



EVST13014 *Freshwater and Marine Systems*

Term 1 - 2017

Profile information current as at 01/05/2024 02:55 pm

All details in this unit profile for EVST13014 have been officially approved by CQUniversity and represent a learning partnership between the University and you (our student). The information will not be changed unless absolutely necessary and any change will be clearly indicated by an approved correction included in the profile.

General Information

Overview

This unit builds on Botany of Aquatic Environments and Invertebrate Zoology and focuses on aquatic ecology with an emphasis on freshwater systems. You will develop an understanding of Australian freshwater systems and their community and ecosystem dynamics. You will consider the management of freshwater systems and you will develop the skills needed for studying these systems through field and laboratory work.

Details

Career Level: *Undergraduate*

Unit Level: *Level 3*

Credit Points: 6

Student Contribution Band: 8

Fraction of Full-Time Student Load: 0.125

Pre-requisites or Co-requisites

Pre-requisites: BOTN12010 or ZOOL12009

Important note: Students enrolled in a subsequent unit who failed their pre-requisite unit, should drop the subsequent unit before the census date or within 10 working days of Fail grade notification. Students who do not drop the unit in this timeframe cannot later drop the unit without academic and financial liability. See details in the [Assessment Policy and Procedure \(Higher Education Coursework\)](#).

Offerings For Term 1 - 2017

- Distance
- Rockhampton

Attendance Requirements

All on-campus students are expected to attend scheduled classes - in some units, these classes are identified as a mandatory (pass/fail) component and attendance is compulsory. International students, on a student visa, must maintain a full time study load and meet both attendance and academic progress requirements in each study period (satisfactory attendance for International students is defined as maintaining at least an 80% attendance record).

Residential Schools

This unit has a Compulsory Residential School for distance mode students and the details are:

Click here to see your [Residential School Timetable](#).

Website

[This unit has a website, within the Moodle system, which is available two weeks before the start of term. It is important that you visit your Moodle site throughout the term. Please visit Moodle for more information.](#)

Class and Assessment Overview

Recommended Student Time Commitment

Each 6-credit Undergraduate unit at CQUniversity requires an overall time commitment of an average of 12.5 hours of study per week, making a total of 150 hours for the unit.

Class Timetable

[Regional Campuses](#)

Bundaberg, Cairns, Emerald, Gladstone, Mackay, Rockhampton, Townsville

[Metropolitan Campuses](#)

Adelaide, Brisbane, Melbourne, Perth, Sydney

Assessment Overview

1. **Written Assessment**

Weighting: 20%

2. **In-class Test(s)**

Weighting: 10%

3. **Presentation**

Weighting: 10%

4. **Examination**

Weighting: 60%

Assessment Grading

This is a graded unit: your overall grade will be calculated from the marks or grades for each assessment task, based on the relative weightings shown in the table above. You must obtain an overall mark for the unit of at least 50%, or an overall grade of 'pass' in order to pass the unit. If any 'pass/fail' tasks are shown in the table above they must also be completed successfully ('pass' grade). You must also meet any minimum mark requirements specified for a particular assessment task, as detailed in the 'assessment task' section (note that in some instances, the minimum mark for a task may be greater than 50%). Consult the [University's Grades and Results Policy](#) for more details of interim results and final grades.

CQUniversity Policies

All University policies are available on the [CQUniversity Policy site](#).

You may wish to view these policies:

- Grades and Results Policy
- Assessment Policy and Procedure (Higher Education Coursework)
- Review of Grade Procedure
- Student Academic Integrity Policy and Procedure
- Monitoring Academic Progress (MAP) Policy and Procedure – Domestic Students
- Monitoring Academic Progress (MAP) Policy and Procedure – International Students
- Student Refund and Credit Balance Policy and Procedure
- Student Feedback – Compliments and Complaints Policy and Procedure
- Information and Communications Technology Acceptable Use Policy and Procedure

This list is not an exhaustive list of all University policies. The full list of University policies are available on the [CQUniversity Policy site](#).

Previous Student Feedback

Feedback, Recommendations and Responses

Every unit is reviewed for enhancement each year. At the most recent review, the following staff and student feedback items were identified and recommendations were made.

Feedback from Course Evaluation on Moodle

Feedback

The students were generally very happy with the course as evidenced by the 4.9 out of 5 for overall satisfaction and 82% response rate. Some student comments: "everything about this course was great", "I really enjoyed the practical component - I could see the applicability to a future career", "Leo is also very good at explaining things - especially chemistry!" There was a suggestion to have a Blackboard collaborate session for exam revision and for more copies of the new textbook in the library.

Recommendation

Consider having a Blackboard collaborate session on exam review. Contact library for them to get more copies of the textbook.

Action

Exam review video was made available to students in Moodle.

Unit Learning Outcomes

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

1. Describe the classification and features of aquatic habitats (including streams, lakes, estuaries and oceans).
2. Explain stratification and mixing processes and how they impact on the chemical composition of waters including nutrient cycles and gases.
3. Discuss the ecology of the major components of aquatic biota, the relationships between them and the management of freshwater systems.
4. Use standard methods to sample abiotic and biotic components of aquatic systems, analyse the data obtained, and interpret and communicate the results.

Alignment of Learning Outcomes, Assessment and Graduate Attributes



Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes			
	1	2	3	4
1 - Written Assessment - 20%	•	•	•	•
2 - In-class Test(s) - 10%	•			•
3 - Presentation - 10%	•	•	•	
4 - Examination - 60%	•	•	•	•

Alignment of Graduate Attributes to Learning Outcomes

Textbooks and Resources

Textbooks

EVST13014

Prescribed

Australian Freshwater Ecology: Processes and Management

Edition: 2nd (2014)

Authors: Boulton, A.J., Brock, M.A., Robson, B.J., Ryder, D.S., Chambers, J.M. and Davis, J.A.

Wiley Blackwell

Chichester, West Sussex, UK

ISBN: ISBN: 978-1-118-56822-4

Binding: Paperback

[View textbooks at the CQUniversity Bookshop](#)

IT Resources

You will need access to the following IT resources:

- CQUniversity Student Email
- Internet
- Unit Website (Moodle)

Referencing Style

All submissions for this unit must use the referencing style: [Harvard \(author-date\)](#)

For further information, see the Assessment Tasks.

Teaching Contacts

Leo Duivenvoorden Unit Coordinator

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Schedule

Week 1 - 06 Mar 2017

Module/Topic	Chapter	Events and Submissions/Topic
Study Guide Topics 1 and 2 Introduction and light	Boulton et al. 2014 pp. 13-15, 27-36, 97-99 and scan/overview of Chapters 9, 10 and 11 for issues Boulton et al. 2014 pp. 21-30	

Week 2 - 13 Mar 2017

Module/Topic	Chapter	Events and Submissions/Topic
Study Guide Topics 2 Stratification and dissolved and suspended solids and start of Topic 3 Gases and nutrients	Boulton et al. 2014 pp.21-30 Boulton et al. 2014 pp. 45-52	

Week 3 - 20 Mar 2017

Module/Topic	Chapter	Events and Submissions/Topic
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Study Guide Topic 3 Gases and nutrients and Topic 4 Nutrients, microbiology and algae

Boulton et al. 2014 pp. 37-40, 41-44, Figure 3.16
 Boulton et al. 2014 pp. 50-51, 53-55, 55-58, 58-60
 Boulton et al. 2014 pp. 80-81, 154-157, 271, 71-73, 76, 146, 255-256

Week 4 - 27 Mar 2017

Module/Topic	Chapter	Events and Submissions/Topic
Study Guide Topic 5 Aquatic macrophytes	Boulton et al. 2014 pp. 74-77, 144-146, 39, 44, 54, 65, 75, 77-78, 84-85, 129, 159-160, 253-258, 283, 293-295	Residential School Thurs 30 March to Sun 2 April The in-class test will be held towards the end of the residential school. Presentation Due: Week 4 Monday (27 Mar 2017) 11:45 pm AEST

Week 5 - 03 Apr 2017

Module/Topic	Chapter	Events and Submissions/Topic
Study Guide Topics 6 and 7 Eutrophication and Freshwater macroscopic benthic animals	Boulton et al. 2014 pp. 253-258, 283, 293-295 Boulton et al. 2014 pp. 81-84, 146-150, 154-158 Boulton et al. 2014 pp. 160-162, 164-168	

Vacation Week - 10 Apr 2017

Module/Topic	Chapter	Events and Submissions/Topic
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Week 6 - 17 Apr 2017

Module/Topic	Chapter	Events and Submissions/Topic
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Week 7 - 24 Apr 2017

Module/Topic	Chapter	Events and Submissions/Topic
Study Guide Topic 7 Freshwater macroscopic benthic animals Study Guide Topic 8 Biotic Indices and monitoring programmes	Boulton et al. 2014 pp. 160-162, 164-168 Boulton et al. 2014 pp. 275-277	

Week 8 - 01 May 2017

Module/Topic	Chapter	Events and Submissions/Topic
Study Guide Topic 9 Zooplankton	Boulton et al. 2014 pp. 82, 86-88 and 147-148	Scientific paper on field trip Due: Week 8 Monday (1 May 2017) 11:45 pm AEST

Week 9 - 08 May 2017

Module/Topic	Chapter	Events and Submissions/Topic
Study Guide Topics 10 and 11 Nekton and basic ecotoxicology	Boulton et al. 2014 pp. 40 (Box 3.1), 64-66, Figure 4.2, 150-151, 152-154, 157, 167, 224, 226-227, 269-273	

Week 10 - 15 May 2017

Module/Topic	Chapter	Events and Submissions/Topic
Study Guide Topic 12 Acid mine drainage and trace metals	Reading 2-13, 2-16, 2-17 Resource materials	

Week 11 - 22 May 2017

Module/Topic	Chapter	Events and Submissions/Topic
Study Guide Topic 13 Pesticides	Boulton et al. 2014 pp. 269-273	

Week 12 - 29 May 2017

Module/Topic	Chapter	Events and Submissions/Topic
Study Guide Topics 14 and 15 Ecosystem dynamics and freshwater management	Boulton et al. 2014 pp. 66-70, 80, 86-88, 142, Figure 4-13, Box 4.4 Boulton et al. 2014 pp. 200, 221-226, Chapter 11	

Review/Exam Week - 05 Jun 2017

Module/Topic	Chapter	Events and Submissions/Topic
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Exam Week - 12 Jun 2017

Module/Topic	Chapter	Events and Submissions/Topic
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Assessment Tasks

1 Scientific paper on field trip

Assessment Type

Written Assessment

Task Description

This assessment item will be a report of the field trip carried out during residential school in the form of a scientific paper (maximum 2000 words). Details of what is required will be available on the Moodle site.

Assessment Due Date

Week 8 Monday (1 May 2017) 11:45 pm AEST

Return Date to Students

Monday (15 May 2017)

Weighting

20%

Minimum mark or grade

30%

Assessment Criteria

The assessment criteria include:

- Ability to write concisely and clearly
- Presentation of logical arguments supported by evidence
- Correct use of terminology
- Appropriate data presentation and analysis
- Correct referencing of material including tables, figures and literature
- Ability to link together information from all of the physical, chemical and biological parameters to accurately describe the functioning of the aquatic system

Please note that penalties will apply for essays that do not meet the required word limit (within 10% over and 10% under the limit). The word limit includes words in tables but not those in the reference list. This penalty will be 5% for every 100 words outside this range. Late assignments will lose marks as per the university policy - 5% per calendar day late.

Referencing Style

- [Harvard \(author-date\)](#)

Submission

Online

Submission Instructions

Assignments must be submitted as either *.doc or *.docx or *.rtf files via Moodle

Learning Outcomes Assessed

- Describe the classification and features of aquatic habitats (including streams, lakes, estuaries and oceans).
- Explain stratification and mixing processes and how they impact on the chemical composition of waters including nutrient cycles and gases.
- Discuss the ecology of the major components of aquatic biota, the relationships between them and the management of freshwater systems.
- Use standard methods to sample abiotic and biotic components of aquatic systems, analyse the data obtained, and interpret and communicate the results.

Graduate Attributes

- Communication
- Problem Solving
- Critical Thinking
- Information Literacy
- Team Work

2 In-class Test

Assessment Type

In-class Test(s)

Task Description

This short (approximately 20 minute) test will assess your knowledge of information presented in topics 1 to 3 - Chapter 1 of the study guide (Aquatic habitats and abiotic features of aquatic systems) and Chapter 2 Topic 4 (Microbiology and algae). The test will consist of two or three short answer questions with answers to be written on the single A4 page provided at the time of the test.

Assessment Due Date

The in-class test will be held towards the end of the residential school.

Return Date to Students

Week 6 Tuesday (18 Apr 2017)

Weighting

10%

Minimum mark or grade

30%

Assessment Criteria

Assessment criteria will include accuracy and completeness of answers to questions.

Referencing Style

- [Harvard \(author-date\)](#)

Submission

Offline

Submission Instructions

Students must submit a hard copy at the residential school

Learning Outcomes Assessed

- Describe the classification and features of aquatic habitats (including streams, lakes, estuaries and oceans).
- Use standard methods to sample abiotic and biotic components of aquatic systems, analyse the data obtained, and interpret and communicate the results.

Graduate Attributes

- Communication
- Problem Solving
- Critical Thinking
- Information Literacy

3 Presentation

Assessment Type

Presentation

Task Description

Prepare and present a 10 minute Powerpoint presentation on a topic of your own choice in the area of aquatic pollution or management of aquatic resources.

To avoid more than one student doing the same topic, nominate the title of your presentation on the discussion forum on Moodle for approval by the start of week 3.

Presentations are to be submitted electronically via Moodle by the Monday prior to the residential school.

You will be required to deliver the presentation towards the end of the residential school.

Assessment Due Date

Week 4 Monday (27 Mar 2017) 11:45 pm AEST

Powerpoint slides only

Return Date to Students

Monday (24 Apr 2017)

Weighting

10%

Minimum mark or grade

30%

Assessment Criteria

Your presentation will be assessed on :

- Accuracy and relevance of information
- Clarity and conciseness of presentation slides and delivery
- Adherence to time limit

In assessing your Powerpoint presentation, I will be looking for evidence of your knowledge of the biology and ecology of the pollution/management problem and for your ability to present information clearly and concisely. Students who take less than ten (10) minutes and more than 11 minutes to present their talk may be penalised. The key to successful presentations is adequate preparation. Please contact me if you need further information or advice in this area. It is recommended that you choose your topic early in the term and you must then put the title on the course Moodle discussion forum to ensure there is not too much overlap between students in the topics that will be presented. I will check the forum to ensure there is no overlap between seminar topics. So the earlier you put your topic on the discussion forum, the greater your chance that you can get that topic!

Referencing Style

- [Harvard \(author-date\)](#)

Submission

Offline Online

Submission Instructions

Please submit your presentation in Powerpoint form (*.pptx) via Moodle. Presentations will be delivered on the last day of residential school.

Learning Outcomes Assessed

- Describe the classification and features of aquatic habitats (including streams, lakes, estuaries and oceans).
- Explain stratification and mixing processes and how they impact on the chemical composition of waters including nutrient cycles and gases.
- Discuss the ecology of the major components of aquatic biota, the relationships between them and the management of freshwater systems.

Graduate Attributes

- Communication
- Critical Thinking
- Information Literacy
- Information Technology Competence
- Cross Cultural Competence

Examination

Outline

Complete an invigilated examination.

Date

During the examination period at a CQUniversity examination centre.

Weighting

60%

Length

120 minutes

Minimum mark or grade

45%

Exam Conditions

Closed Book.

Materials

Calculator - non-programmable, no text retrieval, silent only

Dictionary - non-electronic, concise, direct translation only (dictionary must not contain any notes or comments).

Academic Integrity Statement

As a CQUniversity student you are expected to act honestly in all aspects of your academic work.

Any assessable work undertaken or submitted for review or assessment must be your own work. Assessable work is any type of work you do to meet the assessment requirements in the unit, including draft work submitted for review and feedback and final work to be assessed.

When you use the ideas, words or data of others in your assessment, you must thoroughly and clearly acknowledge the source of this information by using the correct referencing style for your unit. Using others' work without proper acknowledgement may be considered a form of intellectual dishonesty.

Participating honestly, respectfully, responsibly, and fairly in your university study ensures the CQUniversity qualification you earn will be valued as a true indication of your individual academic achievement and will continue to receive the respect and recognition it deserves.

As a student, you are responsible for reading and following CQUniversity's policies, including the [Student Academic Integrity Policy and Procedure](#). This policy sets out CQUniversity's expectations of you to act with integrity, examples of academic integrity breaches to avoid, the processes used to address alleged breaches of academic integrity, and potential penalties.

What is a breach of academic integrity?

A breach of academic integrity includes but is not limited to plagiarism, self-plagiarism, collusion, cheating, contract cheating, and academic misconduct. The Student Academic Integrity Policy and Procedure defines what these terms mean and gives examples.

Why is academic integrity important?

A breach of academic integrity may result in one or more penalties, including suspension or even expulsion from the University. It can also have negative implications for student visas and future enrolment at CQUniversity or elsewhere. Students who engage in contract cheating also risk being blackmailed by contract cheating services.

Where can I get assistance?

For academic advice and guidance, the [Academic Learning Centre \(ALC\)](#) can support you in becoming confident in completing assessments with integrity and of high standard.

What can you do to act with integrity?



Be Honest

If your assessment task is done by someone else, it would be dishonest of you to claim it as your own



Seek Help

If you are not sure about how to cite or reference in essays, reports etc, then seek help from your lecturer, the library or the Academic Learning Centre (ALC)



Produce Original Work

Originality comes from your ability to read widely, think critically, and apply your gained knowledge to address a question or problem