

## MARI6001: Marine Ecology and Management

Online

Trimester 1 - 2024



THE UNIVERSITY OF  
NEWCASTLE  
AUSTRALIA

## OVERVIEW

### Course Description

Australia's marine environment is the world's third largest marine jurisdiction and is characterised by a remarkable biodiversity and relatively low productivity. Australia is also impacted by a range of contemporary issues relating to sustainability, including climate change, fishing pressure, aquaculture, terrestrial runoff etc. This course provides you with an in-depth knowledge of the key principles of marine systems and of selected critical and highly contemporary sustainability issues for the Australian marine environment. The exploration of these contemporary issues includes analyses of the effectiveness of current management approaches for the conservation and sustainable use of this environment. The course will be delivered through a combination of self-directed learning of the principles of marine ecology, peer-to-peer learning and problem-solving analyses derived from a selection of topical issues.

### Academic Progress Requirements

Nil

### Assumed Knowledge

Basic knowledge (i.e. to year 12 standard) of biology, ecology or environmental science.

### Contact Hours

**Online**  
**Self-Directed Learning**  
Online  
10 hour(s) per week(s) for 13 week(s) starting Week 1  
Case study involves Problem-based learning.

### Unit Weighting

10

### Workload

Students are required to spend on average 120-140 hours of effort (contact and non-contact) including assessments per 10 unit course.

# COURSE OUTLINE

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# CONTACTS

<b>Course Coordinator</b>	<b>Online</b> Dr Margaret Platell <a href="mailto:Margaret.Platell@newcastle.edu.au">Margaret.Platell@newcastle.edu.au</a> (02) 4349 4809 Consultation: Email is the best way to get in touch with me.
<b>Teaching Staff</b>	Other teaching staff will be advised on the course Canvas site.
<b>School Office</b>	<b>School of Environmental and Life Sciences</b> Room C228 Chemistry Building Callaghan <a href="mailto:Science-SELS@newcastle.edu.au">Science-SELS@newcastle.edu.au</a> (02) 4921 5080 9am-5pm (Mon-Fri)

# SYLLABUS

<b>Course Content</b>	<b>Module 1: Principles of marine systems</b> Australian marine environment, including oceanography, biogeography, biodiversity and selected coastal ecosystems Population dynamics, including life history strategies, demography and density relationships Community ecology, including feeding relationships, competition, role of natural disturbances  <b>Module 2: Marine activities and challenges</b> Climate change and susceptible ecosystems, Invasive species, Migratory species, Wild-harvest fisheries, Aquaculture, Other industries  <b>Module 3: Marine management</b> Marine Protected Areas, Fishery and aquaculture management, Integrated catchment management, Emerging complex examples
<b>Course Learning Outcomes</b>	<b>On successful completion of this course, students will be able to:</b> <ol style="list-style-type: none"><li>1. Identify the key principles of marine ecology and important Australian marine ecosystems, relevant to their management and conservation;</li><li>2. Describe sustainability issues for Australian marine ecosystems, and contemporary strategies for their management and conservation;</li><li>3. Critically evaluate contemporary strategies in terms of likely effectiveness and their broader ecological consequences of marine issues;</li><li>4. Propose and justify alternative sustainable management and conservation strategies;</li><li>5. Demonstrate high-level skills in effectively communicating ideas and knowledge in relation to management and conservation issues.</li></ol>
<b>Course Materials</b>	<b>Required Reading:</b> <ul style="list-style-type: none"><li>- The textbook <i>Marine Ecology</i>, edited by Sean Connell &amp; Bronwyn Gillanders and published in 2007, is required reading for the course. This textbook is comprehensive and detailed, with a wealth of information from expert marine researchers in Australia for the various review chapters, all in the one place. Copies are freely available in the library and to buy (price of ~\$160 from a range of booksellers).</li></ul> <b>Other Resources:</b> <ul style="list-style-type: none"><li>- Other learning materials, which include the Course Outline, direct information, links to authoritative external resources and assessment instructions are provided on the course Canvas site.</li></ul>

# COMPULSORY REQUIREMENTS

In order to pass this course, each student must complete ALL of the following compulsory requirements:

## Compulsory Placement and WHS Requirements:

- Induction Self-Directed Learning WHS Induction Requirement - Students must complete a compulsory WHS induction, consisting of resources, a short quiz and submitted paperwork, all of which are fully online, before accessing further course materials.

# SCHEDULE

Week	Week Begins	Topic	Learning Activity	Assessment Due
1	29 Jan	WHS topics  Module 1.1 - The Australian marine environment	Familiarise yourself with textbook, Course Outline and course Canvas site setup Access information for WHS and Module 1.1 Online quizzes	
2	5 Feb	Module 1.1 - The Australian marine environment	Access information for Module 1.1 Online quizzes	WHS Quiz & Paperwork due by 11:59 pm on Friday (9th February).
3	12 Feb	Module 1.2 - Population ecology	Access information for Module 1.2	
4	19 Feb	Module 1.2 - Population ecology	Access information for Module 1.2 Online quizzes	
5	26 Feb	Module 1.3 - Community ecology	Access information for Module 1.3	
6	4 Mar	Module 1.3 - Community ecology	Access information for Module 1.3 Online quizzes	Modules 1.1, 1.2 & 1.3 Online Quizzes (30%, 10% each) ALL to be taken before 11:59 pm on Friday (8th March)
7	11 Mar	Module 2.1 - Climate change, invasive and migratory species	Access information for Module 2.1 Preparation for Assessed Discussions	
8	18 Mar	Module 2.2 - Sustainable wild harvest fishing and aquaculture	Access information for Module 2.2 Preparation for Assessed Discussions	
9	25 Mar	Module 2.3 - Terrestrial processes and marine pollution	Access information for Module 2.2 Preparation for Assessed Discussions	Two (2) Assessed Discussions (30%, 15% each) will be opened at 9 am on Monday (25th March) and are to be completed before 11:59 pm on Thursday (28th March)
10	1 Apr	Module 3 - Marine management approaches and challenges	Access information for Module 3 Selection of a management plan Preparation of Major Assignment	
11	8 Apr	Module 3 - Marine management approaches and challenges	Access information for Module 3 Preparation of Major Assignment	

<b>12</b>	15 Apr	Module 3 - Marine management approaches and challenges	Access information for Module 3 Completion of Major Assignment	Major Assignment - Evaluation of Marine Management Approaches (40%) due at 11:59 pm on Friday (19th April)
<b>Examination Period</b>				

## ASSESSMENTS

This course has 3 assessments. Each assessment is described in more detail in the sections below.

	Assessment Name	Due Date	Involvement	Weighting	Learning Outcomes
<b>1</b>	Written assignment involving case scenario and PBL exercises	11:59 pm on Friday (19th April, Week 12)	Individual	40%	1, 2, 3, 4, 5
<b>2</b>	Quiz (Online)	Quiz for Workplace Health and Safety (WHS) due by 11:59 pm on Friday (9th February, Week 2) Quizzes for Modules 1.1, 1.2 and 1.3 are all due by 11:59 pm on Friday (8th March, Week 6)	Individual	30%	1
<b>3</b>	Group/tutorial participation and contribution	The posts in each Discussion Forum are to be completed before 11:59 pm on Thursday (28th March, Week 9)	Individual	30%	2, 3, 4, 5

### Late Submissions

The mark for an assessment item submitted after the designated time on the due date, without an approved extension of time, will be reduced by 10% of the possible maximum mark for that assessment item for each day or part day that the assessment item is late. Note: this applies equally to week and weekend days.

## Assessment 1 - Written assignment involving case scenario and PBL exercises

### Assessment Type

Written Assignment

### Purpose

This assignment will provide students with an opportunity to critically analyse a key state governmental document, the NSW Marine Estate Management Strategy (MEMS 2018-2028), and critically interpret the content against a selected management plan for a MPA in NSW (either State or Commonwealth) with reference to emerging knowledge about that MPA. This assessment task prepares students for a likely workspace scenario, and thus represents authentic learning.

### Description

Students will be expected to access the recently developed NSW MEMS and to select (and source) a current management plan for a marine reserve (protected area) in NSW waters. They will use this material to (1) Provide an explanation of the approaches used within MEMS, including a critical analysis, (2) Answer a series of directed questions on the management plan related to the ecology and key threatening processes, and (3) Develop an alternative management strategy for some of the threats within that plan and provide a plausible explanation of likely outcomes for the marine protected area in the case that legislative protection is removed. Detailed instructions are available on the course Canvas site.

### Weighting

40%

### Length

1600 words

### Due Date

11:59 pm on Friday (19th April, Week 12)

### Submission Method

Online

This is to be submitted online, via Turnitin, on the course Canvas site.

### Assessment Criteria

You will be assessed on your ability to respond to the assignment prompt, to clearly address the points raised within, using evidenced-based statements, and to convey this clearly in a well-presented, articulate and timely manner. Marking rubric is available on the course Canvas site.

### Return Method

Online

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**Feedback Provided** Online - No more than 3 weeks after assignment submission. This will consist of a marked rubric and further comments on the rubric and/or assessment itself.

## Assessment 2 - Quiz (Online)

<b>Assessment Type</b>	Quiz
<b>Purpose</b>	These quizzes are designed to measure your comprehension, knowledge and recall of the topics covered in Module 1 (Weeks 1-6), and to therefore assess your understanding of fundamental knowledge required for understanding the ecology of marine environments
<b>Description</b>	Quiz for WHS – Ten (10) questions with multiple attempts permitted. Required to continue in course. Three (3) quizzes for Module 1, each worth 10%, 15 multiple questions each, one attempt permitted. Quiz for Module 1.1: The Australian marine environment Quiz for Module 1.2: Population ecology Quiz for Module 1.3: Community ecology
<b>Weighting</b>	30%
<b>Length</b>	60 min for each of the Module 1 Quizzes
<b>Due Date</b>	Quiz for Workplace Health and Safety (WHS) due by 11:59 pm on Friday (9th February, Week 2) Quizzes for Modules 1.1, 1.2 and 1.3 are all due by 11:59 pm on Friday (8th March, Week 6)
<b>Submission Method</b>	Online
<b>Assessment Criteria</b>	Online quizzes are designed to measure your comprehension, knowledge and recall of the topics covered in Modules 1.1, 1.2 and 1.3.
<b>Return Method</b>	Online
<b>Feedback Provided</b>	Online - Immediately when the quiz is completed. Students will be able to see their correct and incorrect responses to each question

## Assessment 3 - Group/tutorial participation and contribution

<b>Assessment Type</b>	Participation
<b>Purpose</b>	The purpose of the group participation via targeted Discussion Forums is to test the understanding of the content provided in the preceding weeks on contemporary issues affecting the Australian marine environment, when these are placed into a context that you are likely to encounter as a potential manager of the marine environment.
<b>Description</b>	Two hypothetical scenarios will be developed within discussion forums, to which small groups of students will be allocated (randomly). Students within each of these groups are expected to respond to this discussion prompt, making timely, appropriate and evidence-based discussion posts and to interact professionally with each other, during the four-day period that the discussion is open. Note that this discussion is not run in real time, posts can be made at any time of the day.
<b>Weighting</b>	30%
<b>Length</b>	Not expected to exceed 2000 words in total
<b>Due Date</b>	The posts in each Discussion Forum are to be completed before 11:59 pm on Thursday (28th March, Week 9)
<b>Submission Method</b>	Online Posts will be made on Discussion Forums, set up for the different groups of students, on the course Canvas site
<b>Assessment Criteria</b>	You will be assessed on your ability to respond to the initial discussion prompt, and to respond and build upon the posts made by others in the group, by your synthesis of appropriate, evidence-based and detailed opinions with the clear intent of advancing understanding of the topic. The quality of the writing and timeliness of first posts and subsequent responses are also recognised. The marking rubric is available on Canvas.
<b>Return Method</b>	Online
<b>Feedback Provided</b>	Online - No more than three (3) weeks after the submission date. Marks will be provided on the marking rubric, and with comments where appropriate

# ADDITIONAL INFORMATION

## Grading Scheme

This course is graded as follows:

Range of Marks	Grade	Description
85-100	High Distinction (HD)	Outstanding standard indicating comprehensive knowledge and understanding of the relevant materials; demonstration of an outstanding level of academic achievement; mastery of skills*; and achievement of all assessment objectives.
75-84	Distinction (D)	Excellent standard indicating a very high level of knowledge and understanding of the relevant materials; demonstration of a very high level of academic ability; sound development of skills*; and achievement of all assessment objectives.
65-74	Credit (C)	Good standard indicating a high level of knowledge and understanding of the relevant materials; demonstration of a high level of academic achievement; reasonable development of skills*; and achievement of all learning outcomes.
50-64	Pass (P)	Satisfactory standard indicating an adequate knowledge and understanding of the relevant materials; demonstration of an adequate level of academic achievement; satisfactory development of skills*; and achievement of all learning outcomes.
0-49	Fail (FF)	Failure to satisfactorily achieve learning outcomes. If all compulsory course components are not completed the mark will be zero. A fail grade may also be awarded following disciplinary action.

\*Skills are those identified for the purposes of assessment task(s).

### Communication Methods

Communication methods used in this course include:  
Weekly announcements, discussion boards and email.

### Course Evaluation

Each year feedback is sought from students and other stakeholders about the courses offered in the University for the purposes of identifying areas of excellence and potential improvement.

### Oral Interviews (Vivas)

As part of the evaluation process of any assessment item in this course an oral examination (viva) may be conducted. The purpose of the oral examination is to verify the authorship of the material submitted in response to the assessment task. The oral examination will be conducted in accordance with the principles set out in the [Oral Examination \(viva\) Procedure](#). In cases where the oral examination reveals the assessment item may not be the student's own work the case will be dealt with under the [Student Conduct Rule](#).

### Academic Misconduct

All students are required to meet the academic integrity standards of the University. These standards reinforce the importance of integrity and honesty in an academic environment. Academic Integrity policies apply to all students of the University in all modes of study and in all locations. For the Student Academic Integrity Policy, refer to <https://policies.newcastle.edu.au/document/view-current.php?id=35>.

### Adverse Circumstances

The University acknowledges the right of students to seek consideration for the impact of allowable adverse circumstances that may affect their performance in assessment item(s). Applications for special consideration due to adverse circumstances will be made using the online Adverse Circumstances system where:

1. the assessment item is a major assessment item; or
2. the assessment item is a minor assessment item and the Course Co-ordinator has specified in the Course Outline that students may apply the online Adverse Circumstances system;
3. you are requesting a change of placement; or
4. the course has a compulsory attendance requirement.

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Before applying you must refer to the Adverse Circumstance Affecting Assessment Items Procedure available at:

<https://policies.newcastle.edu.au/document/view-current.php?id=236>

**Important Policy  
Information**

The Help button in the Canvas Navigation menu contains helpful information for using the Learning Management System. Students should familiarise themselves with the policies and procedures at

<https://www.newcastle.edu.au/current-students/respect-at-uni/policies-and-procedures> that support a safe and respectful environment at the University.

*This course outline was approved by the Head of School. No alteration of this course outline is permitted without Head of School approval. If a change is approved, students will be notified and an amended course outline will be provided in the same manner as the original.*

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