



ENVS304

Integrated Climate Science

S2 Day 2019

Dept of Environmental Sciences

Contents

<u>General Information</u>	2
<u>Learning Outcomes</u>	2
<u>Assessment Tasks</u>	3
<u>Delivery and Resources</u>	9
<u>Unit Schedule</u>	15
<u>Learning and Teaching Activities</u>	16
<u>Policies and Procedures</u>	16
<u>Graduate Capabilities</u>	18

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

Kevin Cheung

kevin.cheung@mq.edu.au

Rm 417, 12 Wally's Walk

Email for appointment

Lecturer

Serene Lin-Stephens

serene.lin-stephens@mq.edu.au

Contact via 9850 7274

EMC2 Bldg Level 1

Email for appointment

Credit points

3

Prerequisites

(39cp at 100 level or above) including (ENVE301 or ENV5301 or ENVE302 or ENV5302 or GEOS301 or GEOS325)

Corequisites

Co-badged status

Unit description

The intent of this unit is to ensure that climate science students experience an appropriate transition to the next stage of their careers, and are equipped, as far as possible, for success in the next stage, whether this is to the next level of study or into the work force. In partial fulfillment of this mission, students undertake a participation and community engagement activity which involves engaging with a community-based partner organisation.

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:

Problem Solving and Research Capability: Ability to formulate a problem, develop its methodical analysis, and critically interpret the findings in order to find an appropriate

Climate Science-based solution

Discipline-Specific Knowledge and Skills: Knowledge and conceptual understanding sufficient to make students competent in the subject of Climate Science

Creativity and Innovation: Ability to contend with the global relevance of Climate Science yet constraints associated with the absence of a universal approach or answer, in a creative and innovative manner

Effective Communication: Ability to describe a research problem, propose its analysis, and then articulate the respective findings through oral and written media which are important tools in the communication of Climate Science

Student Engagement as ethical local and global citizens: Awareness of the breadth and complexity of key ethical debates in Climate Science and an ability to engage in these

Student Engagement as socially and environmentally active and responsible citizens: Capacity to understand, and respond to the environmental and social implications of Climate Science

Capable of Professional and Personal Judgment and Initiative: Demonstrate an ability to work in project teams as is often the case in Climate Science, and under supervision

Critical, Analytical and Integrative Thinking: Ability to analyse, reason, and question critically, with recognition of uncertainties inherent in Climate Science, by integrating knowledge that students have acquired from a range of sources

Commitment to continuous learning: Critically reflect on the experience of work placement in Climate Science projects, including the similarities and differences between learning at university and in practical application in workplace

Assessment Tasks

Name	Weighting	Hurdle	Due
<u>Skills Articulation Exercise</u>	2%	No	Week 1
<u>Library Quiz</u>	5%	No	Week 1
<u>Skills Articulation Training</u>	3%	No	Week 2
<u>Job Application</u>	10%	No	Week 3
<u>Interview Assessment</u>	5%	No	Week 3
<u>Skills Reflection</u>	10%	No	Week 4
<u>Oral Presentation</u>	25%	No	Week 10-13

Name	Weighting	Hurdle	Due
<u>Final Report</u>	40%	No	Week 13

Skills Articulation Exercise

Due: **Week 1**

Weighting: **2%**

Do you understand your own skills, especially those applicable to workplaces? What are your strongest and weakest skills? Would you have higher confidence during job interview if you better understand your own skills? During week 1 our lecturer from the Career and Employment Service will introduce a skills articulation exercise based on image mapping, which will be applied to our placement interviews during the course. A participation mark will be assigned.

On successful completion you will be able to:

- Effective Communication: Ability to describe a research problem, propose its analysis, and then articulate the respective findings through oral and written media which are important tools in the communication of Climate Science
- Student Engagement as ethical local and global citizens: Awareness of the breadth and complexity of key ethical debates in Climate Science and an ability to engage in these
- Student Engagement as socially and environmentally active and responsible citizens: Capacity to understand, and respond to the environmental and social implications of Climate Science
- Capable of Professional and Personal Judgment and Initiative: Demonstrate an ability to work in project teams as is often the case in Climate Science, and under supervision
- Commitment to continuous learning: Critically reflect on the experience of work placement in Climate Science projects, including the similarities and differences between learning at university and in practical application in workplace

Library Quiz

Due: **Week 1**

Weighting: **5%**

After the introduction from the Library staff in week 1, you will performed a quiz that is designed to demonstrate how to use research databases to loop up industry and company information.

On successful completion you will be able to:

- Problem Solving and Research Capability: Ability to formulate a problem, develop its methodical analysis, and critically interpret the findings in order to find an appropriate Climate Science-based solution

- Discipline-Specific Knowledge and Skills: Knowledge and conceptual understanding sufficient to make students competent in the subject of Climate Science
- Student Engagement as ethical local and global citizens: Awareness of the breadth and complexity of key ethical debates in Climate Science and an ability to engage in these
- Capable of Professional and Personal Judgment and Initiative: Demonstrate an ability to work in project teams as is often the case in Climate Science, and under supervision
- Critical, Analytical and Integrative Thinking: Ability to analyse, reason, and question critically, with recognition of uncertainties inherent in Climate Science, by integrating knowledge that students have acquired from a range of sources
- Commitment to continuous learning: Critically reflect on the experience of work placement in Climate Science projects, including the similarities and differences between learning at university and in practical application in workplace

Skills Articulation Training

Due: **Week 2**

Weighting: **3%**

In week 2 our lecturer from the Career and Employment Service will continue to provide training and practice on Skills Articulation. A participation mark will be assigned.

On successful completion you will be able to:

- Student Engagement as ethical local and global citizens: Awareness of the breadth and complexity of key ethical debates in Climate Science and an ability to engage in these
- Student Engagement as socially and environmentally active and responsible citizens: Capacity to understand, and respond to the environmental and social implications of Climate Science
- Capable of Professional and Personal Judgment and Initiative: Demonstrate an ability to work in project teams as is often the case in Climate Science, and under supervision
- Commitment to continuous learning: Critically reflect on the experience of work placement in Climate Science projects, including the similarities and differences between learning at university and in practical application in workplace

Job Application

Due: **Week 3**

Weighting: **10%**

Design and produce a CV and a covering letter to apply for the posted placements for this course. You are encouraged to apply for more than one placement. The job applications will be reviewed and marked by the course lecturers. In some cases the job application will be

forwarded to the placement principal. Guidance in the development of your CV will be provided. In some cases placements have been arranged in advance of the semester. In these circumstances a job application is still required. Format and target audience will be discussed in the week-2 lecture. This assessment should be submitted electronically through iLearn.

On successful completion you will be able to:

- **Problem Solving and Research Capability:** Ability to formulate a problem, develop its methodical analysis, and critically interpret the findings in order to find an appropriate Climate Science-based solution
- **Discipline-Specific Knowledge and Skills:** Knowledge and conceptual understanding sufficient to make students competent in the subject of Climate Science
- **Creativity and Innovation:** Ability to contend with the global relevance of Climate Science yet constraints associated with the absence of a universal approach or answer, in a creative and innovative manner
- **Effective Communication:** Ability to describe a research problem, propose its analysis, and then articulate the respective findings through oral and written media which are important tools in the communication of Climate Science
- **Student Engagement as socially and environmentally active and responsible citizens:** Capacity to understand, and respond to the environmental and social implications of Climate Science
- **Capable of Professional and Personal Judgment and Initiative:** Demonstrate an ability to work in project teams as is often the case in Climate Science, and under supervision
- **Critical, Analytical and Integrative Thinking:** Ability to analyse, reason, and question critically, with recognition of uncertainties inherent in Climate Science, by integrating knowledge that students have acquired from a range of sources

Interview Assessment

Due: **Week 3**

Weighting: **5%**

A mark is assigned on your performance during the job interview.

On successful completion you will be able to:

- **Problem Solving and Research Capability:** Ability to formulate a problem, develop its methodical analysis, and critically interpret the findings in order to find an appropriate Climate Science-based solution
- **Discipline-Specific Knowledge and Skills:** Knowledge and conceptual understanding sufficient to make students competent in the subject of Climate Science

- Creativity and Innovation: Ability to contend with the global relevance of Climate Science yet constraints associated with the absence of a universal approach or answer, in a creative and innovative manner
- Effective Communication: Ability to describe a research problem, propose its analysis, and then articulate the respective findings through oral and written media which are important tools in the communication of Climate Science
- Student Engagement as socially and environmentally active and responsible citizens: Capacity to understand, and respond to the environmental and social implications of Climate Science
- Capable of Professional and Personal Judgment and Initiative: Demonstrate an ability to work in project teams as is often the case in Climate Science, and under supervision
- Critical, Analytical and Integrative Thinking: Ability to analyse, reason, and question critically, with recognition of uncertainties inherent in Climate Science, by integrating knowledge that students have acquired from a range of sources

Skills Reflection

Due: **Week 4**

Weighting: **10%**

A brief report on your reflection about how your skills have been developed during the earlier training sessions.

On successful completion you will be able to:

- Student Engagement as ethical local and global citizens: Awareness of the breadth and complexity of key ethical debates in Climate Science and an ability to engage in these
- Student Engagement as socially and environmentally active and responsible citizens: Capacity to understand, and respond to the environmental and social implications of Climate Science
- Capable of Professional and Personal Judgment and Initiative: Demonstrate an ability to work in project teams as is often the case in Climate Science, and under supervision
- Commitment to continuous learning: Critically reflect on the experience of work placement in Climate Science projects, including the similarities and differences between learning at university and in practical application in workplace

Oral Presentation

Due: **Week 10-13**

Weighting: **25%**

The presentation will be 30 minutes, 20 for the presentation, and 10 minutes for questions from

the audience and lecturers. Placement personnel may also be attending these presentations. The presentation is meant to relay your work experience and findings. The presentations will likely take place during the class time slots in weeks 10-13, but will be confirmed further.

On successful completion you will be able to:

- Problem Solving and Research Capability: Ability to formulate a problem, develop its methodical analysis, and critically interpret the findings in order to find an appropriate Climate Science-based solution
- Discipline-Specific Knowledge and Skills: Knowledge and conceptual understanding sufficient to make students competent in the subject of Climate Science
- Creativity and Innovation: Ability to contend with the global relevance of Climate Science yet constraints associated with the absence of a universal approach or answer, in a creative and innovative manner
- Effective Communication: Ability to describe a research problem, propose its analysis, and then articulate the respective findings through oral and written media which are important tools in the communication of Climate Science
- Critical, Analytical and Integrative Thinking: Ability to analyse, reason, and question critically, with recognition of uncertainties inherent in Climate Science, by integrating knowledge that students have acquired from a range of sources
- Commitment to continuous learning: Critically reflect on the experience of work placement in Climate Science projects, including the similarities and differences between learning at university and in practical application in workplace

Final Report

Due: **Week 13**

Weighting: **40%**

This is a report 10 pages maximum (minimum, 5 pages minimum, based on single spacing) excluding figures that presents the bigger picture of the work carried out by the student at the placement and summarizes the project and results. The format is that of an internal organization report. As such it will have an Executive Summary, Introduction & Background, Main body, Summary & Conclusions, References, Appendices. The report will be submitted electronically through iLearn.

On successful completion you will be able to:

- Problem Solving and Research Capability: Ability to formulate a problem, develop its methodical analysis, and critically interpret the findings in order to find an appropriate Climate Science-based solution
- Discipline-Specific Knowledge and Skills: Knowledge and conceptual understanding

sufficient to make students competent in the subject of Climate Science

- Creativity and Innovation: Ability to contend with the global relevance of Climate Science yet constraints associated with the absence of a universal approach or answer, in a creative and innovative manner
- Effective Communication: Ability to describe a research problem, propose its analysis, and then articulate the respective findings through oral and written media which are important tools in the communication of Climate Science
- Critical, Analytical and Integrative Thinking: Ability to analyse, reason, and question critically, with recognition of uncertainties inherent in Climate Science, by integrating knowledge that students have acquired from a range of sources
- Commitment to continuous learning: Critically reflect on the experience of work placement in Climate Science projects, including the similarities and differences between learning at university and in practical application in workplace

Delivery and Resources

Climate scientists aim to understand the earth 's climate system. Macquarie University's flexible approach to study allows units in this field to be combined in several ways with studies in Biology, Chemistry, Computing, Earth and Planetary Sciences, Mathematics, Physics, Statistics and other fields of science depending on individual interests . Opportunities for development of research and practical skills are emphasised throughout the program and students are valued as individuals with a thoughtful and practical contribution to society. ENV304 is aimed at students with a demonstrated special interest and advanced skills in Climate Science. They must have completed ENV312, ENV317, ENV324, and ENV326 before this particular unit. As well they are required to take ENV301, ENV302 , and, ENV362, in order to complete study within the discipline. It is therefore designed for students to apply the discipline-specific skills and theory to the workplace but also have the initiative and self-motivation to learn beyond their discipline as a means of enhancement.

ENV304 is the capstone unit of the climate science major. It is also a PACE unit. PACE stands for Professional 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 intent of this unit is to ensure that climate science students experience an appropriate transition to the next stage of their careers, and are equipped, as far as possible, for success in the next stage, whether this is to the next level of study or into the work force. In partial fulfilment of this mission, students undertake a participation activity which involves engaging with a community-based partner organisation.

The internships typically will involve students working on existing projects or undertaking new projects that are in alignment with the goals of the host institution as agreed upon by both partners. In this manner, projects are agreed upon not only for the way in which they will advantage student learning, but also support the community partners in realising their

institutional goals. This mutual benefit is further facilitated by the exchange and sharing of knowledge between students and community partners, particularly as information relevant to global environmental issues such as climate change, air pollution, agricultural pollution, and atmospheric science in general. Cultivating the connection between knowledge generation and practice will provide those involved with the tools necessary to approach problem solving whether it be in the workplace or higher degree research.

Examples of government partners are the Bureau of Meteorology (BOM), CSIRO, and the NSW Government's Environment, Energy and Science (EES) Group (and the Energy, Climate Change and Sustainability Division within). Private sector participants including the Weather Zone, and Environmental Consultancies. Although the focus to date has been to engage students with local and regional partners, through PACE, opportunities with overseas partners will also be developed. Internships made possible through existing partnerships have been highly effective vehicles for meeting the course's learning objectives and have often lead to the opening up of employment opportunities for the student, as well as pathways for continuous learning.

Historically, partnerships have been identified by the unit convenor and from 2013, this will be further supported through the efforts of the Faculty of Science PACE staff. The goal for partner selection is to match student scientific expertise and interests with a host partner organisation ensuring that all partners correspond with Macquarie University's ethics standards, particularly as it relates to their promotion and contributions to the well-being of people and the planet, and the integrity with which they operate for the benefit of society. Climate Science is itself, concerned with the well-being of people and the planet and ethical reasoning, therefore our partners must reflect similar intentions and values. The PACE staff will also facilitate student initiated placements.

Participation Unit Details

- PACE is a key component of the University's strategic direction, emphasising the University's commitment to excellence in research, learning and teaching and community engagement.
- UNIT304 has been accredited as a PACE unit from 2013 and will be running according to the PACE criteria and with support from the PACE team in Science from 2013.
- PACE units provide an academic framework through which students can engage with the community, learn through professional activities, develop their capabilities and build on the skills that employers value. By completing a PACE unit, students develop all these skills and capabilities, and also gain academic credit towards their degree.
- As a PACE unit, UNIT304 will be flagged on student transcripts with the symbol 'π' after the unit code and before the unit title. Students can highlight this designation to future employers and academic institutions as the following definition, which details the value of such units, will also be included after the list of units and before Special Achievements, Recognition and Prizes (if included) or the Key to Grading

π : Units marked with a π are designated participation units. These units provide students with an opportunity to learn through practical experience and make a valuable contribution to the community by applying knowledge and skills acquired at the University

PACE units in Science and Engineering, their Unit Convenors, and their students, are supported by a PACE Team within the Faculty. Throughout the unit offering, members of the Team may be in contact with students to provide or collect information. If you have any questions about PACE in Science and Engineering, please email: pace.science@mq.edu.au or visit the following webpages: <https://students.mq.edu.au/experience/practical-experience/pace-experience/how-do-i-start/pace-in-the-faculty-of-science-and-engineering>

If you require more information about PACE in general or access to forms such as those for the PACE Travel Grants, please log into the PACE student wiki:

<https://students.mq.edu.au/experience/practical-experience/pace-experience/how-do-i-start>

A PACE activity is an experiential activity allocated to, and undertaken by, a student within a participation unit which may take place in premises other than the University (usually the Partner organisation's premises). When working or studying in non-University premises, the primary responsibility for the health and safety of our students becomes that of the Partner organisation hosting the student. However, as a student, you also have a legal responsibility under the Workplace Health & Safety Act 2011 and the Macquarie University Health & Safety Policy to ensure the health and safety of yourself and of others in the workplace. Each student has a moral and legal responsibility for ensuring that his or her work environment is conducive to good health and safety, by:

- Ensuring that their work and work area is without risk to the health and safety of themselves and others
- Complying with the University's and Partner Organisation's Work Health & Safety Policy and Procedures
- Reporting hazards and incidents as they occur in accordance with University policy
- Actively participating in all health and safety activities and briefing sessions (e.g., emergency evacuation procedures, site inspections etc)

Each student is also required to advise their Unit convenor or Faculty Participation Manager as soon as possible in case:

- he/she feels unsafe at any stage during the participation activity
- he/she did not receive a safety induction prior to the commencement of the activity covering: First aid, Fire and emergency evacuation; and Injury/incident reporting
- he/she did not receive any specialised instructions/training necessary to carry out the role

- an incident/accident happens (even when reported to the Partner organisation/ supervisor and managed by them)

Non-compliance with the above may result in withdrawal of the student from the participation activity. Students should familiarise themselves with the University's WHS website, relevant information made available through the Faculty of Science website, and that which is provided by their participation activity supervisor and/or Unit Convenor.

http://staff.mq.edu.au/human_resources/health_and_safety/health_safety_information_for_students/ <http://web.science.mq.edu.au/intranet/ohs/>

In addition, those students undertaking a PACE International activity should be aware of the following Risk Management procedures: http://staff.mq.edu.au/teaching/participation_and_community_engagement/student_management/risk_management/

Students should note the information below in case they find themselves in any emergency situations.

1. Remove yourself from any danger.
2. Call 000, if necessary.
3. Speak to your partner-based supervisor, if possible. The Organisation may have emergency procedures to follow.
4. THEN - if the emergency occurs in office hours (i.e. Monday - Friday 9am-5pm), contact your Unit Convenor by phone/email as soon as you can.
5. If you cannot reach your Unit Convenor, contact your Faculty Participation Manager by phone/email.
6. OR - if the emergency occurs outside of office hours (i.e. outside of Monday - Friday 9am-5pm). Phone Campus Security Office on (02) 9850-9999 as soon as you can. This is a 24 hour, 7 days a week service and it does not matter where in Australia you are when you call. Please identify yourself as a PACE student when you call.

N.B. For any minor issues with your participation activity, please speak to your partner-based Supervisor. If the problem is more serious, please contact your Unit Convenor or your Faculty Participation Manager.

If you are experiencing difficulties and need to speak to a counsellor:

Contact the MQ Counselling Service at Campus Wellbeing on 9850-7497 (Monday - Friday, 8am-6pm)

1800 MQ CARELINE (1800-227-367) - information and referral service (24 hours, 7 days a week)

If you would like to speak to a counsellor outside of office hours, you can also contact Lifeline on 13 11 14 (24 hours, 7 days a week).

Work, Health and Safety (WHS)

A PACE Activity is a practical experience allocated to, and undertaken by, a student within a PACE unit which may take place in premises other than the University (usually the Partner Organisation's premises). When working or studying in non-University premises, the primary responsibility for the health and safety of our students becomes that of the Partner Organisation hosting the student. All host organisations must comply with the NSW Work Health and Safety (WHS) Act 2011.

During your PACE activity your host supervisor should:

- make your responsibilities clear
- provide any necessary training
- inform you about professional codes of conduct
- supervise and provide feedback

During your PACE activity you must have:

- a safe work environment
- a WHS safety orientation
- safe work systems
- protection from bullying and harassment

You must also:

- take reasonable care of yourself
- ensure your actions don't affect the safety of others
- follow the safety procedures of the host organisation

WHS and risk for fieldwork-based PACE activities

Certain PACE activities are fieldwork-based. Fieldwork includes professional experience whereby the fieldwork i) forms the majority of the activity; ii) is essential to partner benefit; and iii) requires the application of discipline specific knowledge and skills. Fieldwork-based activities are undertaken in collaboration with a partner and are conducted on a site in the natural and/or built environment in order to collect data (e.g. soil samples, asking questions of humans, documenting information about animals, etc.) for the purposes of informing a study about that environment or site. Fieldwork may be led by students as the discipline experts; however, it requires supervision by an appropriately qualified Macquarie University staff or external partner. Students who will undertake fieldwork-based PACE activities must consult with their unit convenor regarding additional WHS and risk procedures that might be necessary. All fieldwork must be officially approved by relevant staff before it commences.

PACE-related policies, procedures, and other important information

Student Undertaking Form

Before a student begins their activity they will be required to complete the Student Undertaking Form. This form asks students for their contact details, emergency contact information and their agreement to abide by the Roles and Responsibilities as set out in the Governance and Guidelines document. The Student Undertaking form is provided electronically through iParticipate and the Faculty PACE team will alert you when it is available for completion and instructions on how to complete it.

<https://www.mq.edu.au/connect/partnerships/why-connect-with-macquarie/partner-with-pace/a-safe-and-fair-environment/Governance-and-Guidelines-PACE-2017-web.pdf>

PACE Activity – Early Commencement Procedure: to outline the conditions under which the unit convenor of a PACE unit will consider a request from a student to commence or complete a PACE activity prior to the official start date of the associated PACE unit.

https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policies/participation_activity

PACE - Managing Other Commitments Procedure: to outline the University's approach to an absence or other form of disruption during the session due to a student undertaking a PACE activity.

<https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policies/pace-managing-other-commitments>

PACE - Reasonable Adjustments, Guideline and Procedure: Macquarie University will endeavour to match students with an appropriate host and feasible PACE activity to maximise student success. These documents provide good practice information for students and staff to encourage early disclosure of circumstances (e.g. disability, medical condition, flexible time arrangements, or leave days for official observances, etc.), which may impact on a student's PACE activity, and the subsequent arrangement of reasonable adjustments when enrolling or participating in a PACE Unit (Guideline).

<https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policies/pace-reasonable-adjustments>

PACE activities requiring background checks: Some partner organisations may require students to complete certain background checks and/or clearances in cases where they will be working with children, young people, people with disabilities, the frail-aged, at-risk clients, and government/statutory agencies. It's very important that students complete the required background clearances before beginning the PACE activity. Any necessary information on background checks will be communicated directly to students by the Unit Convenor or the Faculty PACE team. Please note there is an extra verification step required for students who need to complete a Working with Children Check. Students will be required to provide their WWCC number to the Faculty PACE Team electronically and the result of their check will need to be verified by MQ WWCC Administrator (Governance Services) before they start their activity.

PACE and Ethical Practice: Ethical considerations feature heavily in the PACE Initiative.

As ambassadors of the University, students are expected to engage with the wider community in a responsible and ethically informed manner that respects the rights of individuals, communities and the environment. This expectation applies to all PACE activities regardless of their nature. Ethical practice involves negotiating the ethical complexities of the context with which you are working. This involves critically thinking about issues of power, hierarchy, culture and position, and about the potential risks of your work and interactions with others, immediate and over time. It is important to ensure that risks are mitigated and experiences are enriching and worthwhile for all those involved.

In addition to the role of students as ambassadors, partners must conform to the University's ethical standards; PACE activities must be aligned with the wellbeing of people and planet; there are research-based PACE activities as well as collaborative research with partners; and, the way in which everybody's PACE experiences are captured and shared must be ethical. If a student ever feels that unethical behaviour has occurred during a PACE activity, they should consult with their Unit Convenors and/or the Faculty PACE staff immediately. Further, any students whose PACE activity will involve research that is led by a Macquarie staff member must consult with their convenor prior to commencement to confirm whether or not research ethics permission is required.

PACE and IP: Students enrolled in PACE units may be working with external industry partners. Although it is uncommon, during some activities Intellectual Property may be created and there may be some instances when the partner requires the assignment of IP. Students are encouraged to seek legal advice prior to entering into any such agreement. Students uncertain of their rights relating to IP ownership can seek advice from the Office of the Deputy Vice-Chancellor (Research). This should be done by contacting the relevant Faculty PACE Manager.

PACE Grants and Prizes: There are several ways in which PACE might support students financially to undertake PACE activities. PACE students are also eligible to apply for the prestigious Prof. Judyth Sachs PACE Prizes.

Unit Schedule

Week	Date	Lecturer	Lecture Topic
1	Friday 2 August (1-3 pm, 4 Western Road Room 311, same hereafter)	Serene Lin-Stevens PACE Staff Library Staff	PACE Introduction; Skills articulation introduction; Career info literacy training
2	Friday 9 August	Kevin Cheung Serene Lin-Stevens	Skill articulation training (CV, cover letter, interview); Placement projects introduction
3	Friday 16 August	Kevin Cheung Serene Lin-Stevens	Job interviews

4	-		Working on Projects
5	-		Working on Projects
6	-		Working on Projects
7	-		Working on Projects
Session Break			
8	-		Working on Projects
9	-		Working on Projects
10	Friday 18 October	Students	Oral Presentations
11	Friday 25 October	Students	Oral Presentations
12	Friday 1 November	Students	Oral Presentations
13	Friday 8 November	Students	Oral Presentations

Learning and Teaching Activities

STEM Careers Forum

You are encouraged to attend the STEM Careers Forum: Monday 12 August 2019, MUSE L3 18 Wally's Walk (C7A), Science Careers Biol/Chem/ENV5/EP5: 10 am - 12:30 pm, Tech Careers Math/Stat/Phys/Engg/Comp: 1 pm - 3:30 pm, For all FSE students (UG, PG, HDR). Refreshments are provided. Register at: CareerHub > Events > Fairs.

Policies and Procedures

Macquarie University policies and procedures are accessible from [Policy Central \(https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central\)](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) (<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](http://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central) (<http://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

Creative and Innovative

Our graduates will also be capable of creative thinking and of creating knowledge. They will be imaginative and open to experience and capable of innovation at work and in the community. We want them to be engaged in applying their critical, creative thinking.

This graduate capability is supported by:

Learning outcomes

- Problem Solving and Research Capability: Ability to formulate a problem, develop its methodical analysis, and critically interpret the findings in order to find an appropriate Climate Science-based solution
- Discipline-Specific Knowledge and Skills: Knowledge and conceptual understanding sufficient to make students competent in the subject of Climate Science
- Creativity and Innovation: Ability to contend with the global relevance of Climate Science yet constraints associated with the absence of a universal approach or answer, in a creative and innovative manner
- Effective Communication: Ability to describe a research problem, propose its analysis, and then articulate the respective findings through oral and written media which are important tools in the communication of Climate Science
- Student Engagement as ethical local and global citizens: Awareness of the breadth and complexity of key ethical debates in Climate Science and an ability to engage in these
- Student Engagement as socially and environmentally active and responsible citizens: Capacity to understand, and respond to the environmental and social implications of Climate Science
- Capable of Professional and Personal Judgment and Initiative: Demonstrate an ability to work in project teams as is often the case in Climate Science, and under supervision
- Critical, Analytical and Integrative Thinking: Ability to analyse, reason, and question critically, with recognition of uncertainties inherent in Climate Science, by integrating knowledge that students have acquired from a range of sources

Assessment tasks

- Skills Articulation Exercise
- Library Quiz
- Skills Articulation Training
- Job Application
- Interview Assessment
- Skills Reflection
- Oral Presentation
- Final Report

Capable of Professional and Personal Judgement and Initiative

We want our graduates to have emotional intelligence and sound interpersonal skills and to demonstrate discernment and common sense in their professional and personal judgement. They will exercise initiative as needed. They will be capable of risk assessment, and be able to handle ambiguity and complexity, enabling them to be adaptable in diverse and changing environments.

This graduate capability is supported by:

Learning outcomes

- Problem Solving and Research Capability: Ability to formulate a problem, develop its methodical analysis, and critically interpret the findings in order to find an appropriate Climate Science-based solution
- Discipline-Specific Knowledge and Skills: Knowledge and conceptual understanding sufficient to make students competent in the subject of Climate Science
- Creativity and Innovation: Ability to contend with the global relevance of Climate Science yet constraints associated with the absence of a universal approach or answer, in a creative and innovative manner
- Student Engagement as ethical local and global citizens: Awareness of the breadth and complexity of key ethical debates in Climate Science and an ability to engage in these
- Student Engagement as socially and environmentally active and responsible citizens: Capacity to understand, and respond to the environmental and social implications of Climate Science
- Capable of Professional and Personal Judgment and Initiative: Demonstrate an ability to work in project teams as is often the case in Climate Science, and under supervision
- Commitment to continuous learning: Critically reflect on the experience of work placement in Climate Science projects, including the similarities and differences between learning at university and in practical application in workplace

Assessment tasks

- Skills Articulation Exercise
- Library Quiz
- Skills Articulation Training
- Job Application
- Interview Assessment
- Skills Reflection
- Oral Presentation
- Final Report

Commitment to Continuous Learning

Our graduates will have enquiring minds and a literate curiosity which will lead them to pursue knowledge for its own sake. They will continue to pursue learning in their careers and as they participate in the world. They will be capable of reflecting on their experiences and relationships with others and the environment, learning from them, and growing - personally, professionally and socially.

This graduate capability is supported by:

Learning outcomes

- Creativity and Innovation: Ability to contend with the global relevance of Climate Science yet constraints associated with the absence of a universal approach or answer, in a creative and innovative manner
- Effective Communication: Ability to describe a research problem, propose its analysis, and then articulate the respective findings through oral and written media which are important tools in the communication of Climate Science
- Student Engagement as ethical local and global citizens: Awareness of the breadth and complexity of key ethical debates in Climate Science and an ability to engage in these
- Student Engagement as socially and environmentally active and responsible citizens: Capacity to understand, and respond to the environmental and social implications of Climate Science
- Capable of Professional and Personal Judgment and Initiative: Demonstrate an ability to work in project teams as is often the case in Climate Science, and under supervision
- Critical, Analytical and Integrative Thinking: Ability to analyse, reason, and question critically, with recognition of uncertainties inherent in Climate Science, by integrating knowledge that students have acquired from a range of sources
- Commitment to continuous learning: Critically reflect on the experience of work placement in Climate Science projects, including the similarities and differences between

learning at university and in practical application in workplace

Assessment tasks

- Skills Articulation Exercise
- Library Quiz
- Skills Articulation Training
- Job Application
- Interview Assessment
- Skills Reflection
- Oral Presentation
- Final Report

Discipline Specific Knowledge and Skills

Our graduates will take with them the intellectual development, depth and breadth of knowledge, scholarly understanding, and specific subject content in their chosen fields to make them competent and confident in their subject or profession. They will be able to demonstrate, where relevant, professional technical competence and meet professional standards. They will be able to articulate the structure of knowledge of their discipline, be able to adapt discipline-specific knowledge to novel situations, and be able to contribute from their discipline to inter-disciplinary solutions to problems.

This graduate capability is supported by:

Learning outcomes

- Problem Solving and Research Capability: Ability to formulate a problem, develop its methodical analysis, and critically interpret the findings in order to find an appropriate Climate Science-based solution
- Discipline-Specific Knowledge and Skills: Knowledge and conceptual understanding sufficient to make students competent in the subject of Climate Science
- Effective Communication: Ability to describe a research problem, propose its analysis, and then articulate the respective findings through oral and written media which are important tools in the communication of Climate Science
- Student Engagement as ethical local and global citizens: Awareness of the breadth and complexity of key ethical debates in Climate Science and an ability to engage in these
- Student Engagement as socially and environmentally active and responsible citizens: Capacity to understand, and respond to the environmental and social implications of Climate Science
- Critical, Analytical and Integrative Thinking: Ability to analyse, reason, and question critically, with recognition of uncertainties inherent in Climate Science, by integrating

knowledge that students have acquired from a range of sources

- Commitment to continuous learning: Critically reflect on the experience of work placement in Climate Science projects, including the similarities and differences between learning at university and in practical application in workplace

Assessment tasks

- Skills Articulation Exercise
- Library Quiz
- Skills Articulation Training
- Job Application
- Interview Assessment
- Skills Reflection
- Oral Presentation
- Final Report

Critical, Analytical and Integrative Thinking

We want our graduates to be capable of reasoning, questioning and analysing, and to integrate and synthesise learning and knowledge from a range of sources and environments; to be able to critique constraints, assumptions and limitations; to be able to think independently and systemically in relation to scholarly activity, in the workplace, and in the world. We want them to have a level of scientific and information technology literacy.

This graduate capability is supported by:

Learning outcomes

- Problem Solving and Research Capability: Ability to formulate a problem, develop its methodical analysis, and critically interpret the findings in order to find an appropriate Climate Science-based solution
- Discipline-Specific Knowledge and Skills: Knowledge and conceptual understanding sufficient to make students competent in the subject of Climate Science
- Effective Communication: Ability to describe a research problem, propose its analysis, and then articulate the respective findings through oral and written media which are important tools in the communication of Climate Science
- Capable of Professional and Personal Judgment and Initiative: Demonstrate an ability to work in project teams as is often the case in Climate Science, and under supervision
- Critical, Analytical and Integrative Thinking: Ability to analyse, reason, and question critically, with recognition of uncertainties inherent in Climate Science, by integrating knowledge that students have acquired from a range of sources

Assessment tasks

- Skills Articulation Exercise
- Library Quiz
- Skills Articulation Training
- Job Application
- Interview Assessment
- Skills Reflection
- Oral Presentation
- Final Report

Problem Solving and Research Capability

Our graduates should be capable of researching; of analysing, and interpreting and assessing data and information in various forms; of drawing connections across fields of knowledge; and they should be able to relate their knowledge to complex situations at work or in the world, in order to diagnose and solve problems. We want them to have the confidence to take the initiative in doing so, within an awareness of their own limitations.

This graduate capability is supported by:

Learning outcomes

- Problem Solving and Research Capability: Ability to formulate a problem, develop its methodical analysis, and critically interpret the findings in order to find an appropriate Climate Science-based solution
- Discipline-Specific Knowledge and Skills: Knowledge and conceptual understanding sufficient to make students competent in the subject of Climate Science
- Creativity and Innovation: Ability to contend with the global relevance of Climate Science yet constraints associated with the absence of a universal approach or answer, in a creative and innovative manner
- Effective Communication: Ability to describe a research problem, propose its analysis, and then articulate the respective findings through oral and written media which are important tools in the communication of Climate Science
- Student Engagement as ethical local and global citizens: Awareness of the breadth and complexity of key ethical debates in Climate Science and an ability to engage in these
- Student Engagement as socially and environmentally active and responsible citizens: Capacity to understand, and respond to the environmental and social implications of Climate Science
- Critical, Analytical and Integrative Thinking: Ability to analyse, reason, and question critically, with recognition of uncertainties inherent in Climate Science, by integrating

knowledge that students have acquired from a range of sources

Assessment tasks

- Skills Articulation Exercise
- Library Quiz
- Skills Articulation Training
- Job Application
- Interview Assessment
- Skills Reflection
- Oral Presentation
- Final Report

Effective Communication

We want to develop in our students the ability to communicate and convey their views in forms effective with different audiences. We want our graduates to take with them the capability to read, listen, question, gather and evaluate information resources in a variety of formats, assess, write clearly, speak effectively, and to use visual communication and communication technologies as appropriate.

This graduate capability is supported by:

Learning outcomes

- Effective Communication: Ability to describe a research problem, propose its analysis, and then articulate the respective findings through oral and written media which are important tools in the communication of Climate Science
- Student Engagement as ethical local and global citizens: Awareness of the breadth and complexity of key ethical debates in Climate Science and an ability to engage in these
- Capable of Professional and Personal Judgment and Initiative: Demonstrate an ability to work in project teams as is often the case in Climate Science, and under supervision
- Commitment to continuous learning: Critically reflect on the experience of work placement in Climate Science projects, including the similarities and differences between learning at university and in practical application in workplace

Assessment tasks

- Skills Articulation Exercise
- Library Quiz
- Skills Articulation Training
- Job Application
- Interview Assessment

- Skills Reflection
- Oral Presentation
- Final Report

Engaged and Ethical Local and Global citizens

As local citizens our graduates will be aware of indigenous perspectives and of the nation's historical context. They will be engaged with the challenges of contemporary society and with knowledge and ideas. We want our graduates to have respect for diversity, to be open-minded, sensitive to others and inclusive, and to be open to other cultures and perspectives: they should have a level of cultural literacy. Our graduates should be aware of disadvantage and social justice, and be willing to participate to help create a wiser and better society.

This graduate capability is supported by:

Learning outcomes

- Creativity and Innovation: Ability to contend with the global relevance of Climate Science yet constraints associated with the absence of a universal approach or answer, in a creative and innovative manner
- Student Engagement as ethical local and global citizens: Awareness of the breadth and complexity of key ethical debates in Climate Science and an ability to engage in these
- Student Engagement as socially and environmentally active and responsible citizens: Capacity to understand, and respond to the environmental and social implications of Climate Science
- Capable of Professional and Personal Judgment and Initiative: Demonstrate an ability to work in project teams as is often the case in Climate Science, and under supervision
- Commitment to continuous learning: Critically reflect on the experience of work placement in Climate Science projects, including the similarities and differences between learning at university and in practical application in workplace

Assessment tasks

- Skills Articulation Exercise
- Library Quiz
- Skills Articulation Training
- Job Application
- Interview Assessment
- Skills Reflection
- Oral Presentation
- Final Report

Socially and Environmentally Active and Responsible

We want our graduates to be aware of and have respect for self and others; to be able to work with others as a leader and a team player; to have a sense of connectedness with others and country; and to have a sense of mutual obligation. Our graduates should be informed and active participants in moving society towards sustainability.

This graduate capability is supported by:

Learning outcomes

- Creativity and Innovation: Ability to contend with the global relevance of Climate Science yet constraints associated with the absence of a universal approach or answer, in a creative and innovative manner
- Effective Communication: Ability to describe a research problem, propose its analysis, and then articulate the respective findings through oral and written media which are important tools in the communication of Climate Science
- Student Engagement as ethical local and global citizens: Awareness of the breadth and complexity of key ethical debates in Climate Science and an ability to engage in these
- Student Engagement as socially and environmentally active and responsible citizens: Capacity to understand, and respond to the environmental and social implications of Climate Science
- Capable of Professional and Personal Judgment and Initiative: Demonstrate an ability to work in project teams as is often the case in Climate Science, and under supervision
- Commitment to continuous learning: Critically reflect on the experience of work placement in Climate Science projects, including the similarities and differences between learning at university and in practical application in workplace

Assessment tasks

- Skills Articulation Exercise
- Library Quiz
- Skills Articulation Training
- Job Application
- Interview Assessment
- Skills Reflection
- Oral Presentation
- Final Report