

In Progress

Please note that this Unit Profile is still in progress. The content below is subject to change.



ENEG11006 Engineering Statics

Term 2 - 2024

Profile information current as at 19/05/2024 01:15 am

All details in this unit profile for ENEG11006 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.

General Information

Overview

This unit introduces Newtonian physics concepts governing the behaviour of stationary engineering systems. To determine design parameters, you will study forces applied to two and three-dimensional bodies under the static equilibrium state. You will determine internal forces, calculate support reactions, and develop Free-body, Shear Force and Bending Moments diagrams. You will also calculate sectional properties, including the center of gravity, centroid, and second moment of inertia. Upon completing this unit, you will understand the foundations of engineering statics enabling progress to advanced system/structural analysis and development of sustainable infrastructure

Details

Career Level: *Undergraduate*

Unit Level: *Level 1*

Credit Points: 6

Student Contribution Band: 8

Fraction of Full-Time Student Load: 0.125

Pre-requisites or Co-requisites

There are no requisites for this unit.

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 2 - 2024

- Bundaberg
- Cairns
- Gladstone
- Mackay
- Online
- Rockhampton

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).

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

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 SUTE

Feedback

The provided lectures and tutorials are easy to follow and understandable.

Recommendation

This practice should be continued.

Feedback from SUTE

Feedback

Weekly tutorial answers aren't made available from the first week of the course.

Recommendation

The planned release of tutorial solutions should continue to encourage students to work independently and learn the material but also receive timely guidance.

Feedback from SUTE

Feedback

Learnings resources were clear, and the tutorials offered a solid understanding.

Recommendation

This practice should be continued.

Unit Learning Outcomes

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

1. Analyse two and three-dimensional force systems to determine resultant forces
2. Apply static equilibrium concepts to bodies with external forces and moments, create Free-body diagrams and determine support reactions
3. Analyse statically determinate structures, including beams, frames, and trusses, to calculate internal forces and create Shear-force and Bending-moment diagrams
4. Calculate sectional properties such as center of gravity, centroid, and second moment of Inertia of simple structural forms
5. Demonstrate a professional level of communication skills in written work.

The Learning Outcomes for this unit are linked with the Engineers Australia Stage 1 Competency Standards for Professional Engineers in the areas of 1. Knowledge and Skill Base, 2. Engineering Application Ability and 3. Professional and Personal Attributes at the following levels:

Introductory

- 1.2 Conceptual understanding of the mathematics, numerical analysis, statistics, and computer and information sciences underpin the engineering discipline. (LO: 1N 2N 3N 4N)
- 1.3 In-depth understanding of specialist bodies of knowledge within the engineering discipline. (LO: 2N 3N 4N)
- 2.1 Application of established engineering methods to complex engineering problem-solving. (LO: 2N 3N 4N)

Intermediate

- 1.1 Comprehensive, theory-based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the engineering discipline. (LO: 1N 2N 3I 4N)
- 1.5 Knowledge of engineering design practice and contextual factors impacting the engineering discipline. (LO: 2N 3I)
- 3.2 Effective oral and written communication in professional and lay domains. (LO: 5I)

Note: LO refers to the Learning Outcome number(s) which link to the competency and the levels: N - Introductory, I - Intermediate, and A - Advanced.)

Refer to the Engineering Undergraduate Course Moodle site for further information on Engineers Australia's Stage 1 Competency Standard for Professional Engineers and course-level mapping information)

<https://moodle.cqu.edu.au/course/view.php?id=1511>



Alignment of Learning Outcomes, Assessment and Graduate Attributes



Alignment of Assessment Tasks to Learning Outcomes

| Assessment Tasks | Learning Outcomes | | | | |
|------------------------------|-------------------|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| 1 - Online Quiz(zes) - 20% | • | • | | | |
| 2 - Written Assessment - 20% | • | • | | | • |
| 3 - Written Assessment - 20% | | | • | | • |
| 4 - Online Test - 40% | • | • | • | • | |

Alignment of Graduate Attributes to Learning Outcomes

| Graduate Attributes | Learning Outcomes | | | | |
|---|-------------------|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| 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 | | | | | |

Textbooks and Resources

Information for Textbooks and Resources has not been released yet.

This information will be available on Monday 17 June 2024

Academic Integrity Statement

Information for Academic Integrity Statement has not been released yet.

This unit profile has not yet been finalised.