



EDSE12026 Graphics and 2D Computer Aided Design Technologies

Term 1 - 2017

Profile information current as at 16/05/2024 11:32 am

All details in this unit profile for EDSE12026 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 graphical and 2 dimensional computer-aided design (CAD). It provides the necessary skills for the demonstration of practical and theoretical knowledge thus enabling you to teach Graphics and 2D CAD in the discipline of Industrial Technology and Design in the middle years of schooling (7-10). You will design, develop, adapt and evaluate projects utilising critical aspects of knowledge about graphics and 2 dimensional drawing. You will develop hands-on drawing skills and the ability to work with 2 dimensional design technologies.

Details

Career Level: *Undergraduate*

Unit Level: *Level 2*

Credit Points: 6

Student Contribution Band: 7

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 - 2017

- Distance

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. **Written Assessment**

Weighting: 50%

2. **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

Feedback

Review course structure and content to ensure assessment tasks are scaffolded and materials are relevant.

Recommendation

Review course structure, content and materials

Action

Review completed and changes made to content, tasks and materials. New Tutor involved in course.

Unit Learning Outcomes

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

1. Understand the use, development and impact of design concepts through the use of graphical and 2 dimensional communication.
2. Apply graphical and 2 dimensional design concepts and procedures.
3. Plan, sequence, implement and assess graphics used in the production of projects.
4. Recognise and apply basic skills sequences and procedures using design processes required for teaching Graphics and 2 D CAD technologies.
5. Critically evaluate specific applications of tools and equipment used in the production of Graphics and 2 D CAD technologies.
6. Apply appropriate workplace health and safety and maintenance practices when engaging in design activities.
7. Communicate and work professionally in peer learning teams

Australian Institute for School Leadership (AITSL, 2013), Professional Standards for Teachers (Graduate Level):

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 6: Engage in professional learning

6.2 Engage in professional learning and improve practice; 6.3 Engage with colleagues to improve practice.

Standard 7: Engage professionally with colleagues, parents/carers and the community.

7.2 Comply with legislative, administrative and organisational requirements; 7.4 Engage with professional teaching networks and broader communities.

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	7
1 - Written Assessment - 50%	●	●	●	●	●	●	
2 - Practical Assessment - 50%	●	●	●	●	●	●	●

Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes						
	1	2	3	4	5	6	7
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							

Alignment of Assessment Tasks to Graduate Attributes

[illegible]

Textbooks and Resources

Textbooks

EDSE12026

Prescribed

Graphics - Introductory Worksheets

Edition: 1 (1995)

Authors: Schlyder, D & Baker, B

P.C.S. Publications

Toowoomba , Qld , Australia

Binding: Paperback

EDSE12026

Prescribed

Graphics - Stage B Worksheets

Edition: 1 (1997)

Authors: Schlyder, D

P.C.S. Publications

Toowoomba , Qld , Australia

Binding: Paperback

EDSE12026

Prescribed

Graphic - Stage A Worksheets

Edition: 1 (2016)

Authors: Schlyder, D & Baker, S

P.C.S. Publications

Toowoomba , Qld , Australia

Binding: Paperback

[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 6th Edition \(APA 6th edition\)](#)

For further information, see the Assessment Tasks.

Teaching Contacts

Brad Connolly Unit Coordinator

b.connolly@cqu.edu.au

Schedule

Week 1 - 06 Mar 2017

Module/Topic	Chapter	Events and Submissions/Topic
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Orthographic Projection	Worksheets: · Introductory Page 14 (all exercises) Page 16 (classwork only) Page 18 (all exercises) · Stage A Page A-16 (exercises 1 & 3) Software: Autodesk 2016 - Start familiarising yourself with the drafting & annotation ribbon layout & commands. Equipment: Setsquares, T-square (30 cm), pencils (HB, 2B, 2H), black fineliner (~0.4mm), ruler, eraser, A4 & A3 paper (~10 each), compass. Equipment: Setsquares, T-square (30 cm), pencils (HB, 2B, 2H), black fineliner (~0.4mm), ruler, eraser, A4 & A3 paper (~10 each), compass.	Activity: Complete, scan and save all drawing sheets as PDF files. Remember to complete the title blocks and ensure the scans are of high enough quality that they clearly show enough detail (even the construction lines). Note: Dimensioning is not required for this week's exercises. Download: Install AutoCAD 2016 from the Autodesk website
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Week 2 - 13 Mar 2017

Module/Topic	Chapter	Events and Submissions/Topic
Pictorial Representation · Isometric & Oblique	Worksheets: · Introductory Page 4 (all exercises) Page 6 (all exercises) · Stage A Page A-01 (exercises 1 & 2) Page A-04 (exercises 1 & 2) Page A-31 (exercise 4) Page A-39 (exercise 3) Software: Autodesk 2016 - Continue to familiarise yourself with the drafting and annotation ribbon layout & commands.	Activity: Complete, scan and save all drawing sheets as PDF files. Remember to complete the title blocks and ensure the scans are of high enough quality that they clearly show enough detail (even the construction lines). Note: Dimensioning is not required for this week's exercises.

Week 3 - 20 Mar 2017

Module/Topic	Chapter	Events and Submissions/Topic
Pictorial Representation · Planometric · Perspective	Worksheets: · Stage A Page A-24 (exercises 1 & 2) · Introductory Page 7 (all exercises) · Stage A Page A-36 (exercises 1, 3 & 4) · Stage B Page B-17 (exercises 1 & 2)	Activity: Complete, scan and save all drawing sheets as PDF files. Remember to complete the title blocks and ensure the scans are of high enough quality that they clearly show enough detail (even the construction lines). Note: Rendering is not required for this week's exercises.

Week 4 - 27 Mar 2017

Module/Topic	Chapter	Events and Submissions/Topic
Drawing Standards & Surface Developments	Worksheets: · Stage A Revisit the drawing task from week one, (Stage A page A-16, exercise 3), and add dimensions which adhere to the Australian Drawing Standards. · Introductory Page 9 (all exercises) Page 10 (all exercises) · Stage A Page A-13 (exercises 2 & 4) Page A-17 (exercises 1 & 2)	Activity: Complete, scan and save all drawing sheets as PDF files. Remember to complete the title blocks and ensure the scans are of high enough quality that they clearly show enough detail (even the construction lines).

Week 5 - 03 Apr 2017

Module/Topic	Chapter	Events and Submissions/Topic
Mandatory Residential School	Assessment Task 2 (Folio of Work) Sketching Surface Developments Geometric Construction Pictorial Representations Orthographic Projection 2D CAD Techniques Design Process assignment review	Dates: 05-04-2017 & 08-04-2017 Venue: CQU Trades Training Centre Room: G.07 & G.10 Activity: Sketching pictorial views & concepts, drawing surface developments, tangents, perspective and orthographic views. CAD tools, processes and templates. Understanding the design/engineering process. Assessment Due: Assignment Task 2 (Folio of Work) During the course students will compile a folio of work which includes the activities completed during Residential School and the work completed prior in weeks 1 to 4. Hard copy Submitted in class at the end of Residential School Time: 0500 PM AEST Residential School Due: Week 5 Friday (7 Apr 2017) 5:00 pm AEST
Vacation Week - 10 Apr 2017		
Module/Topic	Chapter	Events and Submissions/Topic
Vacation Week		
Week 6 - 17 Apr 2017		
Module/Topic	Chapter	Events and Submissions/Topic
Geometric Construction Logo & Signs	Worksheets: (Manual Drawings) · Stage A Page A-03 (all exercises) Page A-05 (exercises 1-7) Worksheets: (CAD Drawings) · Stage A Page A-03 (exercise 2) Page A-05 (exercise 7) Page A-06 (exercise 6)	Activity: (Manual Drawings) Complete, scan and save all drawing sheets as PDF files. Remember to complete the title blocks and ensure the scans are of high enough quality that they clearly show enough detail (even the construction lines). Activity: (CAD Drawings) Complete CAD tasks in model space and then create viewports in page space to present and plot as a PDF file. Remember to use the template developed at Residential School and use the 'Save As' command to rename your file.
Week 7 - 24 Apr 2017		
Module/Topic	Chapter	Events and Submissions/Topic
Geometric Construction	Worksheets: (Manuel Drawings) · Stage A Page A-38 (all exercises) · Stage B Page B-05 (exercise 4) Worksheets: (CAD Drawings) · Stage A Page A-38 (all exercises) · Stage B Page B-05 (exercise 4)	Activity: (Manual Drawings) Complete, scan and save all drawing sheets as PDF files. Remember to complete the title blocks and ensure the scans are of high enough quality that they clearly show enough detail (even the construction lines). Activity: (CAD Drawings) Complete CAD tasks in model space and then create viewports in page space to present and plot as a PDF file. Remember to use the template developed at Residential School and use the 'Save As' command to rename your file.

Week 8 - 01 May 2017

Module/Topic	Chapter	Events and Submissions/Topic
Orthographic Projection	Worksheets: (CAD Drawings) • Stage B Page B-05 (exercises 1 & 3) Page B-10 (exercise 1) Page B-15 (exercise 1)	Activity: (CAD Drawings) Complete CAD tasks in model space and then create viewports in page space to present and plot as a PDF file. Remember to use the template developed at Residential School and use the 'Save As' command to rename your file.

Week 9 - 08 May 2017

Module/Topic	Chapter	Events and Submissions/Topic
Design/Engineering Process • Geometric Construction • Symbols	Assessment Task 1 (B) Year 9 Graphic Project (Sign Design)	Activity: Select one of the design tasks set for a year 9 Graphics class. Follow the design/engineering process to explore, develop, produce and appraise a solution suitable for the design brief. Collate and present all research, concept sketches, technical drawings and evaluations in the form of a digital design folio. Save the document as a PDF and ensure the scans are of high enough quality that they clearly show enough detail (in particular construction lines and annotations).

Week 10 - 15 May 2017

Module/Topic	Chapter	Events and Submissions/Topic
Design/Engineering Process · Geometric Construction · Symbols	Assessment Task 1 (B) Year 9 Graphic Project (Sign Design)	Activity: Continue task set in week 9. Year 9 Design Folio (Sign Design).

Week 11 - 22 May 2017

Module/Topic	Chapter	Events and Submissions/Topic
Design/Engineering Process • Surface Developments	Assessment Task 1 (C) Year 10 Graphic Project (Product Design)	Activity: Select one of the design tasks set for a year 10 Graphics class. Follow the design/engineering process to explore, develop, produce and appraise a solution suitable for the design brief. Collate and present all research, concept sketches, technical drawings and evaluations in the form of a digital design folio. Save the document as a PDF and ensure the scans are of high enough quality that they clearly show enough detail (in particular construction lines and annotations).

Week 12 - 29 May 2017

Module/Topic	Chapter	Events and Submissions/Topic
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Design/Engineering Process
• Surface Developments

Assessment Task 1 (C) Year 10
Graphic Project (Product Design)

Activity: Continue task set in week 9.
Year 9 Design Folio (Sign Design).

Assessment Due:

Assessment Task 1

(Resource Portfolio and Graphic
Projects)

Submitted online through Moodle in a
Zip File.

**Submit your Resource Portfolio
and Graphic Projects in the
following format:**

Last name_First name_Resource
Portfolio and Graphic Projects

Date: 02-06-2017

Time: 11:00 PM AEST

Resource Portfolio & Appraisal

Due: Week 12 Friday (2 June 2017)

11:00 pm AEST

Review/Exam Week - 05 Jun 2017

Module/Topic	Chapter	Events and Submissions/Topic
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Exam Week - 12 Jun 2017

Module/Topic	Chapter	Events and Submissions/Topic
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Assessment Tasks

1 Resource Portfolio & Appraisal

Assessment Type

Written Assessment

Task Description

Written Assessment

Assessment Title Resource Portfolio & Graphic Projects

Task Description

This assessment task consists of three parts:

Part A

Resource Folio: Post residential school, students will utilise methods, techniques, procedures and standards in producing a resource folio that exemplifies a range of graphical presentations involving both manual and CAD techniques for teaching in the middle years of schooling.

Part B

You are required to produce an exemplar of a Year 9 Graphics project which demonstrates sketching, drawing and CAD skills. Students will follow the design/engineering process to explore, develop, produce and appraise a solution suitable for the design brief. Your work must demonstrate an understanding and application of a range of graphical principles, procedures and conventions.

All research, concept sketches, technical drawings and evaluations are to be collated and presented in the form of a digital design folio.

Part C

You are required to produce an exemplar of a Year 10 Graphics project which demonstrates sketching, drawing and CAD skills. Students will follow the design/engineering process to explore, develop, produce and appraise a solution suitable for the design brief. Your work must demonstrate an understanding and application of a range of graphical principles, procedures and conventions.

All research, concept sketches, technical drawings and evaluations are to be collated and presented in the form of a digital design folio.

Assessment Due Date Week 12 Friday (02-Jun-2017) 11:00 PM AEST

Task submitted through Moodle

Return Date to Students Exam Week Friday (16-Jun-2017)

Returned to students upon moderation and certification of grades

Weighting 50%

Submission Online Task submitted through Moodle in a Zip File

Assessment Due Date

Week 12 Friday (2 June 2017) 11:00 pm AEST

Task submitted through Moodle

Return Date to Students

Exam Week Friday (16 June 2017)

Returned to students upon moderation and certification of grades

Weighting

50%

Assessment Criteria

- Comprehension of a range of graphical principles, procedures and conventions.
- Application of relevant graphical principles, procedures and conventions to develop appropriate presentations that connect to industry.
- Resources and activities are appropriate logical and creative for the year level.
- Analysis and interpretation of graphical and design information.
- Ability to work independently with limited assistance.
- Use of a range of graphical skills to produce graphical products responsive to the needs of the target group.
- Synthesis of ideas to develop solutions to problems.
- Evaluation of the application of equipment used and the effectiveness of graphical representations.
- Make recommendations and justify decisions.

Referencing Style

- [American Psychological Association 6th Edition \(APA 6th edition\)](#)

Submission

Online

Submission Instructions

Task submitted through Moodle in a Zip File

Learning Outcomes Assessed

- Understand the use, development and impact of design concepts through the use of graphical and 2 dimensional communication.
- Apply graphical and 2 dimensional design concepts and procedures.
- Plan, sequence, implement and assess graphics used in the production of projects.
- Recognise and apply basic skills sequences and procedures using design processes required for teaching Graphics and 2 D CAD technologies.
- Critically evaluate specific applications of tools and equipment used in the production of Graphics and 2 D CAD technologies.
- Apply appropriate workplace health and safety and maintenance practices when engaging in design activities.

Graduate Attributes

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

2 Residential School

Assessment Type

Practical Assessment

Task Description

Practical Assessment

Assessment Title Residential School (Folio of Work)

Task Description

The residential school introduces students to 2D CAD drafting in Auto CAD 2015 and targets topics and applications for the junior year levels. Students will use 2D commands to draw symbols and templates, refine techniques in pictorial sketching, represent objects by considering lighting for shading and shadows, represents design concepts quickly on paper and represent design layouts to industry standards. The opportunity is provided to develop:

- manual drafting and CAD skills
- knowledge and understanding of graphical representations and procedures understanding of the design processes, planning, sequencing
- implementation and assessment of Graphics & 2D CAD technologies through projects incorporated in the residential school.

During the course students will compile a folio of work which includes the activities completed during Residential School and the work completed prior in weeks 1 to 4. This is to be submitted at the end of the Residential School as a hard copy.

Assessment Due Date Week 5 Friday (Week starting 03-Apr-2017) 05:00 PM AEST Completed at the end of Residential School

Return Date to Students Week 6 Monday (17-Apr-2017) Results posted in to Moodle

Submission Hard copy Submitted in Class at the Residential

Assessment Due Date

Week 5 Friday (7 Apr 2017) 5:00 pm AEST

Completed at the residential school

Return Date to Students

Monday (17 Apr 2017)

Results posted in to Moodle

Weighting

50%

Assessment Criteria

- Students will be assessed on the quality and presentation of their tasks, in addition to their knowledge and understanding and application of graphical principles and processes, and their ability to work independently with limited assistance.
- Understand the use, development and impact of design concepts through the use of graphical and 2 dimensional (2D) communication.
- Apply graphical and 2 dimensional (2D) design concepts and procedures that critique, explore and investigate needs or opportunities to generate, develop and evaluate design ideas for designed solutions underpinning the content of Industrial Technology and Design teaching.
- Investigate how to plan, sequence, implement and assess Graphics and 2D CAD used in the production of projects incorporated in the industrial technology and design teaching area.
- Recognise and apply basic skills sequences and procedures using design processes required for teaching Graphics and 2D CAD technologies.
- Critically evaluate specific applications of tools and equipment used in the production of Graphics and 2D CAD technologies.
- Apply appropriate workplace health and safety and maintenance practices when engaging in design activities.
- Communicate and work professionally in peer learning teams

Referencing Style

- [American Psychological Association 6th Edition \(APA 6th edition\)](#)

Submission

Offline

Submission Instructions

Submitted in Class at the Residential

Learning Outcomes Assessed

- Understand the use, development and impact of design concepts through the use of graphical and 2 dimensional communication.
- Apply graphical and 2 dimensional design concepts and procedures.
- Plan, sequence, implement and assess graphics used in the production of projects.
- Recognise and apply basic skills sequences and procedures using design processes required for teaching Graphics and 2 D CAD technologies.
- Critically evaluate specific applications of tools and equipment used in the production of Graphics and 2 D CAD technologies.

- Apply appropriate workplace health and safety and maintenance practices when engaging in design activities.
- Communicate and work professionally 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