CIVL6101
Water and Wastewater Engineering
Session 2, Special circumstances 2021
School of Engineering

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Macquarie University has taken all reasonable measures to ensure the information in this publication is accurate and up-to-date. However, the information may change or become out-dated as a result of change in University policies, procedures or rules. The University reserves the right to make changes to any information in this publication without notice. Users of this publication are advised to check the website version of this publication [or the relevant faculty or department] before acting on any information in this publication.

Notice
Some on-campus classes have moved online for the first two weeks of Session, before returning to campus in Week 3. If you are studying a unit outside of the primary Session 2 timetable, please contact your teaching staff team for further details.

Some classes/teaching activities cannot be moved online and must be taught on campus. To find out if you are enrolled in one of these classes/teaching activities, you can check to see if your unit is on the list of units with mandatory on-campus classes/teaching activities.

Your Unit Convenor will provide more information via an iLearn announcement when your iLearn unit becomes available.
## General Information

<table>
<thead>
<tr>
<th>Unit convenor and teaching staff</th>
<th>Rouzbeh Abbassi</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><a href="mailto:rouzbeh.abbassi@mq.edu.au">rouzbeh.abbassi@mq.edu.au</a></td>
</tr>
</tbody>
</table>

**Contact via Email**
Room 107, 44 Waterloo Rd
Should be set via email

**Credit points**
10

**Prerequisites**
Admission to MEngEnvSafetyEng

**Corequisites**

**Co-badged status**

**Unit description**
The objective of this unit is to introduce students to principles and processes involved in contaminants removal from drinking water and wastewater. Theory and conceptual design of systems for treating drinking water and municipal wastewater are discussed. Specific topics in water engineering include introduction to water resources, pollution in different types of water bodies, different water treatment processes, design and implementation, and drinking water regulations. Specific topics in wastewater engineering include introduction to wastewater treatment and process analysis, wastewater characteristics, wastewater flowrates and constituent loadings, physical, chemical, biological unit processes, disinfection, and wastewater treatment process selection, design and implementation. As a part of this unit, students will complete various design tasks in team projects for developing engineering solutions in designing water and wastewater treatment facilities.

## Important Academic Dates

Information about important academic dates including deadlines for withdrawing from units are available at [https://students.mq.edu.au/important-dates](https://students.mq.edu.au/important-dates)

## Learning Outcomes

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

- **ULO1**: Use parameters to characterize the constituents of drinking water and municipal wastewater.
- **ULO2**: Explain physical, chemical and biological unit operations in treatment processes.
ULO3: Select and apply appropriate options to design processes for treating drinking water and municipal wastewater based on engineering concepts.

ULO4: Communicate outcomes of analysing and designing different water and wastewater treatment processes in professionally varied ways.

ULO5: Integrate principles of sustainability into the design of water treatment systems (E, A);

General Assessment Information

Grading and passing requirement for unit

In order to pass this unit, a student must obtain a mark of 50 or more for the unit (i.e. obtain a passing grade P/ CR/ D/ HD).

Late submissions

For assignments handed in late, the following penalties apply 0-48hrs: -50%, >48hrs: -100%. Extenuating circumstances will be considered upon lodgement of a formal notice of disruption of studies.

Assessment Tasks

<table>
<thead>
<tr>
<th>Name</th>
<th>Weighting</th>
<th>Hurdle</th>
<th>Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mid-session quiz</td>
<td>20%</td>
<td>No</td>
<td>Week 7</td>
</tr>
<tr>
<td>Project report</td>
<td>40%</td>
<td>No</td>
<td>Week 13</td>
</tr>
<tr>
<td>Final examination</td>
<td>40%</td>
<td>No</td>
<td>Exam Period</td>
</tr>
</tbody>
</table>

Mid-session quiz

Assessment Type 1: Quiz/Test
Indicative Time on Task 2: 15 hours
Due: Week 7
Weighting: 20%

On successful completion you will be able to:

- Use parameters to characterize the constituents of drinking water and municipal wastewater.
- Explain physical, chemical and biological unit operations in treatment processes.
- Select and apply appropriate options to design processes for treating drinking water and municipal wastewater based on engineering concepts.
Project report

Assessment Type 1: Project
Indicative Time on Task 2: 35 hours
Due: Week 13
Weighting: 40%

Water and wastewater projects

On successful completion you will be able to:

- Use parameters to characterize the constituents of drinking water and municipal wastewater.
- Explain physical, chemical and biological unit operations in treatment processes.
- Select and apply appropriate options to design processes for treating drinking water and municipal wastewater based on engineering concepts.
- Communicate outcomes of analysing and designing different water and wastewater treatment processes in professionally varied ways.
- Integrate principles of sustainability into the design of water treatment systems (E, A).

Final examination

Assessment Type 1: Examination
Indicative Time on Task 2: 35 hours
Due: Exam Period
Weighting: 40%

Final examination

On successful completion you will be able to:

- Use parameters to characterize the constituents of drinking water and municipal wastewater.
- Explain physical, chemical and biological unit operations in treatment processes.
- Select and apply appropriate options to design processes for treating drinking water and municipal wastewater based on engineering concepts.
- Integrate principles of sustainability into the design of water treatment systems (E, A).

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 Learning Skills Unit for academic skills support.
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**

Wastewater Engineering: Treatment and Resources Recovery, by Metcalf & Eddy (Fifth Edition)

**Lecture Slides**

**Unit Schedule**

Lectures (Friday, 11 am - 1 pm)

Tutorials (Monday, 10 am - 12 pm)

**Policies and Procedures**

Macquarie University policies and procedures are accessible from Policy Central (https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central). 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
- Grade Appeal Policy
- Complaint Management Procedure for Students and Members of the Public
- **Special Consideration Policy** *(Note: The Special Consideration Policy is effective from 4 December 2017 and replaces the Disruption to Studies Policy.)*

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

If you would like to see all the policies relevant to Learning and Teaching visit Policy Central (https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central).

**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 or if you are a Global MBA student contact globalmba.support@mq.edu.au

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

Learning Skills
Learning Skills (mq.edu.au/learningskills) provides academic writing resources and study strategies to help you improve your marks and take control of your study.

- Getting help with your assignment
- Workshops
- StudyWise
- 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 Enquiry Service
For all student enquiries, visit Student Connect at ask.mq.edu.au

If you are a Global MBA student contact globalmba.support@mq.edu.au

Equity Support
Students with a disability are encouraged to contact the Disability Service who can provide appropriate help with any issues that arise during their studies.

IT Help
For help with University computer systems and technology, visit 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.

Changes from Previous Offering
Not Applicable