu.au/admin/other-resources/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

Academic Integrity

At Macquarie, we believe academic integrity – honesty, respect, trust, responsibility, fairness and courage – is at the core of learning, teaching and research. We recognise that meeting the expectations required to complete your assessments can be challenging. So, we offer you a range of resources and services to help you reach your potential, including free online writing and maths support, academic skills development and wellbeing consultations.

Student Support

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

The Writing Centre

The Writing Centre provides resources to develop your English language proficiency, academic writing, and communication skills.

- Workshops
- Chat with a WriteWISE peer writing leader
- Access StudyWISE
- Upload an assignment to Studiosity
- Complete the Academic Integrity Module

The Library provides online and face to face support to help you find and use relevant information resources.

- Subject and Research Guides
- Ask a Librarian

Student Services and Support

Macquarie University offers a range of Student Support Services including:

- IT Support
- Accessibility and disability support with study
- Mental health support
- Safety support to respond to bullying, harassment, sexual harassment and sexual assault

- Social support including information about finances, tenancy and legal issues

Student Enquiries

Got a question? Ask us via AskMQ, or contact Service Connect.

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.

Changes from Previous Offering

Written reflections are now due midway in S1 and S2 and at the end of S1 and S2 (rather than just at the end of S1 and S2), to encourage students to reflect frequently. Feedback will also be given quarterly on overall progress in group discussions and the experiential components.

Changes since First Published

Date	Description
02/02/2022	the updated FSE policies have been added since the previous approval