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

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Disclaimer
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Session 2 Learning and Teaching Update
The decision has been made to conduct study online for the remainder of Session 2 for all units WITHOUT mandatory on-campus learning activities. Exams for Session 2 will also be online where possible to do so.

This is due to the extension of the lockdown orders and to provide certainty around arrangements for the remainder of Session 2. We hope to return to campus beyond Session 2 as soon as it is safe and appropriate to do so.

Some classes/teaching activities cannot be moved online and must be taught on campus. You should already know if you are in one of these classes/teaching activities and your unit convenor will provide you with more information via iLearn. If you want to confirm, see the list of units with mandatory on-campus classes/teaching activities.

Visit the MQ COVID-19 information page for more detail.

https://unitguides.mq.edu.au/unit_offerings/141384/unit_guide/print
General Information

Unit convenor and teaching staff
Rouzbeh Abbassi
rouzbeh.abbassi@mq.edu.au
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

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%

Mid-session quiz

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);

1 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