



EDSE13002 *Industrial Skills*

Term 1 - 2024

Profile information current as at 10/05/2024 02:42 pm

All details in this unit profile for EDSE13002 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 investigates the nature and functions of available resources, through the application of inquiry, design and problem-solving methodologies for a range of industrial skills. It requires the student to identify and understand a problem or need, select appropriate resources and strategies that may solve the problem, then implement a plan and evaluate the outcome. While participating, students are exposed to a range of intellectual challenges which develop practical skills associated with welding and thermal cutting, safety equipment and safety to current Australian Standards. Welding and Thermal Cutting form the basis of the range of Industrial skills developed over the duration of the unit and involves the design of engineered artefacts, where safety is paramount. Through practical workshops and associated theory, students will apply the knowledge and skills of industrial skills necessary to teach Industrial Technology and Design in the senior years of schooling.

Details

Career Level: *Undergraduate*

Unit Level: *Level 3*

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 1 - 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

1. **Online Quiz(zes)**

Weighting: 20%

2. **Written Assessment**

Weighting: 30%

3. **Practical Assessment**

Weighting: 50%

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

Usefulness of feedback

Recommendation

Continue to enhance the quality of feedback on assessment tasks.

Unit Learning Outcomes

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

1. Demonstrate knowledge and understanding of engineering industry practices
2. Apply the use, development and impact of design concepts and problem solving through the construction of a series of design based activities
3. Plan and develop a series of design based activities for construction which develop practical skills associated with hand and power tools, machinery, safety and equipment
4. Investigate how to plan, sequence, implement and assess design application processes used in the production of projects incorporated in the industrial technology and design teaching area
5. Critically evaluate specific applications of tools and equipment used in the manufacture of products for welding and thermal cutting
6. Apply appropriate workplace health and safety and maintenance practices when using hand and power tools.

Alignment of Learning Outcomes, Assessment and Graduate Attributes



Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes					
	1	2	3	4	5	6
1 - Online Quiz(zes) - 20%	•					
2 - Written Assessment - 30%		•	•	•	•	•
3 - Practical Assessment - 50%		•	•	•	•	•

Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes					
	1	2	3	4	5	6
1 - Communication	•	•	•	•	•	•

Graduate Attributes	Learning Outcomes					
	1	2	3	4	5	6
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						

Alignment of Assessment Tasks to Graduate Attributes

[illegible]

Textbooks and Resources

Textbooks

EDSE13002

Prescribed

Engineering: An Industry Study

Edition: 5th (2010)

Authors: Baker, S & Schlyder, D

PCS Publications

Toowoomba, Queensland, Australia

ISBN: 978-1-876135-84-3

Binding: Paperback

EDSE13002

Prescribed

How To Weld

Edition: 1st (2008)

Authors: Todd Bridigum

Quarto Publishing Group USA Inc

Minneapolis, MN 55401, Minnesota, USA

ISBN: 978-0-7603-3174-3

Binding: Paperback

Additional Textbook Information

If students are unable to source book through CQU Book shop they can order the textbook from here:

<https://www.machines4u.com.au/view/advert/L3456-How-to-Weld-Book-208-Colour-Pages-AWS-Certified-Welding-Instructor-Todd-Bridigum-Thoroughly-De/205883/>

[View textbooks at the CQUniversity Bookshop](#)

IT Resources

You will need access to the following IT resources:

- CQUniversity Student Email
- Internet
- Unit Website (Moodle)

Referencing Style

All submissions for this unit must use the referencing style: [American Psychological Association 7th Edition \(APA 7th edition\)](#)

For further information, see the Assessment Tasks.

Teaching Contacts

Brad Connolly Unit Coordinator

b.connolly@cqu.edu.au

Schedule

Week 1 - 04 Mar 2024

Module/Topic	Chapter	Events and Submissions/Topic
Engineering: An Industry Study.	Workplace Health & Safety Principles.	Quiz 1

Week 2 - 11 Mar 2024

Module/Topic	Chapter	Events and Submissions/Topic
Engineering: An Industry Study: Pages 70-83 How to Weld: Pages 56-96	Oxywelding.	Welcome Zoom Session - Wednesday night 7pm. Quiz 2

Week 3 - 18 Mar 2024

Module/Topic	Chapter	Events and Submissions/Topic
Engineering: An Industry Study: Pages 84-93 How to Weld: Pages 107-130	Manual Metal Arc Welding (MMAW) or Shielded Metal Arc Welding (SMAW)	Quiz 3

Week 4 - 25 Mar 2024

Module/Topic	Chapter	Events and Submissions/Topic
Engineering: An Industry Study: Pages 96-110 How to Weld: Pages 131-156	Gas Metal Arc Welding (GMAW)	Quiz 4

Week 5 - 01 Apr 2024

Module/Topic	Chapter	Events and Submissions/Topic
How to Weld: Pages 157-180	Gas Tungsten Arc Welding. (GTAW)	Quiz 5

Vacation Week - 08 Apr 2024

Module/Topic	Chapter	Events and Submissions/Topic
Enjoy your break.		

Week 6 - 15 Apr 2024

Module/Topic	Chapter	Events and Submissions/Topic
How to Weld: Pages 181-191	Oxy Cutting and Plasma Cutting	Quiz 6

Week 7 - 22 Apr 2024

Module/Topic	Chapter	Events and Submissions/Topic
Engineering: An Industry Study: Pages 110-126	Engineering Measurements	Quiz 7

Week 8 - 29 Apr 2024

Module/Topic	Chapter	Events and Submissions/Topic
Engineering: An Industry Study: Pages 90-92 How to Weld: Pages 40-55	Weld joints & types.	Quiz 8

Week 9 - 06 May 2024

Module/Topic	Chapter	Events and Submissions/Topic
Engineering: An Industry Study: Pages 127-190	Mechanical cutting and workshop machines.	Quiz 9

Week 10 - 13 May 2024

Module/Topic	Chapter	Events and Submissions/Topic
Engineering: An Industry Study: Pages 191-208	Power tools & Hand held operations.	Assessment 2 due: 19/05/2024 Quiz 10 All assessment tasks must achieve a minimum of 50% of the grade for each assessment task to receive an overall Pass result.

Week 11 - 20 May 2024

Module/Topic	Chapter	Events and Submissions/Topic
Engineering: An Industry Study How to Weld	Review your readings from the last 10 weeks.	Review your readings from the last 10 weeks.

Week 12 - 27 May 2024

Module/Topic	Chapter	Events and Submissions/Topic
Assessment 1: Quizzes Assessment 3: Compulsory Residential School All assessment tasks must achieve a minimum of 50% of the grade for each assessment task to receive an overall Pass result.		Assessment 1 Quizzes due 23.59pm 02/06/24 Assessment 3: Compulsory Residential School due 27/6/24

Compulsory Residential School - 03 Jun 2024

Module/Topic	Chapter	Events and Submissions/Topic
Compulsory Residential Schools 22/06/24 - 24/07/24 or 25/06/24 - 27/06/24, 8.00am - 5.00pm.	During this week students will be assessed on their knowledge & understanding of processes and procedures as well as their skills. Students will be required to complete a number of school examples aligned to certain year levels. Students will be required to wear steel capped safety boots, long sleeve shirts and long pants.	Compulsory Residential Schools 22/06/24 - 24/07/24 or 25/06/24 - 27/06/24, 8.00am - 5.00pm.

Exam Week - 10 Jun 2024

Module/Topic	Chapter	Events and Submissions/Topic
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Term Specific Information

How to Weld Textbook
Can be purchased here: <https://www.machineryhouse.com.au/l3456>

Assessment Tasks

1 Online Quiz(zes)

Assessment Type

Online Quiz(zes)

Task Description

10 Multi-Choice Quizzes: 20% total marks. Quizzes will be based on weekly readings from the assigned text book. Quizzes will be available on the Moodle website until 23.59pm 2/6/24. Students will be allowed a maximum of 1 hour and two attempts to complete each quiz. The highest scoring attempt will be used for grading. Please note that results from all 10 quizzes contribute to the overall mark of 20%.

All assessment tasks must achieve a minimum of 50% of the grade for each assessment task to receive an overall Pass result.

Number of Quizzes

10

Frequency of Quizzes

Other

Assessment Due Date

02/06/2024

Return Date to Students

Review/Exam Week Monday (3 June 2024)

Weighting

20%

Minimum mark or grade

50% of Quiz assessment grade

Assessment Criteria

Students will be assessed over the duration of the Res School in relation to the following:

- Knowledge and understanding and application of workshop processes
- Ability to work independently with limited assistance

Referencing Style

- [American Psychological Association 7th Edition \(APA 7th edition\)](#)

Submission

Online

Learning Outcomes Assessed

- Demonstrate knowledge and understanding of engineering industry practices

Graduate Attributes

- Communication
- Problem Solving
- Ethical practice

2 Written Assessment

Assessment Type

Written Assessment

Task Description

Students are required to develop a unit plan for the provided Fusion Chair project for an engineering class.

The assignment will consist of a Unit Plan that needs to include:

- a rationale for the project the Year Level in which the project is targeting
- an accurate dimensioned working drawing of the project
- a detailed work procedure
- a criteria sheet

An example of a unit plan has been made available under the resources tab on the Moodle website.

All assessment tasks must achieve a minimum of 50% of the grade for each assessment task to receive an overall Pass result.

Assessment Due Date

19/05/2024

Return Date to Students

Review/Exam Week Monday (3 June 2024)

Weighting

30%

Minimum mark or grade

50% of Written Assessment grade

Assessment Criteria

Students will be assessed in relation to the following:

- ability to present graphical information
- ability to express and develop an idea
- ability to present work effectively

Referencing Style

- [American Psychological Association 7th Edition \(APA 7th edition\)](#)

Submission

Online

Learning Outcomes Assessed

- Apply the use, development and impact of design concepts and problem solving through the construction of a series of design based activities
- Plan and develop a series of design based activities for construction which develop practical skills associated with hand and power tools, machinery, safety and equipment
- Investigate how to plan, sequence, implement and assess design application processes used in the production of projects incorporated in the industrial technology and design teaching area
- Critically evaluate specific applications of tools and equipment used in the manufacture of products for welding and thermal cutting
- Apply appropriate workplace health and safety and maintenance practices when using hand and power tools.

Graduate Attributes

- Communication
- Problem Solving
- Critical Thinking
- Information Literacy
- Team Work
- Information Technology Competence
- Cross Cultural Competence
- Ethical practice

3 Practical Assessment

Assessment Type

Practical Assessment

Task Description

The residential school introduces students to the welding and thermal cutting processes being taught in schools today. Students will have the opportunity to develop their hand skills, knowledge and understanding of welding and thermal cutting techniques. Students will be assessed on the quality and presentation of their welding and thermal cutting examples. Knowledge and understanding and application of welding and thermal cutting processes, and the ability to work independently with limited assistance will also be assessed.

Assessment Due Date

27/6/2024

Return Date to Students

27/6/2024

Weighting

50%

Minimum mark or grade

50% of Practical Assessment grade

Assessment Criteria

Students will be assessed over the duration of the residential school in relation to the following:

- practical expertise
- quality and presentation of projects
- knowledge and understanding and application of workshop processes
- ability to work independently with limited assistance

Referencing Style

- [American Psychological Association 7th Edition \(APA 7th edition\)](#)

Submission

Offline

Submission Instructions

27/06/2024

Learning Outcomes Assessed

- Apply the use, development and impact of design concepts and problem solving through the construction of a

series of design based activities

- Plan and develop a series of design based activities for construction which develop practical skills associated with hand and power tools, machinery, safety and equipment
- Investigate how to plan, sequence, implement and assess design application processes used in the production of projects incorporated in the industrial technology and design teaching area
- Critically evaluate specific applications of tools and equipment used in the manufacture of products for welding and thermal cutting
- Apply appropriate workplace health and safety and maintenance practices when using hand and power tools.

Graduate Attributes

- Communication
- Problem Solving
- Critical Thinking
- Information Literacy
- Team Work
- Information Technology Competence
- Cross Cultural Competence
- Ethical practice

Academic Integrity Statement

As a CQUniversity student you are expected to act honestly in all aspects of your academic work.

Any assessable work undertaken or submitted for review or assessment must be your own work. Assessable work is any type of work you do to meet the assessment requirements in the unit, including draft work submitted for review and feedback and final work to be assessed.

When you use the ideas, words or data of others in your assessment, you must thoroughly and clearly acknowledge the source of this information by using the correct referencing style for your unit. Using others' work without proper acknowledgement may be considered a form of intellectual dishonesty.

Participating honestly, respectfully, responsibly, and fairly in your university study ensures the CQUniversity qualification you earn will be valued as a true indication of your individual academic achievement and will continue to receive the respect and recognition it deserves.

As a student, you are responsible for reading and following CQUniversity's policies, including the [Student Academic Integrity Policy and Procedure](#). This policy sets out CQUniversity's expectations of you to act with integrity, examples of academic integrity breaches to avoid, the processes used to address alleged breaches of academic integrity, and potential penalties.

What is a breach of academic integrity?

A breach of academic integrity includes but is not limited to plagiarism, self-plagiarism, collusion, cheating, contract cheating, and academic misconduct. The Student Academic Integrity Policy and Procedure defines what these terms mean and gives examples.

Why is academic integrity important?

A breach of academic integrity may result in one or more penalties, including suspension or even expulsion from the University. It can also have negative implications for student visas and future enrolment at CQUniversity or elsewhere. Students who engage in contract cheating also risk being blackmailed by contract cheating services.

Where can I get assistance?

For academic advice and guidance, the [Academic Learning Centre \(ALC\)](#) can support you in becoming confident in completing assessments with integrity and of high standard.

What can you do to act with integrity?



Be Honest

If your assessment task is done by someone else, it would be dishonest of you to claim it as your own



Seek Help

If you are not sure about how to cite or reference in essays, reports etc, then seek help from your lecturer, the library or the Academic Learning Centre (ALC)



Produce Original Work

Originality comes from your ability to read widely, think critically, and apply your gained knowledge to address a question or problem