

CVEN9856

Water Treatment

Term 3, 2022



Course Overview

Staff Contact Details

Convenors

Name	Email	Availability	Location	Phone
David Waite	d.waite@unsw.edu.au	Consultation by appointment only	Room 114 H22 - Vallentine Annexe	9385 5060
An Ninh Pham	anninh.pham@unsw.edu.au	Consultation by appointment only	Room 108 H22 - Vallentine Annexe	9385 5102

School Contact Information

[Engineering Student Support Services](#) – The Nucleus - enrolment, progression checks, clash requests, course issues or program-related queries

[Engineering Industrial Training](#) – Industrial training questions

[UNSW Study Abroad](#) – study abroad student enquiries (for inbound students)

[UNSW Exchange](#) – student exchange enquiries (for inbound students)

[UNSW Future Students](#) – potential student enquiries e.g. admissions, fees, programs, credit transfer

Phone

(+61 2) 9385 8500 – Nucleus Student Hub

(+61 2) 9385 7661 – Engineering Industrial Training

(+61 2) 9385 3179 – UNSW Study Abroad and UNSW Exchange (for inbound students)

Course Details

Units of Credit 6

Summary of the Course

The course discusses the concepts involved in design of facilities for the treatment of various types of raw water to meet specified water quality including chemical selection, intake and screening, coagulation, flocculation, clarification, filtration, and disinfection unit processes. Advanced treatment processes such as membrane processes, adsorption and ion exchange are also introduced.

Course Aims

To provide a sound understanding of the concepts and design principles in both conventional and developing methods of water treatment

Course Learning Outcomes


1. Identify important water quality parameters and various constituents that affect water quality
2. Analyse the concepts involved in a conventional water treatment plant
3. Apply various advanced treatment methods to produce water of high-quality standards
4. Design major unit treatment processes in a water treatment plant including intake and screening, coagulation, flocculation, clarification, filtration, disinfection, and residuals management
5. Evaluate knowledge and technologies from published literature and disseminate effectively in a written report
6. Develop interpersonal and process management skills in team-work environments.

Teaching Strategies

For each hour of contact it is expected that you will put in at least 1.5 hours of private study.

Assessment

Late work will be penalised at the rate of 5% per day (after the due time and date have expired) and capped at 5 days (120 hours), after which a student cannot submit an assessment, and no permitted variation.

Assessment task	Weight	Due Date	Course Learning Outcomes Assessed
1. Design of a Conventional Water Treatment Plant 	30%	13/11/2022 11:00 PM	1, 2, 3, 4, 5, 6
2. Final Exam	50%	During the exam period	1, 2, 3, 4
3. Quizzes	20%	Each quiz is due at a different date (see course outlines)	1, 2, 3, 4

Assessment 1: Design of a Conventional Water Treatment Plant (Group)

Submission notes: One submission per group

Due date: 13/11/2022 11:00 PM

Deadline for absolute fail: One week after the due date

This is a group work assessment. 30 page long in total (typed, 12-point, 1.5 line spacing).

This assignment is submitted through Turnitin and students can see Turnitin similarity reports.

Assessment 2: Final Exam

Due date: During the exam period

Final exam is a 2 hr, online, open book exam.

Hurdle requirement

A mark of at least 40% in the final examination is required before the class work is included in the final mark.

Assessment 3: Quizzes

Due date: Each quiz is due at a different date (see course outlines)

All quizzes are online assessments. Quiz 1 (5%) is designed to provide an early feedback on student performance prior to the census date. Quiz 2 and quiz 3 are both worth 7.5% each.

Attendance Requirements

Students are strongly encouraged to attend all classes and review lecture recordings.

Submission of Assessment Tasks

Please refer to the Moodle page of the course for further guidance on assessment submission.

UNSW has a standard late submission penalty of:

- 5% per day, for all assessments where a penalty applies, capped at five days (120 hours), after which a student cannot submit an assessment, and no permitted variation.

Academic Honesty and Plagiarism

Beware! An assignment that includes plagiarised material will receive a 0% Fail, and students who plagiarise may fail the course. Students who plagiarise are also liable to disciplinary action, including exclusion from enrolment.

Plagiarism is the use of another person's work or ideas as if they were your own. When it is necessary or desirable to use other people's material you should adequately acknowledge whose words or ideas they are and where you found them (giving the complete reference details, including page number(s)). The Learning Centre provides further information on what constitutes Plagiarism at:

<https://student.unsw.edu.au/plagiarism>

Academic Information

Final Examinations:

Final exams in T3 2022 will be held online between 25th November - 8th December 2022 inclusive, and supplementary exams between 9th - 13th January 2023 inclusive. You are required to be available on these dates. Please do not to make any personal or travel arrangements during this period.

ACADEMIC ADVICE

- Key Staff to Contact for Academic Advice (log in with your zID and password): <https://intranet.civeng.unsw.edu.au/key-staff-to-contact-during-your-studies-at-unsw>
- [Key UNSW Dates](#) - eg. Census Date, exam dates, last day to drop a course without academic/financial liability etc.
- CVEN Student Intranet (log in with your zID and password): <https://intranet.civeng.unsw.edu.au/student-intranet>
- Student Life at CVEN, including Student Societies: <https://www.unsw.edu.au/engineering/civil-and-environmental-engineering/student-life>
- Special Consideration: <https://student.unsw.edu.au/special-consideration>
- General and Program-Specific Questions: [The Nucleus: Student Hub](#)
- Book an Academic Advising session: <https://app.acuityscheduling.com/schedule.php?owner=19024765>

Disclaimer

This course outline sets out description of classes at the date the Course Outline is published. The nature of classes may change during the Term after the Course Outline is published. Moodle should be consulted for the up to date class descriptions. If there is any inconsistency in the description of activities between the University timetable and the Course Outline (as updated in Moodle), the description in the Course Outline/Moodle applies.

Image Credit

Mike Gal.

CRICOS

CRICOS Provider Code: 00098G

Acknowledgement of Country

We acknowledge the Bedegal people who are the traditional custodians of the lands on which UNSW Kensington campus is located.