



EDSE11023 *Metal Technologies and Design*

Term 1 - 2022

Profile information current as at 09/05/2024 04:36 pm

All details in this unit profile for EDSE11023 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 provides an introduction to knowledge of the origins, structure, characteristics, properties and uses of fabricated materials such as metal to construct and critically evaluate a range of products. It includes production design processes and occupational health and safety considerations in the demonstration of practical and theoretical knowledge and skills that are necessary to teach Industrial Technology and Design in the middle years of schooling (7-10). Knowledge of this and other fabricated materials and their use in production processes will be gained through working with industrial machinery, digital and hand tool technologies. Students will design, develop, adapt and evaluate projects utilising critical aspects of knowledge about and develop the hands-on skills of working with metal and other fabricated materials.

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 1 - 2022

- 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 Student

Feedback

Review Residential School criteria sheet

Recommendation

Review and update Residential Criteria sheet.

Unit Learning Outcomes

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

1. Demonstrate knowledge and understanding of metal industry practices
2. Apply theories of materials fabrication, specifically metal, underpinning the content of middle years industrial technology and design teaching
3. Investigate processes used to produce fabricated materials that may be used in school-based projects
4. Explain relevant facility maintenance processes and procedures in a secondary school workshop
5. Critically evaluate specific applications for metal working tools and equipment used in Middle Years of Learning
6. Apply Occupational Health and Safety legislation in the school work place
7. Analyse preferred implementation processes for working with fabricated materials through sequenced design processes
8. Demonstrate a professional capacity to communicate and work in peer learning teams.

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	6	7	8
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	7	8
1 - Communication	•	•	•	•	•	•	•	•

Graduate Attributes	Learning Outcomes							
	1	2	3	4	5	6	7	8
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

EDSE11023

Prescribed

Workshop technologies for schools: A combined study

Edition: 1st (2012)

Authors: Baker, S & Schlyder, D

PCS Publications

Toowoomba , Queensland , Australia

ISBN: 978-1-876135-91-1

Binding: Paperback

Additional Textbook Information

Students can order all items from the CQUni Bookshop. Search on the unit code here: <http://bookshop.cqu.edu.au>

[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 - 07 Mar 2022

Module/Topic	Chapter	Events and Submissions/Topic
Health and Safety in the Workshop	Reading: Junior Workshop A & B Pages: 1 - 10	Quiz 1

Week 2 - 14 Mar 2022

Module/Topic	Chapter	Events and Submissions/Topic
Metal Classification, Properties & Heat Treatment,	Reading: Junior Workshop A & B Pages: 105 - 107	Quiz 2

Week 3 - 21 Mar 2022

Module/Topic	Chapter	Events and Submissions/Topic
Metals: Iron and Steel manufacturing	Reading: Junior Workshop A & B Pages: 107 - 112	Quiz 3

Week 4 - 28 Mar 2022

Module/Topic	Chapter	Events and Submissions/Topic
--------------	---------	------------------------------

Sheet steel products and manufacturing

Reading: Junior Workshop A & B
Pages: 112 - 118

Quiz 4

Week 5 - 04 Apr 2022

Module/Topic

Chapter

Events and Submissions/Topic

Compulsory Residential School:
Monday 12/4/21 to Wednesday
14/4/21, 8am - 5pm.

During this week students will be assessed on their knowledge and understanding of processes & procedures and practical hand skills. Students will be required to complete a number of school projects aligned to certain year levels. Students please print out a copy of the Residential School Workbook and bring to the Residential School.

Assessment 3 : Practical Assessment - Compulsory Residential School

Vacation Week - 11 Apr 2022

Module/Topic

Chapter

Events and Submissions/Topic

Enjoy your break.

Week 6 - 18 Apr 2022

Module/Topic

Chapter

Events and Submissions/Topic

Manufacturing of Copper

Reading: Junior Workshop A & B
Pages: 118 - 122

Quiz 5

Week 7 - 25 Apr 2022

Module/Topic

Chapter

Events and Submissions/Topic

Manufacturing of Aluminium

Reading: Junior Workshop A & B
Pages 122 - 124

Quiz 6

Week 8 - 02 May 2022

Module/Topic

Chapter

Events and Submissions/Topic

Tools & machines - Hand tools, metalwork stakes and portable power tools

Reading: Junior Workshop A & B
Pages: 125 - 137

Quiz 7

Week 9 - 09 May 2022

Module/Topic

Chapter

Events and Submissions/Topic

Tools and Machines - the metal lathe and drilling machine

Reading: Junior Workshop A & B
Pages: 138 - 149

Quiz 8

Week 10 - 16 May 2022

Module/Topic

Chapter

Events and Submissions/Topic

Tools and Machines - Seams, edges and joining with rivets and screws

Reading: Junior Workshop A & B
Pages: 150 - 154

Quiz 9

Week 11 - 23 May 2022

Module/Topic

Chapter

Events and Submissions/Topic

Tools and Machines - Soft soldering, art metalwork and decorative surface finishing

Reading: Junior Workshop A & B
Pages: 154 - 159

Quiz 10

Week 12 - 30 May 2022

Module/Topic

Chapter

Events and Submissions/Topic

Assessment 1: Quizzes due: 05/06/22
Assessment 2: Written Assessment due: 03/06/22

Assessment 1: Quizzes due: 05/06/22
Assessment 2: Written Assessment due: 03/06/22

Review/Exam Week - 06 Jun 2022

Module/Topic

Chapter

Events and Submissions/Topic

Assessment Tasks

1 Assessment 1 - Quizzes

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 05/06/22. 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%

Students must complete all three assessments to achieve a pass mark for this course.

Number of Quizzes

10

Frequency of Quizzes

Other

Assessment Due Date

5/6/2022

Return Date to Students

Review/Exam Week

Weighting

20%

Minimum mark or grade

50% of Quiz assessment grade

Assessment Criteria

Students will be assessed over the duration of the Term 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 metal industry practices

Graduate Attributes

- Communication
- Problem Solving
- Ethical practice

2 Assessment 2 - Written Assessment

Assessment Type

Written Assessment

Task Description

Students are required to develop a unit plan and project suitable for either a year 7, year 8, year 9 or year 10 student in a metalwork workshop.

The assignment will need to include:

- a rationale for the project
- a 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 suitable unit plan has been made available under the resources tab on the Moodle website.

Assessment Due Date

3/6/2022

Return Date to Students

Review/Exam Week

Weighting

30%

Minimum mark or grade

50% of Written Assessment grade

Assessment Criteria

Students are assessed on the following criteria:

- 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 theories of materials fabrication, specifically metal, underpinning the content of middle years industrial technology and design teaching
- Investigate processes used to produce fabricated materials that may be used in school-based projects
- Explain relevant facility maintenance processes and procedures in a secondary school workshop
- Critically evaluate specific applications for metal working tools and equipment used in Middle Years of Learning
- Apply Occupational Health and Safety legislation in the school work place
- Analyse preferred implementation processes for working with fabricated materials through sequenced design processes
- Demonstrate a professional capacity to communicate and work in peer learning teams.

Graduate Attributes

- Communication
- Problem Solving
- Critical Thinking
- Information Literacy
- Information Technology Competence
- Cross Cultural Competence

3 Assessment 3 - Compulsory Residential School

Assessment Type

Practical Assessment

Task Description

Compulsory Residential School 4/04/22 - 6/04/22 50% total marks

The residential school introduces students to projects which target the junior year levels. Students will be using hand tools, machinery and equipment to fabricate five projects. The residential school gives students the opportunity to develop their hand skills, knowledge and understanding of workshop procedures and processes. Students will be

assessed on the quality and presentation of their five projects. Knowledge and understanding and application of workshop processes will also be assessed, as well as ability to work independently with limited assistance.

Assessment Due Date

6/4/2022

Return Date to Students

Results to be returned by end Compulsory Residential School

Weighting

50%

Minimum mark or grade

50% of Practical Assessment grade

Assessment Criteria

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

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

Referencing Style

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

Submission

Offline

Learning Outcomes Assessed

- Apply theories of materials fabrication, specifically metal, underpinning the content of middle years industrial technology and design teaching
- Investigate processes used to produce fabricated materials that may be used in school-based projects
- Explain relevant facility maintenance processes and procedures in a secondary school workshop
- Critically evaluate specific applications for metal working tools and equipment used in Middle Years of Learning
- Apply Occupational Health and Safety legislation in the school work place
- Analyse preferred implementation processes for working with fabricated materials through sequenced design processes
- Demonstrate a professional capacity to communicate and work in peer learning teams.

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