In Progress

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

EDSE14005 *Design and Manufacturing*

Term 2 - 2024

Profile information current as at 14/05/2024 10:40 pm

All details in this unit profile for EDSE14005 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 engages students with an integrated approach to Science, Technology, Engineering and Maths (STEM). The unit will equip students with the skills, knowledge and experience to deliver interdisciplinary STEM-based projects with an emphasis on computer-aided design (CAD), computational fluid dynamics (CFD) and computer numerical controlled machining. Students will use the engineering design process to research, design and develop a small C02 gas-powered car. This involves learning how to model design ideas using CAD software, virtually testing designs using CFD software, and documenting the project from start to finish to produce a design folio.

Details

Career Level: *Undergraduate*
Unit Level: *Level 4*
Credit Points: *6*
Student Contribution Band: *8*
Fraction of Full-Time Student Load: *0.125*

Pre-requisites or Co-requisites

EDSE12026
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

- Mixed Mode

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).

Residential Schools

This unit has a Compulsory Residential School for distance mode students and the details are:
Click here to see your Residential School Timetable.

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

Useful feedback

Recommendation

Further investigation of the usefulness of feedback to students.

Unit Learning Outcomes

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

1. Apply theories and pedagogies to plan and develop a STEM program based on a suite of design and construction activities
2. Use skills sequences and procedures using CAD/CAM, virtual modelling techniques and appropriate discipline-specific teaching techniques
3. Demonstrate problem-solving, planning, sequencing, implementing and assessing strategies to STEM applications and processes to promote STEM education including the application of innovation
4. Critically analyse and evaluate the design and manufacture of STEM teaching and production processes
5. Devise and use appropriate workplace health and safety and maintenance practices when engaging in design and manufacturing activities.

This unit aligns with the following Australian Professional Standards for Teachers (Graduate Career Stage):
Standard 2: Know the content and how to teach it
2.1 Content and teaching strategies of the teaching area
2.2 Content selection and organisation
Standard 4: Create and maintain supportive and safe learning environments
4.4 Maintain student safety
Standard 7: Engage professionally with colleagues, parents/carers and the community
7.2 Comply with legislative, administrative and organisational requirements

Alignment of Learning Outcomes, Assessment and Graduate Attributes

— N/A Level | • Introductory Level | • Intermediate Level | • Graduate Level | ◦ Professional Level | ◦ Advanced Level

Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes				
	1	2	3	4	5
1 - Online Quiz(zes) - 10%	•	•	•	•	•
2 - Portfolio - 15%	•	•	•	•	•
3 - Written Assessment - 25%	•	•	•	•	•
4 - Practical Assessment - 30%	•	•	•	•	•
5 - Written Assessment - 20%	•	•	•	•	•

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.