# BIOL8760

## Climate Change Biology: Impacts and Adaptation

Session 2, Special circumstances 2021

*Archive (Pre-2022) - Department of Biological Sciences*

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**Session 2 Learning and Teaching Update**

The decision has been made to conduct study online for the remainder of Session 2 for all units WITHOUT mandatory on-campus learning activities. Exams for Session 2 will also be online where possible to do so.

This is due to the extension of the lockdown orders and to provide certainty around arrangements for the remainder of Session 2. We hope to return to campus beyond Session 2 as soon as it is safe and appropriate to do so.

Some classes/teaching activities cannot be moved online and must be taught on campus. You should already know if you are in one of these classes/teaching activities and your unit convenor will provide you with more information via iLearn. If you want to confirm, see the list of units with mandatory on-campus classes/teaching activities.

Visit the MQ COVID-19 information page for more detail.

# General Information

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|---|
| Unit convenor and teaching staff<br>Jessica Boomer<br>jessica.boomer@mq.edu.au |
| Credit points<br>10 |
| Prerequisites<br>Admission to MConsBiol or GradDipConsBiol or GradCertConsBiol or MEnv or MEnvPlan or GradDipEnv or MMarScMgt or MSusDev or GradDipSusDev or MSc or MPlan or MSocEntre or GradCertSusDev or GradDipSIA or MScInnovationBioConsMgmt or BBioConsMConsBiol |
| Corequisites |
| Co-badged status |
| Unit description<br>This unit explores the impacts of climate change on the biosphere, and adaptation options. Topics include biodiversity and conservation, invasive species and their management, impacts on agriculture and urban ecosystems, and the consequences for human health and well-being in both developed and developing countries. Students will explore what is projected to happen if the international target of restricting global temperature rise to no more than 2 degree Celcius is not met, and why even this target will have critical impacts. Students will meet guest scientists and government and industry experts who are at the forefront of solving the immense challenge that climate change brings to the biosphere. |

## Important Academic Dates

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

# Learning Outcomes

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

**ULO1:** Analyse, critique and synthesise knowledge about the impacts of climate change on a broad range of sectors, drawing connections across fields of knowledge

**ULO2:** Utilise research skills to identify impacts of climate change on a given sector, and interpret the likely consequences of these for the selected sector.

**ULO3:** Demonstrate creative problem solving skills to develop adaptation strategies that increase resilience to climate change

**ULO4:** Evaluate areas of scientific uncertainty and complexity in different sectors, and account for this in adaptation strategies

**ULO5:** Identify barriers and challenges to implementing adaptation responses, and communicate creative approaches to bridge these barriers.

**ULO6:** Transfer knowledge and skills regarding adaptation planning to industries/sectors beyond your personal experience

# Assessment Tasks

| Name | Weighting | Hurdle | Due |
|---|---|---|---|
| Presentation | 20% | No | Ongoing |
| Impacts and adaptation | 30% | No | Week 7 |
| Adaptation Plan | 50% | No | Week 13 |

## Presentation

Assessment Type [1]: Presentation
Indicative Time on Task [2]: 20 hours
Due: **Ongoing**
Weighting: **20%**

You will be assessed on your ability to research, summarise and communicate scientifically rigorous information on climate change impacts and adaptation, on a sector of your choice.

On successful completion you will be able to:

- Analyse, critique and synthesise knowledge about the impacts of climate change on a broad range of sectors, drawing connections across fields of knowledge
- Utilise research skills to identify impacts of climate change on a given sector, and interpret the likely consequences of these for the selected sector.
- Demonstrate creative problem solving skills to develop adaptation strategies that increase resilience to climate change
- Evaluate areas of scientific uncertainty and complexity in different sectors, and account for this in adaptation strategies
- Identify barriers and challenges to implementing adaptation responses, and communicate creative approaches to bridge these barriers.
- Transfer knowledge and skills regarding adaptation planning to industries/sectors

beyond your personal experience

## Impacts and adaptation

Assessment Type [1]: Report
Indicative Time on Task [2]: 20 hours
Due: **Week 7**
Weighting: **30%**

Through a blog-style essay, you will be assessed on your ability to identify the impacts of climate change on a given sector, and communicate knowledge gaps, appropriate adaptation actions and barriers to adaptation to a non-science audience

On successful completion you will be able to:

- Analyse, critique and synthesise knowledge about the impacts of climate change on a broad range of sectors, drawing connections across fields of knowledge
- Utilise research skills to identify impacts of climate change on a given sector, and interpret the likely consequences of these for the selected sector.
- Demonstrate creative problem solving skills to develop adaptation strategies that increase resilience to climate change
- Evaluate areas of scientific uncertainty and complexity in different sectors, and account for this in adaptation strategies
- Identify barriers and challenges to implementing adaptation responses, and communicate creative approaches to bridge these barriers.
- Transfer knowledge and skills regarding adaptation planning to industries/sectors beyond your personal experience

## Adaptation Plan

Assessment Type [1]: Practice-based task
Indicative Time on Task [2]: 35 hours
Due: **Week 13**
Weighting: **50%**

This written report will assess your understanding of the breadth of climate impacts on an appropriate sector you have not previous explored, and your ability to research solutions and develop a logical adaptation plan for that sector that accounts for uncertainty and knowledge gaps.

On successful completion you will be able to:

- Analyse, critique and synthesise knowledge about the impacts of climate change on a broad range of sectors, drawing connections across fields of knowledge
- Utilise research skills to identify impacts of climate change on a given sector, and interpret the likely consequences of these for the selected sector.
- Demonstrate creative problem solving skills to develop adaptation strategies that increase resilience to climate change
- Evaluate areas of scientific uncertainty and complexity in different sectors, and account for this in adaptation strategies
- Identify barriers and challenges to implementing adaptation responses, and communicate creative approaches to bridge these barriers.
- Transfer knowledge and skills regarding adaptation planning to industries/sectors beyond your personal experience

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

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

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

# Delivery and Resources

## Delivery

Each week students will be expected to work through a range of material including recorded lectures and online exercises. Each Monday a zoom tutorial will be available from 9-11 am Sydney time, for students to engage with.

**Resources**

Teaching materials and online communications will be via the unit website (ilearn.mq.edu.au). This unit requires access to a computer and a reliable internet connection to complete assessment tasks.

# Policies and Procedures

Macquarie University policies and procedures are accessible from Policy Central (https://policies.mq.edu.au). Students should be aware of the following policies in particular with regard to Learning and Teaching:

- Academic Appeals Policy
- Academic Integrity Policy
- Academic Progression Policy
- Assessment Policy
- Fitness to Practice Procedure
- Grade Appeal Policy
- Complaint Management Procedure for Students and Members of the Public
- Special Consideration Policy

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

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

## Student Code of Conduct

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

## Results

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

# 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 help you improve your marks and take control of your study.

- Getting help with your assignment
- Workshops
- StudyWise
- Academic Integrity Module

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

- Subject and Research Guides

- Ask a Librarian

## Student Services and Support

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.