



PHYS3810

PACE: Professional Experience in Physics and Astronomy

Session 2, In person-scheduled-weekday, North Ryde 2026

School of Mathematical and Physical Sciences

Contents

<u>General Information</u>	2
<u>Learning Outcomes</u>	2
<u>General Assessment Information</u>	3
<u>Assessment Tasks</u>	4
<u>Delivery and Resources</u>	6
<u>Unit Schedule</u>	7
<u>Policies and Procedures</u>	8
<u>Changes from Previous Offering</u>	10

Disclaimer

Macquarie University has taken all reasonable measures to ensure the information in this publication is accurate and up-to-date. However, the information may change or become out-dated as a result of change in University policies, procedures or rules. The University reserves the right to make changes to any information in this publication without notice. Users of this publication are advised to check the website version of this publication [or the relevant faculty or department] before acting on any information in this publication.

General Information

Unit convenor and teaching staff

Daniel Zucker

daniel.zucker@mq.edu.au

James Downes

james.downes@mq.edu.au

Credit points

10

Prerequisites

10cp from PHYS or ASTR units at 3000 level

Corequisites

Co-badged status

Unit description

As the PACE unit for physics and astronomy/astrophysics majors, this unit explores how the degree can open doors to a variety of career paths. The main part of the unit involves a 100-hour PACE activity, partnering with an industrial, research, or educational institute. Students apply their skills to a real-world problem, reporting on their experiences, solutions, and outcomes both in written form and in a presentation. Students will reflect on the technical themes and skills developed during their degree, considering how to market these to employers, and develop a professional resume and application materials targeting actual job ads.

Visit [Employability Connect](#) for important information on this unit.

Learning in this unit enhances student understanding of global challenges identified by the United Nations Sustainable Development Goals ([UNSDGs](#)) Quality Education; Industry, Innovation and Infrastructure; Climate Action.

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: Apply problem-solving skills in a real-world context using discipline-specific

knowledge and skills from throughout the degree.

ULO2: Employ the tools, methodologies, language and conventions of their major to develop and test new ideas.

ULO3: Articulate the goals and results of a project using different forms of communication.

ULO4: Apply techniques of project planning and time management, demonstrating the capacity to meet deadlines agreed upon with the partner.

ULO5: Demonstrate networking skills and capabilities that will assist with either moving into the workforce or further study.

ULO6: Work effectively and ethically in a multifaceted scientific environment.

General Assessment Information

To pass this unit you must:

- Achieve a total mark equal to or greater than 50% overall.

Late Assessment Submission Penalty

From 1 July 2022, Students enrolled in Session based units with written assessments will have the following university standard late penalty applied. Please see <https://students.mq.edu.au/study/assessment-exams/assessments> for more information.

Unless a Special Consideration request has been submitted and approved, a 5% penalty (of the total possible mark) will be applied each day a written assessment is not submitted, up until the 7th day (including weekends). After the 7th day, a grade of '0' will be awarded even if the assessment is submitted. Submission time for all written assessments is set at **11:55 pm**. A 1-hour grace period is provided to students who experience a technical concern.

For any late submission of time-sensitive tasks, such as scheduled tests/exams, performance assessments/presentations, and/or scheduled practical assessments/labs, students need to submit an application for [Special Consideration](#). The Special Consideration Policy aims to support students who have been impacted by short-term circumstances or events that are serious, unavoidable and significantly disruptive, and which may affect their performance in assessment. If you experience circumstances or events that affect your ability to complete assessments in this unit on time, please inform the convenor and submit a Special Consideration request through ask.mq.edu.au.

Assessments where Late Submissions will be accepted

In this unit, late submissions will be accepted only for the Professional Portfolio, with the Standard Late Assessment Submission Penalty applying.

Assessment Tasks

Name	Weighting	Hurdle	Due	Groupwork/Individual	Short Extension	AI Approach
<u>Project Report</u>	50%	No	06/11/2026	Individual and Group	No	Open
<u>Professional Portfolio</u>	40%	No	06/11/2026	Individual	Yes	Open
<u>Oral presentation</u>	10%	No	30/10/2026	Individual	No	Observed

Project Report

Assessment Type ¹: Written Submission

Indicative Time on Task ²: 10 hours

Due: **06/11/2026**

Weighting: **50%**

Groupwork/Individual: Individual and Group

Short extension ³: No

AI Approach: Open

Students will deliver a Project Report based on their placement with a partner organisation, including their individual project documentation

On successful completion you will be able to:

- Apply problem-solving skills in a real-world context using discipline-specific knowledge and skills from throughout the degree.
- Employ the tools, methodologies, language and conventions of their major to develop and test new ideas.
- Articulate the goals and results of a project using different forms of communication.
- Apply techniques of project planning and time management, demonstrating the capacity to meet deadlines agreed upon with the partner.
- Work effectively and ethically in a multifaceted scientific environment.

Professional Portfolio

Assessment Type ¹: Portfolio

Indicative Time on Task ²: 24 hours

Due: **06/11/2026**

Weighting: **40%**

Groupwork/Individual: Individual

Short extension ³: Yes

AI Approach: Open

Students will create a portfolio documenting professional engagement activities, including creating a CV and other employment application materials, and their reflections on personal and professional development during the project.

On successful completion you will be able to:

- Articulate the goals and results of a project using different forms of communication.
- Demonstrate networking skills and capabilities that will assist with either moving into the workforce or further study.
- Work effectively and ethically in a multifaceted scientific environment.

Oral presentation

Assessment Type ¹: Presentation task

Indicative Time on Task ²: 7 hours

Due: **30/10/2026**

Weighting: **10%**

Groupwork/Individual: Individual

Short extension ³: No

AI Approach: Observed

Each student will give a presentation on their project, covering both the research and the experience of working at the partner organisation.

On successful completion you will be able to:

- Apply problem-solving skills in a real-world context using discipline-specific knowledge and skills from throughout the degree.
- Employ the tools, methodologies, language and conventions of their major to develop and test new ideas.
- Articulate the goals and results of a project using different forms of communication.
- Apply techniques of project planning and time management, demonstrating the capacity to meet deadlines agreed upon with the partner.

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
- [Academic Success](#) 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.

³ An automatic short extension is available for some assessments. Apply through the [Service](#)

[Connect Portal.](#)

Delivery and Resources

Workshop Activities

There will be three main workshops associated with the unit:

Workshop 1 (*Friday morning Week 1, Location and time will be posted on iLearn*): *Unit Orientation*. This introductory morning workshop will review the unit goals, give students the chance to introduce themselves and their project, and review some basic content on best work practices, health and safety, ethics, professional development, and reflective practice. These are essential tools for making the most of your practical experience during the unit.

Workshop 2 (*Friday afternoon Week 1, Location and time will be posted on iLearn*): *My Degree - Themes, Knowledge and Skills*. This afternoon workshop follows on from workshop 1, and will be aimed at reflecting on the skills and knowledge you have gained across your degree, how this might map to potential employers, and what they are looking for. We will look at how to recognise our strengths and make best use of them; as well as identifying areas where we can improve, and make plans on how to develop those areas during the unit.

Workshop 3 (*Friday Week 11, Location and time will be posted on iLearn*): *Presenting*. This workshop will focus on two key opportunities where we present ourselves to our colleagues in a professional context: giving a formal presentation and giving a job interview. The workshop will look at techniques for delivering an informative and professional presentation, and will go through the process involved in a typical professional job interview. We will use a combination of delivered content and group exercises, including practice interviews, with a focus on developing confidence and experience in presenting in different situations.

Project

The main component of this unit is a project conducted with an external partner organisation. Projects range from pure research to projects with a more educational or outreach flavour. All projects, however, should give you exposure to a professional working environment, and the opportunity to contribute to a larger effort related to professional physics or astronomy. You will spend nominally 100 hours working with the partner organisation, spread throughout the semester. We suggest you spend one week of the mid-semester break, and 9 Fridays working with the external organisation, however the hours will need to be negotiated with your external supervisor and you may be required to spend additional days during the mid-semester break. Projects should normally start in Week 2, concluding in Week 10, but again there will be some variations in schedule according to particular circumstances. If you miss a day of your placement due to unforeseen circumstances, you should plan to make up the hours.

We will do our best to advise all students about their placement and project prior to Week 1. However we regret if due to circumstances beyond our control this is not possible for all students.

Supervisors and Mentors

Students will have a supervisor at the host organisation, who is able to devote some time to

supervising the students on the days that they work with the host organisation. At the start of the project, agree on a time when you are most likely to have overlap with your supervisor. If you don't have regular access to your project supervisor, let the unit convenor know as soon as possible so that alternative arrangements can be made. We will also allocate a PHYS3810 academic mentor to liaise with the host organisation, monitor progress and assist in advising students. Students should meet with their University mentor at least three times during the semester to review project documentation, progress against project objectives, and a first draft of your project report. Some of these meetings will involve the host supervisor and academic mentor (usually around week 2 and week 10), and you are required to make an appointment with your Mentor during week 5 so they can review your project documentation and discuss your project plan with you.

Required Unit Materials

In the event that you are working within the premises of the partner organisation, compliance with standard Work Health and Safety (WHS, sometimes also called Occupational Health & Safety, or OH&S) practice is expected. This includes wearing appropriate clothing and footwear (e.g. covered shoes), and following all workplace rules as defined by the Partner. If you are unsure of these rules, ask your supervisors.

Required Text

Not applicable, but project supervisors may recommend relevant readings.

Record Keeping

Each student must maintain project documentation to a high standard. The documentation needs to be completed for each day of work on the project. Students may be required to hand in their documentation to the Partner supervisor at the end of the unit.

Teaching Strategy

Students spend around 100 hours working within the host organisation. This time should be used effectively in the pursuit of the objectives identified by the partner supervisor and unit learning outcomes. A clear understanding of the project objectives and appropriate planning will facilitate progress towards the project objectives. Students are expected to regularly graph and analyse their results (if appropriate), and keep comprehensive and up-to-date records. The host supervisor and University mentor will review the records to ensure good practice in this respect.

Communications

We will communicate with you via your university email or through announcements on iLearn. Queries to convenors can either be placed on the iLearn discussion board or sent to the Unit Convenors from your university email address. See iLearn for Unit Convenor contact details.

Unit Schedule

PACE

PACE stands for Participation and Community Engagement. By connecting students with partner organisations, PACE gives Macquarie students the chance to contribute their academic learning,

enthusiasm and fresh perspective to the professional workplace. The Physics and Astronomy disciplines have run a PACE unit since 2013. PACE activities have included outreach and science communications, activities at either the Australian Astronomical Observatory or CSIRO Astronomy and Space Science, and working at local tech companies like Baraja and Raytheon.

Participation

The unit has two key face-to-face elements: Skills Workshops (3 workshops over 2 days), and the External Project (14 days over the semester). Active participation is required to succeed in the unit.

Students are expected to work standard work hours on the days they agree to work with the host organisation, and are usually required to be on-site at the host organisation when undertaking the project. The total project duration is 14 days. Typically, students will devote one day a week (nominally Friday) during 2nd semester (Weeks 2 to 10), and one week (5 days) during mid-semester break, working on the project with the partner institution. On some of these days some time may be spent at the University or elsewhere pursuing the objectives of the project with the agreement of the partner supervisor.

The 'workshop' activities provide a context for during the semester on topics including ethics, communication, and career skills (see above).

Professional Portfolio

Students are expected to participate in a variety of professional activities during the semester. This typically includes a mix of attending talks/seminars/colloquia, outreach activities, and self-directed learning over the course of the semester. Students should choose activities according to their interests and to build their profile as an engaged member of their profession. More details will be available on iLearn, and the unit convenor has the final say on what counts for credit and at what level. The portfolio will also include a CV and cover letter prepared for a self-selected job advertisement, plus a series of written reflections on topics such as WHS, ethics and integrity, team work and intellectual property.

Policies and Procedures

Macquarie University policies and procedures are accessible from [Policy Central \(https://policies.s.mq.edu.au\)](https://policies.s.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) (<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) (<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 connect.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/>

Academic Success

[Academic Success](#) provides resources to develop your English language proficiency, academic writing, and communication skills.

- [Ask a Study Coach](#)
- [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 Advocacy](#) provides independent advice on MQ policies, procedures, and processes

Student Enquiries

Got a question? Ask us via the [Service Connect Portal](#), or contact [Service Connect](#).

IT Help

For help with University computer systems and technology, visit <https://students.mq.edu.au/support/technology/service-desk>.

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

We value student feedback to be able to continually improve the way we offer our units. As such we encourage students to provide constructive feedback via student surveys, to the teaching staff directly, or via the FSE Student Experience & Feedback link in the iLearn page.

Student feedback from the previous offering of this unit was very positive overall, with students pleased with the clarity around assessment requirements and the level of support from teaching staff. As such, no change to the delivery of the unit is planned, however we will continue to strive to improve the level of support and the level of student engagement.

Unit information based on version 2026.02 of the [Handbook](#)