



# EESC1160

## Blue Planet: Oceans, Climate and Life

Session 2, In person-scheduled-weekday, North Ryde 2022

*School of Natural Sciences*

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#### **Disclaimer**

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## General Information

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Credit points

10

Prerequisites

Corequisites

Co-badged status

### Unit description

Oceans cover more than 70% of Earth's surface; they are the unique feature of our blue planet which enabled the evolution of complex life, influences Earth's climate and weather, and provides food for much of the world's population. This unit introduces this exceptional environment through study of the oceans, with particular focus on ocean life and sustainable management of ocean resources. The unit considers: physical, biological and chemical oceanographic processes; waves and tides; marine life; climate change; and human interactions with the marine environment for a sustainable future. Students will be introduced to marine environmental issues via a field trip. This unit pairs well with ENV51017 The Living Environment and EESC1150 Planet Earth.

## 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:** demonstrate knowledge of global oceanic processes to understand the evolution of ocean life.

**ULO2:** use the physical and chemical properties of seawater to predict the distribution and characteristics of marine life.

**ULO3:** display competency in collecting and communicating scientific data to address environmental issues in marine science and management.

## General Assessment Information

### Assessment Criteria

Assessment at Macquarie University is standards-based, as outlined in the [Assessment Policy](#). This means that your work will be assessed against clear criteria, and these criteria (e.g. in a rubric) will be made available when the assessment tasks are released to you on iLearn.

### Hurdle Requirements

A hurdle requirement is an activity for which a minimum level of performance or participation is a condition of passing the unit (see the [Assessment Policy](#)). Failure to meet the hurdle requirement will result in failure of the unit. In this unit **practical participation** is a hurdle requirement. You must attend and participate in at least 10 of the 12 weekly practical classes to pass this unit. Please contact your tutor or the unit convenor if you are unwell and are unable to attend, you can attend a practical scheduled on another day or participate online if approved by the unit convenor.

### Submission of Assessments

All assessments must be submitted online through [Turnitin](#) unless otherwise indicated. Links for the submission of each assessment will be available on [iLearn](#).

You should always check that you have uploaded the correct file. If you have a problem, please email the Unit Convenor with your correct file. You must also keep a copy of your assessments until the end of semester in case there is a problem with your submission. It is your responsibility to ensure that you can provide a copy of your assessment if requested.

### **Marking of Assessments**

Assignments will usually be marked through Turnitin with grades provided through Gradebook on iLearn. Please do not submit your assessments via email or in hard copy unless requested (e.g. a sketch or drawing).

We aim to return your assessment grades and feedback within two to three weeks of the date that you submitted it. We appreciate your patience and will advise you through iLearn when your marked assessments and feedback are available for viewing.

### **Late Assessment Submission Penalty**

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

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

For any late submission of time-sensitive tasks, such as scheduled tests/exams, performance assessments/presentations, and/or scheduled practical assessments/labs, students need to submit an application for [Special Consideration](#).

### **Extensions for Assessments**

To obtain an extension for an assessment task, you will need to follow the formal process as outlined in the [Special Consideration Policy](#), and you must provide appropriate supporting evidence (e.g. medical certificate - see advice for [Special Consideration](#) requests). The final decision regarding the granting of an extension lies with the unit convenor. Permission for extensions must be sought **before the due date** unless there are exceptional circumstances. Please let us know of problems in advance or as soon as possible, not after the event. We are likely to be much more sympathetic and able to accommodate your circumstance if you follow this advice.

### **Exams**

Details of exam conditions and timetables can be found on the [Exams and Results](#) portal. The draft exam timetable will be released approximately eight weeks before the commencement of the exams. The final exam timetable will be published 4 weeks before commencement. All students (including exchange students) are expected to present themselves for the exam at the

time and place designated in the exam timetable. Note this may include weekends.

For unavoidable disruptions during exams, you should apply for [Special Consideration](#) as soon as possible. If a Supplementary Examination is granted as a result of the Special Consideration process, the exam time will be scheduled after the conclusion of the official examination period and you will receive an individual notification prior to the exam with the exact date and time of the Supplementary Examination. You will only be allowed one opportunity to sit the Supplementary Exam as outlined in the [Special Consideration Policy](#).

## Assessment Tasks

Name	Weighting	Hurdle	Due
<a href="#">Workshop / Practical Participation</a>	0%	Yes	Weekly
<a href="#">Multiple Quizzes</a>	20%	No	Weekly
<a href="#">Ocean processes report</a>	20%	No	Week 7
<a href="#">Case study report</a>	20%	No	Week 12
<a href="#">Final Exam</a>	40%	No	Examination Period

### Workshop / Practical Participation

Assessment Type <sup>1</sup>: Participatory task

Indicative Time on Task <sup>2</sup>: 0 hours

Due: **Weekly**

Weighting: **0%**

**This is a hurdle assessment task (see [assessment policy](#) for more information on hurdle assessment tasks)**

The participatory task is a hurdle assessment and requires participation in more than 75% of workshops / practical classes.

On successful completion you will be able to:

- demonstrate knowledge of global oceanic processes to understand the evolution of ocean life.
- use the physical and chemical properties of seawater to predict the distribution and characteristics of marine life.

### Multiple Quizzes

Assessment Type <sup>1</sup>: Quiz/Test

Indicative Time on Task <sup>2</sup>: 12 hours

Due: **Weekly**

Weighting: **20%**

The quizzes test knowledge and may be online or in-class. See iLearn for a detailed list of quizzes in this unit.

On successful completion you will be able to:

- demonstrate knowledge of global oceanic processes to understand the evolution of ocean life.
- use the physical and chemical properties of seawater to predict the distribution and characteristics of marine life.
- display competency in collecting and communicating scientific data to address environmental issues in marine science and management.

## Ocean processes report

Assessment Type <sup>1</sup>: Report

Indicative Time on Task <sup>2</sup>: 24 hours

Due: **Week 7**

Weighting: **20%**

Report evaluating ocean processes.

On successful completion you will be able to:

- demonstrate knowledge of global oceanic processes to understand the evolution of ocean life.
- use the physical and chemical properties of seawater to predict the distribution and characteristics of marine life.
- display competency in collecting and communicating scientific data to address environmental issues in marine science and management.

## Case study report

Assessment Type <sup>1</sup>: Case study/analysis

Indicative Time on Task <sup>2</sup>: 20 hours

Due: **Week 12**

Weighting: **20%**

Report exploring a marine environmental issue.

On successful completion you will be able to:

- demonstrate knowledge of global oceanic processes to understand the evolution of ocean life.
- use the physical and chemical properties of seawater to predict the distribution and characteristics of marine life.
- display competency in collecting and communicating scientific data to address environmental issues in marine science and management.

## Final Exam

Assessment Type <sup>1</sup>: Examination

Indicative Time on Task <sup>2</sup>: 18 hours

Due: **Examination Period**

Weighting: **40%**

The final examination requires students to apply the new skills and knowledge developed in this unit.

On successful completion you will be able to:

- demonstrate knowledge of global oceanic processes to understand the evolution of ocean life.
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- display competency in collecting and communicating scientific data to address environmental issues in marine science and management.

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<sup>1</sup> 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.

<sup>2</sup> 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

### Unit iLearn

This unit has an iLearn page that can be accessed through [ilearn.mq.edu.au](http://ilearn.mq.edu.au). It contains important information and other materials relating to the unit, including details and links for assessments.

### Communication

The unit iLearn is the primary way that we communicate with you. Please check it regularly for announcements and posts. You are encouraged to use the Discussion Board on iLearn to post questions and generate discussion with other students. Please only email the convenor with private matters – ***all other questions should be posted on iLearn.***

### Unit Organisation

This unit is delivered in as several inter-related modules. The organisation of these is outlined in a detailed unit schedule which is available on [iLearn](#).

The class will be delivered through iLearn, lectures, practicals as well as recommended readings. In addition, you are encourage to do your own research.

### Classes

Practicals and lectures start in WEEK 1. The class timetable for this unit can be found through the [Timetable](#) portal. You should also check the unit schedule as some weeks may have online lecture recordings, other instructions or locations.

### Workload

The expected workload for this 10-credit point unit is 150 hours of activity, including lectures, practicals, readings, weekly quiz and research and writing of assignments.

### Requirements to complete this unit satisfactorily

To complete this unit satisfactorily, you must:

1. Participate in all scheduled classes;
2. Complete all assessments and the final exam; and
3. Achieve a pass grade or higher.

The descriptions for grades common to all coursework units offered by Macquarie University are outlined in [Schedule 1 of the Assessment Policy](#).

### Textbook

We will be using Segar's "Introduction to Ocean Science (4th Edition)" - available via the authors website - as the primary textbook for EESC1160. Textbooks usually cost well over \$100, but the author of this text has chosen to make it freely available. However, we do ***ask that you***



**contribute a few dollars for the book through PayPal (info is on the book download page) to help the author cover costs of keeping this excellent resource up to date.** We also highly recommend O'Connell & Gillander's "Marine Ecology". Additional readings will be made available via iLearn as required.

Please remember that the recommended readings are compulsory, you will have to keep on top of these to do well in EESC1160. The quizzes and the exam will include material from the readings that we will not have time to cover in detail in the lectures or in the practical sessions.

### Technology Used and Required

This unit will use iLearn and Echo360. See the [Instructions on how to log in to iLearn](#) and the [iLearn quick guides for students](#) which will help you:

- [Getting started](#) - Find out how to navigate and familiarise yourself with the iLearn environment
- [Activities](#) - Learn how to effectively complete the activities required of you in iLearn
- [Assignments and Gradebook](#) - Find out how to submit assessments and view your grades using iLearn
- [Online study tips](#) - Studying online is a unique experience, learn how to navigate it here
- [Discussion forums](#) - Explore the different types, and features of discussion forums in iLearn
- [Lecture recordings](#) - Find out how to access lectures online, as well as the features available to you

## Unit Schedule

**NB.** Lecture and practical topics may be subject to small changes during the session.

Week	Date	Lectures Weds 9-11am	Practicals
1	25 Jul	1i The Ocean Planet 1ii Unit overview	P1 Intro, Coordinate Systems & Vertical Exaggeration. Map reading skills. GeoMapApp
2	1 Aug	2i Ocean chemistry (Pt 1) 2ii Ocean chemistry (Pt 2)	P2 Seawater chemistry. Inputs vs outputs, residence time, nutrient vs non-nutrient elements, ocean mixing time, link to life in the ocean
3	8 Aug	3i Plate tectonics (Pt 1) 3ii Plate tectonics (Pt 2)	P3 Plate tectonics: volcanism, earthquakes, mountain building and seafloor spreading. GeoMapApp
4	15 Aug	4i Exploring and mapping our oceans 4ii TBC	P4 Ocean basin size & shape: tectonic controls and implications for physiography and sedimentation

5	22 Aug	5i Waves and tides 5ii Intro to remote sensing of oceans	P5 TBC
6	29 Aug	6i Coastal/marine applications of geospatial technology (Pt 1) 6ii Coastal/marine applications of geospatial technology (Pt 2)	P6 Detecting oil spills using microwave remote sensing
7	5 Sep	7i Sydney Harbour Marine Topics (Pt 1) 7ii Sydney Harbour Marine Topics (Pt 2)	P7 Fieldtrip preparation
Mid-semester Break 12-23 September			
9am-4pm 11th September Fieldtrip to the Sydney Institute of Marine Science (TBC)			
8	26 Sep	8i Life in the oceans (Pt 1) 8ii Life in the oceans (Pt 2)	P8 Marine algae
9	4 Oct	9i Life in the oceans (Pt 3) 9ii Climate change and life in the oceans	P9 TBC
10	10 Oct	10i Pollution and life in the oceans 10ii Marine ecotoxicology	P10 Graph reading and description skills, synthesising key week 2-10 content and concepts in summary cartoon/sketch
11	17 Oct	11i Marine microbiology 11ii Measuring and monitoring impacts	P11 Visualising climate impacts, indicators
12	24 Oct	12i Marine spatial planning (Pt 1) 12ii Marine spatial planning (Pt 2)	P12 Marine spatial planning
13	31 Oct	No class in lieu of fieldtrip	

## Policies and Procedures

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

- [Academic Appeals Policy](#)
- [Academic Integrity Policy](#)
- [Academic Progression Policy](#)

- [Assessment Policy](#)
- [Fitness to Practice Procedure](#)
- [Assessment Procedure](#)
- [Complaints Resolution Procedure for Students and Members of the Public](#)
- [Special Consideration Policy](#)

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

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

## Student Code of Conduct

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

## Results

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

## Academic Integrity

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

## Student Support

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

## The Writing Centre

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

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

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

- [Subject and Research Guides](#)
- [Ask a Librarian](#)

## Student Services and Support

Macquarie University offers a range of [Student Support Services](#) including:

- [IT Support](#)
- [Accessibility and disability support](#) with study
- Mental health [support](#)
- [Safety support](#) to respond to bullying, harassment, sexual harassment and sexual assault
- [Social support including information about finances, tenancy and legal issues](#)

## Student Enquiries

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

## IT Help

For help with University computer systems and technology, visit [http://www.mq.edu.au/about\\_us/offices\\_and\\_units/information\\_technology/help/](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.