



# **EVST19023 *Water Resource Management***

## **Term 1 - 2020**

Profile information current as at 26/04/2024 07:59 pm

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.

### Corrections

#### **Unit Profile Correction added on 28-04-20**

The end of term examination has now been changed to an alternate form of assessment. Please see your Moodle site for details of the assessment.

The Residential School for this unit has been postponed and you will need to complete this at a later date. Further details about the residential school will be made available on Moodle in due course.

## 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 lab 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

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 - 2020

- 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. **Written Assessment**

Weighting: 25%

#### 2. **Practical and Written Assessment**

Weighting: 25%

#### 3. **Practical Assessment**

Weighting: Pass/Fail

#### 4. **Examination**

Weighting: 50%

### 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

**Feedback**

The field trip was enjoyed by students. They found it interesting and good mix of topics. Students also appreciated the hands on experience with equipment used in industry.

**Recommendation**

Retain current workplace applicable elements of field trip and hands on experience with equipment for all students.

#### Feedback from Moodle

**Feedback**

The students found the material presented was industry relevant.

**Recommendation**

With each offering, update the unit to align with modern knowledge, techniques and skills required in industry.

#### Feedback from Moodle

**Feedback**

The students found the examination revision sessions helpful.

**Recommendation**

Continue with revision tutorials prior to the examination.

#### Feedback from Moodle

**Feedback**

The students considered that residential school could have been more organised.

**Recommendation**

There is a standard schedule for the residential school and collaboration with local government organizations for various field trips. Whilst every attempt is made to reorganise around adverse weather events, the short time frame of the residential school and the organization required with other authorities does not make for easy modification. Continue with current residential school organization and explain in detail to students why some last minute changes may be required to suit weather conditions and fieldwork.

#### Feedback from Moodle

**Feedback**

The students found the positioning of the water monitoring plan at the beginning of the semester difficult as it included information that had not encountered earlier.

**Recommendation**

The first assignment requires a steep learning curve from students. The recommendation and feedback that the water monitoring plan should be placed at the beginning of the semester should be reconsidered. There was a better feedback response from students in previous years when the water monitoring plan was positioned later in the semester.

## 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



### Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes					
	1	2	3	4	5	6
1 - Written Assessment - 25%			•	•	•	•
2 - Practical and Written Assessment - 25%	•	•	•	•	•	
3 - Practical Assessment - 0%						•
4 - Examination - 50%	•	•	•	•		

### 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 - 25%	•	•	•	•	•	•				

Assessment Tasks	Graduate Attributes									
	1	2	3	4	5	6	7	8	9	10
2 - Practical and Written Assessment - 25%	•	•	•	•		•		•		
3 - Practical Assessment - 0%					•	•				
4 - Examination - 50%	•	•	•	•		•				

## 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](mailto:l.fabbro@cqu.edu.au)

## Schedule

### Week 1 - 09 Mar 2020

#### Module/Topic

#### Chapter

#### Events and Submissions/Topic

Week 1. Study Guide. Water as a resource

### Week 2 - 16 Mar 2020

#### Module/Topic

#### Chapter

#### Events and Submissions/Topic

Week 2. Study Guide. Project design, monitoring, quality assurance and reporting.

### Week 3 - 23 Mar 2020

#### Module/Topic

#### Chapter

#### Events and Submissions/Topic

Week 3. Study Guide. Physical and chemical properties of water.

### Week 4 - 30 Mar 2020

#### Module/Topic

#### Chapter

#### Events and Submissions/Topic

Week 4. Study Guide. Water pollutants and their sources

#### Week 5 - 06 Apr 2020

Module/Topic	Chapter	Events and Submissions/Topic
Week 5. Study Guide. Microbiology of water		

#### Vacation Week - 13 Apr 2020

Module/Topic	Chapter	Events and Submissions/Topic
--------------	---------	------------------------------

#### Week 6 - 20 Apr 2020

Module/Topic	Chapter	Events and Submissions/Topic
Week 6 . Study Guide. Water and wastewater treatment		<b>Water Management Plan</b> Due: Week 6 Tuesday (21 Apr 2020) 11:45 pm AEST

#### Week 7 - 27 Apr 2020

Module/Topic	Chapter	Events and Submissions/Topic
Week 7. Study Guide. Water quality standards, quality assurance and quality control.		

#### Week 8 - 04 May 2020

Module/Topic	Chapter	Events and Submissions/Topic
RESIDENTIAL SCHOOL		

#### Week 9 - 11 May 2020

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

#### Week 10 - 18 May 2020

Module/Topic	Chapter	Events and Submissions/Topic
Week 10. Study Guide. Management of water resources.		

#### Week 11 - 25 May 2020

Module/Topic	Chapter	Events and Submissions/Topic
Week 11. Study Guide. Catchment management.		<b>Practical and Written Assessment based on the Residential School</b> Due: Week 11 Tuesday (26 May 2020) 11:45 pm AEST

#### Week 12 - 01 Jun 2020

Module/Topic	Chapter	Events and Submissions/Topic
Examination Review		

#### Review/Exam Week - 08 Jun 2020

Module/Topic	Chapter	Events and Submissions/Topic
--------------	---------	------------------------------

#### Exam Week - 15 Jun 2020

Module/Topic	Chapter	Events and Submissions/Topic
--------------	---------	------------------------------

## Assessment Tasks

# 1 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.

Maximum 2000 words

## Assessment Due Date

Week 6 Tuesday (21 Apr 2020) 11:45 pm AEST

## Return Date to Students

Week 8 Tuesday (5 May 2020)

## Weighting

25%

## Minimum mark or grade

45%

## Assessment Criteria

Discussion of the environmental values and water quality issues (35%)

Appropriate choice of parameters and analyses (35%)

Appropriate safety procedures (15%)

Clear writing style in correct English, accurate referencing, appropriate length and format (15%)

## Referencing Style

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

## Submission

Online

## Submission Instructions

Submit as .doc or .docx files only

## 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

# 2 Practical and Written Assessment based on the Residential School

## Assessment Type

Practical and Written Assessment

## Task Description

There will be a practical and written component to this assessment.

Practical Exercise (5%)

You are required to calibrate water quality meters and correctly collect water samples. You will be required to answer questions on these activities.

Written Report (20%)



You will be required to complete a report sheet based on the residential school activities. 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 11 Tuesday (26 May 2020) 11:45 pm AEST

**Return Date to Students**

Review/Exam Week Tuesday (9 June 2020)

**Weighting**

25%

**Minimum mark or grade**

45%

**Assessment Criteria**

The practical exercise will be assessed on the ability to perform laboratory and field tasks in addition to correctly answering questions on these.

The report sheet 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 practical exercise 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

### 3 Completion of a Chain of Custody Form for Field Samples

**Assessment Type**

Practical Assessment

**Task Description**

You are required to collect field samples 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 is a competency based pass/fail assessment.

**Assessment Due Date**

This task is assessed at the Residential School.

**Return Date to Students****Weighting**

Pass/Fail

**Assessment Criteria**

You will be assessed on the completeness, correct reference to samples collected and readability of the Chain of Custody Form.

**Referencing Style**

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

**Submission**

Offline

**Submission Instructions**

The completed Chain of Custody Form will be collected and assessed during the Residential School.

**Learning Outcomes Assessed**

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

**Graduate Attributes**

- Team Work
- Information Technology Competence

**Examination****Outline**

Complete an invigilated examination.

**Date**

During the examination period at a CQUniversity examination centre.

**Weighting**

50%

**Length**

180 minutes

**Minimum mark or grade**

45%

**Exam Conditions**

Closed Book.

**Materials**

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