CIVL2301
Structural Analysis
Session 2, In person-scheduled-weekday, North Ryde 2023
School of Engineering

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General Information

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Credit points
10

Prerequisites
CIVL1001

Corequisites

Co-badged status
Important Academic Dates

Information about important academic dates including deadlines for withdrawing from units are available at https://www.mq.edu.au/study/calendar-of-dates

Learning Outcomes

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

- **ULO1**: Convey a sound knowledge of the theory, concepts, and principles in solid mechanics
- **ULO2**: Analyse reactions, axial forces, bending moments, shear forces, deflection, and stresses in structural elements and systems
- **ULO3**: Perform qualitative and quantitative structural analysis and structural behaviour of different vertical and lateral loads
- **ULO4**: Report the structural analysis process and outcomes to a professional standard in both oral and written forms

General Assessment Information

Student Responsibilities

Be familiar with University policy and College procedures and act in accordance with those policies and procedures.

It is the responsibility of the student to retain a copy of any work submitted. Students must
produce these documents upon request. Copies should be retained until the end of the grade appeal period each term.

The student is to perform the required due diligence for their assessment grade and rectify as soon as possible upon finding any errors.

**Late Assessment Submission Penalty**

From 1 July 2022, Students enrolled in Session-based units with written assessments will have the following university standard late penalty applied. Please see [https://students.mq.edu.au/study/assessment-exams/assessments](https://students.mq.edu.au/study/assessment-exams/assessments) for more information.

Unless a Special Consideration request has been submitted and approved, a **5% penalty (of the total possible mark)** will be applied each day a written assessment is not submitted, up until the 7th day (including weekends). After the 7th day, a grade of ‘0’ will be awarded even if the assessment is submitted. Submission time for all written assessments is set at **11:55 pm**. A 1-hour grace period is provided to students who experience a technical concern.

For any late submission of time-sensitive tasks, such as scheduled tests/exams, performance assessments/presentations, and/or scheduled practical assessments/labs, students need to submit an application for **Special Consideration**.

**Practical Component**

Attendance of practical classes is mandatory before submitting the lab report. Lab reports submitted without attending the practical session will get a grade of ‘0’ even if the assessment is submitted by the due date. A special consideration request must be submitted and approved if any student is unable to attend a practical session to organize alternative arrangements.

**Resubmission option**

Resubmission of any assessment task is not allowed under any circumstances.

**Notifications**

Formal notification of assessment tasks, grading rubrics, and due dates will be posted on iLearn. Although all reasonable measures to ensure the information is accurate, The University reserves the right to make changes without notice. Each student is responsible for checking iLearn for changes and updates.

**Report and Assignment Tasks**

Assignment Problems will be posted on iLearn at least one week before their submission date. Submissions will not be accepted if the solution is posted.

**Assignment submissions and plagiarism policies**

All assignments and reports must be submitted electronically through iLearn (in pdf format), unless advised otherwise. Submissions will undergo plagiarism checkers using the Turnitin software and any work deemed to have a **30%** or higher similarity score may incur an academic penalty. For more details on the policies of academic penalties relating to academic honesty, please refer to the policies and procedures section below.
Submissions are expected to be typed set in a logical layout and sequence. Markers WILL NOT grade poorly organized or illegible scans or drafts. The expected workload includes the preparation of final copies and clear diagrams.

**Grading and passing requirements for unit**

For further details about grading, please refer below to the policies and procedures section.

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).

The unit will be graded according to the Macquarie University Grading policy. The following grades will be used according to the listed numerical range:

<table>
<thead>
<tr>
<th>ASSESSMENT GRADES AND STATUS</th>
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<tbody>
<tr>
<td>GRADE</td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td>HD</td>
</tr>
<tr>
<td>D</td>
</tr>
<tr>
<td>CR</td>
</tr>
<tr>
<td>P</td>
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**Final Examinations**

Final examinations will typically take place at the end of the semester. For further information, please refer to the Examination Timetable website on [www.mq.edu.au](http://www.mq.edu.au)
Assessment Tasks

<table>
<thead>
<tr>
<th>Name</th>
<th>Weighting</th>
<th>Hurdle</th>
<th>Due</th>
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<tbody>
<tr>
<td>Mid session quiz</td>
<td>20%</td>
<td>No</td>
<td>Week 8</td>
</tr>
<tr>
<td>Regular problem sets</td>
<td>20%</td>
<td>No</td>
<td>(1) in-class problems every week, (2) quizzes to be notified</td>
</tr>
<tr>
<td>Practical Report</td>
<td>20%</td>
<td>No</td>
<td>Spread across different weeks</td>
</tr>
<tr>
<td>Final Examination</td>
<td>40%</td>
<td>No</td>
<td>TBC</td>
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**Mid session quiz**
Assessment Type 1: Quiz/Test
Indicative Time on Task 2: 14 hours
Due: **Week 8**
Weighting: **20%**

Mid-session quiz will be run.

On successful completion you will be able to:

- Convey a sound knowledge of the theory, concepts, and principles in solid mechanics
- Analyse reactions, axial forces, bending moments, shear forces, deflection, and stresses in structural elements and systems
- Perform qualitative and quantitative structural analysis and structural behaviour of different vertical and lateral loads

**Regular problem sets**
Assessment Type 1: Problem set
Indicative Time on Task 2: 14 hours
Due: (1) in-class problems every week, (2) quizzes to be notified
Students will be provided with regular questions to complete (minimum of five in total).

On successful completion you will be able to:

- Convey a sound knowledge of the theory, concepts, and principles in solid mechanics
- Analyse reactions, axial forces, bending moments, shear forces, deflection, and stresses in structural elements and systems
- Perform qualitative and quantitative structural analysis and structural behaviour of different vertical and lateral loads

**Practical Report**

Assessment Type 1: Lab report  
Indicative Time on Task 2: 14 hours  
Due: **Spread across different weeks**  
Weighting: 20%

Report on the practical work will need to be submitted.

On successful completion you will be able to:

- Convey a sound knowledge of the theory, concepts, and principles in solid mechanics
- Analyse reactions, axial forces, bending moments, shear forces, deflection, and stresses in structural elements and systems
- Perform qualitative and quantitative structural analysis and structural behaviour of different vertical and lateral loads
- Report the structural analysis process and outcomes to a professional standard in both oral and written forms

**Final Examination**

Assessment Type 1: Examination  
Indicative Time on Task 2: 28 hours  
Due: **TBC**  
Weighting: 40%
The final examination will assess the students' performance on the content delivered throughout the session.

On successful completion you will be able to:

- Convey a sound knowledge of the theory, concepts, and principles in solid mechanics
- Analyse reactions, axial forces, bending moments, shear forces, deflection, and stresses in structural elements and systems
- Perform qualitative and quantitative structural analysis and structural behaviour of different vertical and lateral loads

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 Writing Centre for academic skills support.

2 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

Structural Analysis: Understanding Behavior, Bryant G. Nielson (Wiley Publication)

Limited user, e-version is purchased and is available through the library.

Unit Schedule

As per the iLearn.

Policies and Procedures

Macquarie University policies and procedures are accessible from Policy Central (https://policies.mq.edu.au). 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
- Assessment Procedure
- Complaints Resolution Procedure for Students and Members of the Public
Special Consideration Policy

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

To find other policies relating to Teaching and Learning, visit Policy Central (https://policies.mq.edu.au) and use the search tool.

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

Academic Integrity

At Macquarie, we believe academic integrity – honesty, respect, trust, responsibility, fairness and courage – is at the core of learning, teaching and research. We recognise that meeting the expectations required to complete your assessments can be challenging. So, we offer you a range of resources and services to help you reach your potential, including free online writing and maths support, academic skills development and wellbeing consultations.

Student Support

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

The Writing Centre

The Writing Centre provides resources to develop your English language proficiency, academic writing, and communication skills.

- Workshops
- Chat with a WriteWISE peer writing leader
- Access StudyWISE
- Upload an assignment to Studiosity
- Complete the 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
Student Services and Support

Macquarie University offers a range of Student Support Services including:

- IT Support
- Accessibility and disability support with study
- Mental health support
- Safety support to respond to bullying, harassment, sexual harassment and sexual assault
- Social support including information about finances, tenancy and legal issues
- Student Advocacy provides independent advice on MQ policies, procedures, and processes

Student Enquiries

Got a question? Ask us via AskMQ, or contact Service Connect.

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.