



EVST19023 Water Resource Management

Term 1 - 2021

Profile information current as at 03/05/2024 12:15 am

All details in this unit profile for EVST19023 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

On completion of this unit, you will have an understanding of the basic relationships between catchment health, water quality and ecosystem health in receiving waters. You should be able to explain the major threats to water quality and the ways to monitor and manage those threats through the monitoring of physical, chemical and biological parameters and through the preparation of water quality assessment plans. You must attend a compulsory residential school or on-campus laboratory classes in order to achieve the learning outcomes.

Details

Career Level: *Undergraduate*

Unit Level: *Level 2*

Credit Points: 6

Student Contribution Band: 8

Fraction of Full-Time Student Load: 0.125

Pre-requisites or Co-requisites

Prerequisites: ENVR11012 Applications of Environmental Science or CHEM11041 Chemistry for the Life Sciences or CHEM11043 Atoms, Molecules and Matter or ENVR11014 Environmental Monitoring.

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 - 2021

- Mixed Mode

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. **Practical and Written Assessment**

Weighting: 30%

2. **Practical Assessment**

Weighting: Pass/Fail

3. **Written Assessment**

Weighting: 35%

4. **Online Test**

Weighting: 35%

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 Moodle unit evaluation and in class feedback at the Residential School.

Feedback

The timing of the water monitoring plan, which is the first assessment item, was discussed with all students. Whilst the initial course evaluation from one student suggested moving this to the end of the term, this topic was raised and discussed by the entire class at the residential school. The class consensus was that the assessment timing was very well distributed leaving time for the remaining assessment items, residential school and examination study.

Recommendation

The Residential School has been moved to earlier in the term allowing for the first assignment to be due later in the term.

Feedback from Class feedback at Residential School

Feedback

The end of term online examination was difficult in terms that it was not material that could be directly copied and required the analysis of problems. It did make sense as being completely relevant to the unit and unit outcomes.

Recommendation

Retain the types of questions used in the end of term online examination.

Feedback from Class feedback at Residential School.

Feedback

The four hours was needed in order to type responses in the end of term online examination rather than write them in a three hour written examination. The number of questions should be reduced so that the end of term online examination takes three hours in line with other courses.

Recommendation

Reduce the number of questions so that the end of term online examination should be fully completed online in three hours.

Feedback from Class feedback at Residential School

Feedback

Having the end of term online examination open for the week allows shift workers in industry to complete the assessment on their days off.

Recommendation

Keep online end of term online examination available for a week so that workers on intensive shifts in industry are not disadvantaged.

Unit Learning Outcomes

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

1. Describe the basic relationships between catchment health, water quality and end of catchment health
2. Describe the major threats to instream and coastal water quality and the effects of land based pollutants on ecosystem health
3. Explain the important physico-chemical and biological indicators of water quality and their application
4. Discuss different management strategies to reduce diffuse and point source pollutants
5. Apply appropriate standards and national guidelines, interpret data and results when designing a water quality assessment plan
6. Work with others to assess water quality and ecosystem health in aquatic systems.

Alignment of Learning Outcomes, Assessment and Graduate Attributes

 N/A Level	 Introductory Level	 Intermediate Level	 Graduate Level	 Professional Level	 Advanced Level
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Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes					
	1	2	3	4	5	6
1 - Written Assessment - 35%			•	•	•	•
2 - Practical and Written Assessment - 30%	•	•	•	•	•	
3 - Practical Assessment - 0%						•
4 - Online Test - 35%	•	•	•	•		

Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes					
	1	2	3	4	5	6
1 - Communication	•	•	•	•	•	
2 - Problem Solving		•	•	•	•	•
3 - Critical Thinking		•	•	•	•	•
4 - Information Literacy	•	•	•	•	•	•
5 - Team Work						•
6 - Information Technology Competence	•	•	•	•	•	•
7 - Cross Cultural Competence		•		•		
8 - Ethical practice				•	•	
9 - Social Innovation						
10 - Aboriginal and Torres Strait Islander Cultures						

Alignment of Assessment Tasks to Graduate Attributes

Assessment Tasks	Graduate Attributes									
	1	2	3	4	5	6	7	8	9	10
1 - Written Assessment - 35%	•	•	•	•	•	•				
2 - Practical and Written Assessment - 30%	•	•	•	•		•		•		

Assessment Tasks	Graduate Attributes									
	1	2	3	4	5	6	7	8	9	10
3 - Practical Assessment - 0%					•	•				
4 - Online Test - 35%	•	•	•	•		•				

Textbooks and Resources

Textbooks

There are no required textbooks.

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

Larelle Fabbro Unit Coordinator
l.fabbro@cqu.edu.au

Schedule

Week 1 - 08 Mar 2021

Module/Topic	Chapter	Events and Submissions/Topic
Week 1. Study Guide. Water as a Resource		

Week 2 - 15 Mar 2021

Module/Topic	Chapter	Events and Submissions/Topic
Week 2. Study Guide. Physical and chemical properties of water.		

Week 3 - 22 Mar 2021

Module/Topic	Chapter	Events and Submissions/Topic
Week 3. Study Guide. Water pollutants and their sources.		

Week 4 - 29 Mar 2021

Module/Topic	Chapter	Events and Submissions/Topic
Week 4. Study Guide. Microbiology of water.		

Week 5 - 05 Apr 2021

Module/Topic	Chapter	Events and Submissions/Topic
Week 5. Study Guide. Water treatment.		RESIDENTIAL SCHOOL Competency Assessment at Residential School

Vacation Week - 12 Apr 2021

Module/Topic	Chapter	Events and Submissions/Topic
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Week 6 - 19 Apr 2021

Module/Topic	Chapter	Events and Submissions/Topic
Week 6. Study Guide. Wastewater treatment.		

Week 7 - 26 Apr 2021

Module/Topic	Chapter	Events and Submissions/Topic
Week 7. Study Guide. Project design, monitoring, quality assurance and reporting.		

Week 8 - 03 May 2021

Module/Topic	Chapter	Events and Submissions/Topic
Week 8. Study Guide. Water quality standards, quality assurance and quality control.		Residential School Report Due: Week 8 Monday (3 May 2021) 11:45 pm AEST

Week 9 - 10 May 2021

Module/Topic	Chapter	Events and Submissions/Topic
Week 9. Study Guide. Integrated habitat assessment.		

Week 10 - 17 May 2021

Module/Topic	Chapter	Events and Submissions/Topic
Week 10. Study Guide. Management of water resources.		Water Management Plan Due: Week 10 Monday (17 May 2021) 11:45 pm AEST

Week 11 - 24 May 2021

Module/Topic	Chapter	Events and Submissions/Topic
Week 11. Study Guide. Catchment management.		

Week 12 - 31 May 2021

Module/Topic	Chapter	Events and Submissions/Topic
Examination Review		

Review/Exam Week - 07 Jun 2021

Module/Topic	Chapter	Events and Submissions/Topic
		The date for the End of Term Online Assessment will be announced in Term 1. This assessment will be scheduled within the Examination block.

Exam Week - 14 Jun 2021

Module/Topic	Chapter	Events and Submissions/Topic
		The date for the End of Term Online Assessment will be announced in Term 1. This assessment will be scheduled within the Examination block.

Assessment Tasks

1 Residential School Report

Assessment Type

Practical and Written Assessment

Task Description

There will be a practical and written component to this assessment. You will be required to complete a report sheet based on the residential school activities.

Written Report (30 %)

A template with the information required and the questions that need to be answered will be provided on the Moodle site.

Assessment Due Date

Week 8 Monday (3 May 2021) 11:45 pm AEST

Return Date to Students

Week 10 Monday (17 May 2021)

Weighting

30%

Minimum mark or grade

50 %

Assessment Criteria

The ability to perform laboratory and field tasks in addition to correctly answering questions on these is the basis of completing the Residential School Report..

The report will be assessed on the completeness and correctness of the answers.

Referencing Style

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

Submission

Online

Submission Instructions

Students will be required to perform the practical exercises during the residential school and will need to upload an electronic copy of the report sheet as a Word document as well as any additional Excel files into Moodle.

Learning Outcomes Assessed

- Describe the basic relationships between catchment health, water quality and end of catchment health
- Describe the major threats to instream and coastal water quality and the effects of land based pollutants on ecosystem health
- Explain the important physico-chemical and biological indicators of water quality and their application
- Discuss different management strategies to reduce diffuse and point source pollutants
- Apply appropriate standards and national guidelines, interpret data and results when designing a water quality assessment plan

Graduate Attributes

- Communication
- Problem Solving
- Critical Thinking
- Information Literacy
- Information Technology Competence
- Ethical practice

2 Competency Assessment

Assessment Type

Practical Assessment

Task Description

You are required to collect field samples according to protocols and correctly complete a Chain of Custody Form that would be required in order to legally send these samples to a laboratory for further analysis. This task is completed at

the compulsory Residential School.

Assessment Due Date

Completed during Residential School.

Return Date to Students

Returned to students during Residential School.

Weighting

Pass/Fail

Assessment Criteria

You will be assessed on the use of correct sampling protocols, completeness, correct reference to samples collected and readability of the Chain of Custody Form completed at the Residential School. This is a Pass/Fail Task.

Referencing Style

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

Submission

No submission method provided.

Learning Outcomes Assessed

- Work with others to assess water quality and ecosystem health in aquatic systems.

Graduate Attributes

- Team Work
- Information Technology Competence

3 Water Management Plan

Assessment Type

Written Assessment

Task Description

Design a monitoring plan for the waterway that is described in detail on the Moodle site. Identify the environmental stressors present in the system and discuss the field parameters and laboratory analyses that are relevant to them. Mention any health and safety issues that may be associated with the specific waterway. Complete the risk assessment that would also accompany this plan.

Assessment Due Date

Week 10 Monday (17 May 2021) 11:45 pm AEST

Return Date to Students

Week 12 Monday (31 May 2021)

Weighting

35%

Minimum mark or grade

50 %

Assessment Criteria

Discussion of the environmental values and water quality issues (35%)
Appropriate choice of parameters and analyses and reasons for their selection (40%)
Appropriate safety procedures covered in the Risk Assessment (10%)
Clear writing style in correct English, accurate referencing, appropriate length and format (15%)

Referencing Style

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

Submission

Online

Learning Outcomes Assessed

- Explain the important physico-chemical and biological indicators of water quality and their application
- Discuss different management strategies to reduce diffuse and point source pollutants

- Apply appropriate standards and national guidelines, interpret data and results when designing a water quality assessment plan
- Work with others to assess water quality and ecosystem health in aquatic systems.

Graduate Attributes

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

4 End of Term Online Test

Assessment Type

Online Test

Task Description

The end of term online test will be available within the examination period. The online quiz/test is an assessment for EVST19023 and covers content you have studied within weeks 1 to 12. You will only be allowed 1 attempt at this assessment. There are 7 Questions each worth 15 marks in this ONLINE assessment. The total marks allocated to this assessment item is 105. It contributes 35% of your final grade.

Assessment Due Date

The online test is scheduled during the end of term examination period. The date for this test will be announced in Term 1.

Return Date to Students

Results are returned with final results for the semester.

Weighting

35%

Minimum mark or grade

50 %

Assessment Criteria

The end of term online assessment will be assessed with respect to the completeness and correctness of the answers.

Referencing Style

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

Submission

Online

Learning Outcomes Assessed

- Describe the basic relationships between catchment health, water quality and end of catchment health
- Describe the major threats to instream and coastal water quality and the effects of land based pollutants on ecosystem health
- Explain the important physico-chemical and biological indicators of water quality and their application
- Discuss different management strategies to reduce diffuse and point source pollutants

Graduate Attributes

- Communication
- Problem Solving
- Critical Thinking
- Information Literacy
- Information Technology Competence

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