ENAG11009 *Drafting for Engineers*
Term 1 - 2018

Profile information current as at 19/05/2024 09:45 am

General Information

Overview
In this unit, students will learn the fundamentals of engineering drawing. They will produce freehand sketches and CAD drawings using orthographic projection conventions and sectioning conventions complying with Australian Standards. Students will develop skills in 3D solid modelling and rendering as well as produce detail drawings and assembly drawings. They will demonstrate an effective, professional level of communication and support peer group learning.

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 - 2018

- 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).

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: Pass/Fail
2. **Written Assessment**
Weighting: 30%
3. **Written Assessment**
Weighting: 30%
4. **Written Assessment**
Weighting: 40%

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 Students have your say survey

Feedback
Third assignment was a large step from the first two.

Recommendation
Staff to review and improve the unit material covering the assignment 3 topic. And also review the assignments difficulty and timing.

Feedback from Students have your say survey

Feedback
Limited resources for macs

Recommendation
Locate more resources and textbooks for those students that wish to use macs.

Feedback from Students have your say survey

Feedback
Online Zoom tutorial sessions provided good interactive help

Recommendation
Continue weekly online Zoom tutorial sessions.

Feedback from Students have your say survey

Feedback
Assessment feedback was helpful

Recommendation
In 2017 a more detailed assessment criteria was used to better highlight the area where students lost marks. This will be continued and improved.

Feedback from Students have your say survey

Feedback
It would be good to have quicker return of assignments

Recommendation
Will review the assessment due dates in conjunction with staff availability and their other required roles to try to improve the return times of assessment items.

Unit Learning Outcomes

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

1. Produce freehand sketches to visually define engineering artefacts
2. Develop and interpret drawings that use orthographic projection conventions and sectioning conventions complying with AS1100 Drawing Standards
3. Scale, layout, draw and dimension engineering CAD drawings to provide sufficient information to manufacture artefacts
4. Draw and interpret 2D and 3D drawings using surface modelling, 3D solid modelling and rendering with CAD software
5. Produce component detail drawings and assembly drawings including parts lists for engineering artefacts to AS1100 standards
6. Demonstrate an effective, professional level of communication and support collaborative peer group learning

This unit assists students to develop the Engineers Australia Stage 1 Competencies for Engineering Associates.
Knowledge and Skill Base: Learning Outcomes 1, 2, 3, 4 and 5 assist development of Elements 1.2 and 1.3.
Engineering Application Ability: Learning Outcomes 1, 2, 3, 4 and 5 assist development of Elements 2.1 and 2.2.
Professional and Personal Attributes: Learning Outcome 6 assists development of Elements 3.1, 3.2, 3.4, 3.5 and 3.6

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
1 - Written Assessment - 0%	•	•	•	•	•	•
2 - Written Assessment - 30%	•	•				•
3 - Written Assessment - 30%		•	•			•
4 - Written Assessment - 40%			•	•	•	•

Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes					
	1	2	3	4	5	6
1 - Communication	•	•	•	•	•	•
2 - Problem Solving	•	•	•	•	•	
3 - Critical Thinking		•		•	•	
4 - Information Literacy		•			•	
5 - Team Work						•

Graduate Attributes	Learning Outcomes					
	1	2	3	4	5	6
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

Assessment Tasks	Graduate Attributes									
	1	2	3	4	5	6	7	8	9	10
1 - Written Assessment - 0%	•	•	•	•	•	•		•		
2 - Written Assessment - 30%	•	•	•	•				•		
3 - Written Assessment - 30%	•	•	•	•		•		•		
4 - Written Assessment - 40%	•	•	•	•		•		•		

Textbooks and Resources

Textbooks

ENAG11009

Prescribed

Engineering Graphics with AutoCAD 2017
(2017)
Authors: Bethune, J
Pearson
Upper Saddle River , NJ , USA
ISBN: 9780134506968
Binding: Other

Additional Textbook Information
An ebook version of this text can purchased directly at the Pearson website: www.pearson.com.au. However, if a print version is preferred, please order at least 4 weeks before term to ensure availability. Copies can be purchased through the CQUni Bookshop.

View textbooks at the CQUniversity Bookshop

IT Resources

You will need access to the following IT resources:

- CQUniversity Student Email
- Internet
- Unit Website (Moodle)
- A4 digital scanner - To allow online submission of freehand sketching assessments
- AutoCAD Software. A free student edition is available to download from www.autodesk.com/education/free-software/autocad. You will need to register/'create an account' to get the free student version which is valid while you are a student, there is also a 30 day trial version but this only lasts 30 days. During registration use your CQU student email (xxxxxxxx@cqumail.com) and if required enter the Education Institution/School as: "Central Queensland University"; Faculty as: "Engineering" and website as: "www.cqu.edu.au". You should receive an email from Autodesk requesting account activation, follow these instructions. If you receive an error or the web browser hangs, try re-creating the account with the same information. Once your account is activated, sign in on the web page: www.autodesk.com/education/free-software/autocad. Then follow the prompts to download and install AutoCAD 2017 as the book is based on this version. Ensure your computer meets the AutoCAD 2017 system requirements. You are most welcome to download and use other versions like AutoCAD 2014, 2015, 2016 or 2018, they have slightly different system requirements but have almost identical interface and functionality. It is advisable to download the software many weeks prior to term to ensure your computer is able to run the software. The download is quite large at ~5GB so if you have access to a CQUniversity campus you can use the free wifi to download the software, library staff should be able to direct you to help in this matter.

Referencing Style

All submissions for this unit must use the referencing style: Harvard (author-date)
For further information, see the Assessment Tasks.

Teaching Contacts

Mitchell Mcclanachan Unit Coordinator
m.mcclanachan@cqu.edu.au

Schedule

Week 1 - 05 Mar 2018

Module/Topic	Chapter	Events and Submissions/Topic
Introduction to AutoCAD, Basic Commands	Chapter 1 and 2	

Week 2 - 12 Mar 2018

Module/Topic	Chapter	Events and Submissions/Topic
Advanced AutoCAD Commands	Chapter 3	

Week 3 - 19 Mar 2018

Module/Topic	Chapter	Events and Submissions/Topic
Sketching and Australian Standards	Chapter 4 and AS1101	

Week 4 - 26 Mar 2018

Module/Topic	Chapter	Events and Submissions/Topic
Orthographic Views	Chapter 5	Drawing Folio Progress Submission (Due Tuesday 1pm, 3rd April 2018)

Week 5 - 02 Apr 2018

Module/Topic	Chapter	Events and Submissions/Topic
Sectional Views	Chapter 6 and 7	

Vacation Week - 09 Apr 2018

Module/Topic	Chapter	Events and Submissions/Topic
Use this week to catch up and work ahead.		

Week 6 - 16 Apr 2018

Module/Topic	Chapter	Events and Submissions/Topic
Working with Symbol Libraries and Blocks	An additional chapter is provided on the moodle site	**Assignment 1** Due: Week 6 Monday (16 Apr 2018) 1:00 pm AEST

Week 7 - 23 Apr 2018

Module/Topic	Chapter	Events and Submissions/Topic
Dimensioning, Tolerances and Threaded Fasteners	Chapters 8, 9, 10 and 11	

Week 8 - 30 Apr 2018

Module/Topic	Chapter	Events and Submissions/Topic
Working Drawings	Chapter 12	

Week 9 - 07 May 2018

Module/Topic	Chapter	Events and Submissions/Topic
Fundamentals of 3D Drawing	Chapter 14	**Assignment 2** Due: Week 9 Monday (7 May 2018) 1:00 pm AEST

Week 10 - 14 May 2018

Module/Topic	Chapter	Events and Submissions/Topic
3D Modelling	Chapter 15	

Week 11 - 21 May 2018

Module/Topic	Chapter	Events and Submissions/Topic
3D Modelling Continued	Chapter 15	

Week 12 - 28 May 2018

Module/Topic	Chapter	Events and Submissions/Topic
Unit Review		

Review/Exam Week - 04 Jun 2018		
Module/Topic	**Chapter**	**Events and Submissions/Topic**
		Drawing Folio Due: Review/Exam Week Monday (4 June 2018) 1:00 pm AEST

Exam Week - 11 Jun 2018		
Module/Topic	**Chapter**	**Events and Submissions/Topic**
		Assignment 3 Due: Exam Week Monday (11 June 2018) 1:00 pm AEST

Term Specific Information

Assessment Tasks

1 Drawing Folio

Assessment Type
Written Assessment

Task Description
You need to pass the Drawing Folio to pass the Unit.
The Drawing Folio comprises of all the weekly sketching and AutoCAD Folio Activities done during the unit. The folio activities are listed each week on the Moodle site. It is worthwhile doing a good attempt at the folio activities as it helps you complete the assignments and if at the end of the unit you are on the border line between two final grades the Drawing Folio can be used to determine if the higher grade should be awarded. The Folio Activities should be completed week by week, not at the end of term.
The presentation of the Drawing Folio is not as crucial as an assignment as it is recognised you will make mistakes during your learning. Rough sketches and partial attempts of questions are acceptable and will add to your grade. The question numbers should be clearly displayed on any free hand sketches or AutoCAD drawings.

Drawing Folio Submission
- A Drawing Folio progress submission is required 1pm Monday Week 5. Submit your Drawing Folio to date to enable the teaching team to provide some feedback to let you know how you are going on this task.
- The completed Final Drawing Folio is to be submitted by 1pm Monday Review Week.

The Progress and Final Drawing Folio Submissions must include:

- A single pdf file, containing the Folio Activities freehand sketches and AutoCAD drawings;
- plus a single zip file, containing all the AutoCAD *.dwg files shown in the previous pdf file. (The AutoCAD *.dwg files should be suitably named with respect to the question numbers)

In the Drawing Folio submission you can include any initial or failed attempts of the folio exercises, and any additional drawings done during the unit. Please ensure these are labelled and named accordingly.

Assessment Due Date
Review/Exam Week Monday (4 June 2018) 1:00 pm AEST

Return Date to Students

Feedback on the Progress Drawing Folio will be given in Week 6. The grade and possible feedback for the Drawing Folio will be provided after the CQU Certification of Grades.

Weighting
Pass/Fail

Minimum mark or grade
50%. Also: you need to pass the Drawing Folio to pass the Unit.

Assessment Criteria
To pass Drawing Folio you must satisfactorily attempt at least 50% of the Folio Activities for each topic

as listed on the Moodle site. You will get some credit for partial attempts of the activities. The presentation and accuracy of the folio drawing activities are not as crucial as an assignment as it is recognised you will make mistakes during your learning. The Folio Activities are seen as ways to stimulate your own learning, whereas the assignments are used to assess you. The assessment criteria for the assignments (repeated below) can be used as a guide for the Drawing Folio:

1. Production of neat and accurate freehand engineering sketches.
2. Production of accurate AutoCAD drawing files complying with AS1100 drawing practice.

Referencing Style

- Harvard (author-date)

Submission
Online

Submission Instructions
Progress Drawing Folio Due: Monday Week 5. Final Drawing Folio Due: Monday Review Week. Submit via the Moodle site: 1) a single pdf file containing the required freehand sketches and AutoCAD drawings. 2) Also submit a single zip file containing the AutoCAD *.dwg files.

Learning Outcomes Assessed

- Produce freehand sketches to visually define engineering artefacts
- Develop and interpret drawings that use orthographic projection conventions and sectioning conventions complying with AS1100 Drawing Standards
- Scale, layout, draw and dimension engineering CAD drawings to provide sufficient information to manufacture artefacts
- Draw and interpret 2D and 3D drawings using surface modelling, 3D solid modelling and rendering with CAD software
- Produce component detail drawings and assembly drawings including parts lists for engineering artefacts to AS1100 standards
- Demonstrate an effective, professional level of communication and support collaborative peer group learning

Graduate Attributes

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

2 Assignment 1

Assessment Type
Written Assessment

Task Description
This assignment requires the construction of basic 2D AutoCAD drawings, freehand sketching and orthographic projection. Assignment questions will be provided through the Moodle website.

Assessment Due Date
Week 6 Monday (16 Apr 2018) 1:00 pm AEST

Return Date to Students
Week 8 Monday (30 Apr 2018)

Weighting
30%

Minimum mark or grade
40%

Assessment Criteria
This assessment item will be assessed on the following criteria:

1. Production of neat and accurate freehand sketches.
2. Production of accurate AutoCAD drawings complying with AS1100 drawing practice.
3. Demonstration of achievement of the learning outcomes as listed below in the 'Learning Outcomes Assessed' section.

The assessment item detail will be available on the Moodle website.
Please note: Individual assignments have a minimum pass requirement of 40%. But you will need to achieve a total of 50% for the entire Unit to pass.

Referencing Style

- Harvard (author-date)

Submission
Online

Submission Instructions
Submit via the Moodle site: 1) a single pdf file containing the required freehand sketches and AutoCAD drawings. 2) Also submit a single zip file containing the AutoCAD *.dwg files.

Learning Outcomes Assessed

- Produce freehand sketches to visually define engineering artefacts
- Develop and interpret drawings that use orthographic projection conventions and sectioning conventions complying with AS1100 Drawing Standards
- Demonstrate an effective, professional level of communication and support collaborative peer group learning

Graduate Attributes

- Communication
- Problem Solving
- Critical Thinking
- Information Literacy
- Ethical practice

3 Assignment 2

Assessment Type
Written Assessment

Task Description
This assignment requires the construction of detailed 2D AutoCAD orthographic and sectional drawings including the use of layers, line types and dimensioning. Assignment questions will be provided through the Moodle website.

Assessment Due Date
Week 9 Monday (7 May 2018) 1:00 pm AEST

Return Date to Students
Week 11 Monday (21 May 2018)

Weighting
30%

Minimum mark or grade
40%

Assessment Criteria
This assessment item will be assessed on the following criteria:

1. Production of accurate AutoCAD drawings complying with AS1100 drawing practice.
2. Demonstration of achievement of the learning outcomes as listed below in the 'Learning Outcomes Assessed' section.

The assessment item detail will be available on the Moodle website.
Please note while individual assignments have a minimum pass requirement of 40%, you will need to achieve a total of 50% for the entire Unit to pass.

Referencing Style

- Harvard (author-date)

Submission
Online

Submission Instructions
Submit via the Moodle site: 1) a single pdf file containing the AutoCAD drawings. 2) Also submit a single zip file containing the AutoCAD *.dwg files.

Learning Outcomes Assessed

- Develop and interpret drawings that use orthographic projection conventions and sectioning conventions complying with AS1100 Drawing Standards
- Scale, layout, draw and dimension engineering CAD drawings to provide sufficient information to manufacture artefacts
- Demonstrate an effective, professional level of communication and support collaborative peer group learning

Graduate Attributes

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

4 Assignment 3

Assessment Type
Written Assessment

Task Description
This assignment requires the construction of 2D and 3D AutoCAD drawings including 3D modelling and the use of rendering. Assignment questions are on the Moodle website.

Assessment Due Date
Exam Week Monday (11 June 2018) 1:00 pm AEST

Return Date to Students

Assignment three will be returned after the CQU Certification of Grades.

Weighting
40%

Minimum mark or grade
40%

Assessment Criteria
This assessment item will be assessed on the following criteria:

1. Production of accurate AutoCAD drawing files complying with AS1100 drawing practice.
2. Demonstration of achievement of the learning outcomes as listed below in the 'Learning Outcomes Assessed' section.

The assessment item detail will be available on the Moodle website.
Please note while individual assignments have a minimum pass requirement of 40%, you will need to achieve a total of 50% for the entire Unit to pass.

Referencing Style

- Harvard (author-date)

Submission
Online

Submission Instructions
Submit via the Moodle site: 1) a single pdf file containing the AutoCAD drawings. 2) Also submit a single zip file containing the AutoCAD *.dwg files.

Learning Outcomes Assessed

- Scale, layout, draw and dimension engineering CAD drawings to provide sufficient information to manufacture artefacts

- Draw and interpret 2D and 3D drawings using surface modelling, 3D solid modelling and rendering with CAD software
- Produce component detail drawings and assembly drawings including parts lists for engineering artefacts to AS1100 standards
- Demonstrate an effective, professional level of communication and support collaborative peer group learning

Graduate Attributes

- Communication
- Problem Solving
- Critical Thinking
- Information Literacy
- Information Technology 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