



# ENVE304

## Integrated Climate Science

S2 Day 2015

*Dept of Environmental Sciences*

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#### **Disclaimer**

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## General Information

Unit convenor and teaching staff

Unit Convenor

Grant Edwards

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E7A 621

Email for appointment

lecturer

Stuart Browning

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E7A 603

email for appointment

Credit points

3

Prerequisites

39cp

Corequisites

ENVE301(P) or ENVE302(P) or ENVE303(P) or GEOS301(P) or GEOS325(P)

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 fulfilment 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:

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

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

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.

## General Assessment Information

There is no final examination for this unit in formal exam period

## Assessment Tasks

Name	Weighting	Due
<u>Develop CV</u>	15%	week 4
<u>Final Report</u>	35%	13
<u>Oral Presentation</u>	15%	10,11,12,13
<u>Placement Evaluation</u>	35%	13

## Develop CV

Due: **week 4**

Weighting: **15%**

Design and produce a CV suitable for application for career opportunities in Climate Science. The CV will be developed as part of the assessment for this unit. The CV will be used along with a covering letter to apply for the placements in the unit. Guidance in the development of your CV will be provided. Format and target audience will be discussed in lectures. This assessment should be submitted electronically through ilearn.

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
- 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: **13**

Weighting: **35%**

This is a report 10 pages maximum (minimum, 5 pages minimum) 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 a 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:

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

## Oral Presentation

Due: **10,11,12,13**

Weighting: **15%**

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 take place during time slots in weeks 10,11,12,and 13.

On successful completion you will be able to:

- 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 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
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- 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.

## Placement Evaluation

Due: **13**

Weighting: **35%**

A questionnaire will be sent to the placement contact to solicit the employers input on the students' performance during their placement. This evaluation will also allow for the employer to provide information on the contributions made to the placement organization. This assessment is collected by the teaching staff from the placement contact.

On successful completion you will be able to:

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

## 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. ENVE304 is aimed at students with a demonstrated special interest and advanced skills in Climate Science. They must have completed ENVE 112, ENVE 117, ENVE2 I4, and ENVE216 before this particular unit. As well they are required to take ENVE301, ENVE302 , and, ENVE362, 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. At the end of this unit, learners will have enhanced and developed

ENVE304 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 particulate matter. 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 Office of the Environment & Heritage (OEH). 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.*

- New work health and safety (WHS) laws replaced the occupational health and safety (OHS) laws in NSW on 1 January 2012. Macquarie University is committed to ensuring the Health and Safety of our students. Macquarie University has implemented stringent WHS practises and systems to manage work health and safety risks. Whilst the responsibility for ensuring the health and safety of students rests with the University, students also have a responsibility to ensure that they comply with WHS policies and that their acts do not cause harm to themselves or others. Students should also be aware that these considerations extend beyond the classroom to their Participation activities and all engagement with the community.

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://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/](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.

THEN - if the emergency occurs in office hours (i.e. Monday - Friday 9am-5pm)

4. 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.

OR - if the emergency occurs outside of office hours (i.e. outside of Monday - Friday 9am-5pm)

6. 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 Wellbing 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).

- In conjunction with the implementation of the PACE Initiative at Macquarie University, a number of PACE-specific procedures and policies have been developed. These procedures and policies can be reviewed online and include

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

[https://mq.edu.au/policy/docs/participation\\_activity/procedure\\_commencement.pdf](https://mq.edu.au/policy/docs/participation_activity/procedure_commencement.pdf)

2. **Disruption due to PACE Activity Procedure:** to outline the University's approach to an absence or other form of disruption during the session due to a student undertaking a participation activity.

[http://mq.edu.au/policy/docs/participation\\_activity/procedure.pdf](http://mq.edu.au/policy/docs/participation_activity/procedure.pdf)

3. **PACE Local and Regional Critical Incident Response Plan:** developed to ensure the PACE Local and Regional Program at Macquarie University is able to respond in a timely and effective manner to an emergency situation occurring whilst students are undertaking a participation activity locally and regionally.

[http://staff.mq.edu.au/teaching/participation\\_and\\_community\\_engagement/student\\_management/management\\_during\\_activity/emergency\\_critical\\_incident\\_plan/](http://staff.mq.edu.au/teaching/participation_and_community_engagement/student_management/management_during_activity/emergency_critical_incident_plan/)

#### 4. Policy regarding PACE and the AHEGS statement

As a Participation unit, FOSC300 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.

[www.senate.mq.edu.au/slrc/minutes/minutes\\_0711.pdf](http://www.senate.mq.edu.au/slrc/minutes/minutes_0711.pdf)

**5. PACE Grants and Prizes:** There are several ways in which PACE might support students financially to undertake participation activities. Further, from 2013 students of participation units from the year prior will be eligible to apply for the Prof. Judyth Sachs Participation Prizes.

[http://students.mq.edu.au/opportunities/participation\\_and\\_community\\_engagement/grants\\_prizes/](http://students.mq.edu.au/opportunities/participation_and_community_engagement/grants_prizes/)

PACE offers travel grants for regional and international placements details of which can be found at:

[http://students.mq.edu.au/opportunities/participation\\_and\\_community\\_engagement/grants\\_prizes/](http://students.mq.edu.au/opportunities/participation_and_community_engagement/grants_prizes/)

## Unit Schedule

Week	Date	Lecturer	Lecture Topic
1	Mon July 27	Stuart Browning	Overview of placements
	Thurs July 30	Stuart Browning	Matching of students with placements

2	Mon Aug: 3	Stuart Browning	Work place skills
	Thurs. Aug 6	Stuart Browning	Communication in the workplace
3	Mon Aug 10	Stuart Browning	Developing a CV
	Tue. Aug 13	Guest Lecture	Guest career lecture
4	Project		
	Project		
5	Project		
	Project		
6	Project		
	Project		
	Break		
7	Project		
	Project		
8	Project		
	Project		
9	Project		
	Project		
9	Project		
	Project		
10	Project		
	Project		
10	TBA	Students	Oral Presentations half hour each
	TBA	Students	Oral Presentations half hour each
11	TBA	Students	Oral Presentations half hour each
	TBA	Students	Oral Presentations half hour each
12	TBA	Students	Oral Presentations half hour each
	TBA	Students	Oral Presentations half hour each
13	TBA	Students	Oral Presentations half hour each
	TBA	Guest lecture	wrap up[

## Policies and Procedures

Macquarie University policies and procedures are accessible from [Policy Central](#). Students should be aware of the following policies in particular with regard to Learning and Teaching:

Academic Honesty Policy [http://mq.edu.au/policy/docs/academic\\_honesty/policy.html](http://mq.edu.au/policy/docs/academic_honesty/policy.html)

Assessment Policy <http://mq.edu.au/policy/docs/assessment/policy.html>

Grading Policy <http://mq.edu.au/policy/docs/grading/policy.html>

Grade Appeal Policy <http://mq.edu.au/policy/docs/gradeappeal/policy.html>

Grievance Management Policy [http://mq.edu.au/policy/docs/grievance\\_management/policy.html](http://mq.edu.au/policy/docs/grievance_management/policy.html)

Disruption to Studies Policy [http://www.mq.edu.au/policy/docs/disruption\\_studies/policy.html](http://www.mq.edu.au/policy/docs/disruption_studies/policy.html) *The Disruption to Studies Policy is effective from March 3 2014 and replaces the Special Consideration Policy.*

In addition, a number of other policies can be found in the [Learning and Teaching Category](#) of 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/support/student\\_conduct/](https://students.mq.edu.au/support/student_conduct/)

## Results

Results shown in *iLearn*, 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](http://ask.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](http://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](http://ask.mq.edu.au)

## IT Help

For help with University computer systems and technology, visit <http://informatics.mq.edu.au/help/>.

When using the University's IT, you must adhere to the [Acceptable Use 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

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

- Develop CV
- Final Report
- Oral Presentation
- Placement Evaluation

## 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

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

- Develop CV
- Final Report



- Oral Presentation
- Placement Evaluation

## 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
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### Assessment tasks

- Develop CV
- Final Report
- Oral Presentation
- Placement Evaluation

## 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

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

- Develop CV
- Final Report
- Oral Presentation
- Placement Evaluation

## 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**

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

- Develop CV
- Final Report
- Oral Presentation
- Placement Evaluation

## **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**

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

- 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
- 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**

- Develop CV
- Final Report
- Oral Presentation
- Placement Evaluation

## **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**

- Develop CV
- Final Report
- Oral Presentation
- Placement Evaluation

## **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**

- Develop CV
- Final Report
- Oral Presentation
- Placement Evaluation

## 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
- 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

- Develop CV
- Final Report
- Oral Presentation
- Placement Evaluation