



ENGG200

Engineering Practice

S1 Day 2014

Dept of Engineering

Contents

<u>General Information</u>	2
<u>Learning Outcomes</u>	2
<u>Assessment Tasks</u>	3
<u>Delivery and Resources</u>	6
<u>Unit Schedule</u>	7
<u>Policies and Procedures</u>	8
<u>Graduate Capabilities</u>	9
<u>Changes since First Published</u>	14

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General Information

Unit convenor and teaching staff Unit Convenor TBD
Credit points 3
Prerequisites 12cp and admission to BE or BEBA or BEBBA or BEBCom or BEBSc
Corequisites
Co-badged status
Unit description This unit covers a range of engineering specialisations with a series of lectures, laboratory sessions, self-study, group work and activities. Students learn about the process of engineering, solving problems, design and product development. The unit also gives students an opportunity to develop and practise generic skills such as written and oral communication. An aim of this unit is to give students some exposure to the specialisations and streams from which they must choose for the remainder of their studies.

Important Academic Dates

Information about important academic dates including deadlines for withdrawing from units are available at <https://www.mq.edu.au/study/calendar-of-dates>

Learning Outcomes

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

- Ability to appreciate the main characteristics of and differences between the engineering disciplines offered in the engineering degree
- Recognition of professional, social, economic and environmental aspects of the engineering specializations.
- An understanding of the engineer's role in an industrial or academic setting.
- Ability to produce professional reports and short papers.
- Ability to give professional oral presentations on technical topics.

Assessment Tasks

Name	Weighting	Due
<u>Group Meeting 1</u>	2%	07:00PM 21/3/2014
<u>Group Meeting 2</u>	2%	07:00PM 4/4/2014
<u>Group Meeting 3</u>	2%	07:00PM 2/5/2014
<u>Group Meeting 4</u>	2%	07:00PM 16/5/2014
<u>Group Meeting 5</u>	2%	07:00PM 30/5/2014
<u>Practicals</u>	35%	See the Schedule on iLearn
<u>Assignment 1</u>	10%	07:00PM 9/5/2014
<u>Assignment 2</u>	5%	07:00PM 30/5/2014
<u>Project Oral Presentation</u>	20%	During the prac in week 12
<u>Final Project Report</u>	20%	07:00PM 13/6/2014

Group Meeting 1

Due: **07:00PM 21/3/2014**

Weighting: **2%**

There are 5 scheduled Group Meetings totally. Students need to attend and sign for the minutes and submit them on time.

On successful completion you will be able to:

- Ability to appreciate the main characteristics of and differences between the engineering disciplines offered in the engineering degree
- Recognition of professional, social, economic and environmental aspects of the engineering specializations.
- An understanding of the engineer's role in an industrial or academic setting.
- Ability to give professional oral presentations on technical topics.

Group Meeting 2

Due: **07:00PM 4/4/2014**

Weighting: **2%**

There are 5 scheduled Group Meetings totally. Students need to attend and sign for the minutes

and submit them on time.

On successful completion you will be able to:

- Ability to appreciate the main characteristics of and differences between the engineering disciplines offered in the engineering degree
- Recognition of professional, social, economic and environmental aspects of the engineering specializations.
- An understanding of the engineer's role in an industrial or academic setting.
- Ability to give professional oral presentations on technical topics.

Group Meeting 3

Due: **07:00PM 2/5/2014**

Weighting: **2%**

There are 5 scheduled Group Meetings totally. Students need to attend and sign for the minutes and submit them on time.

On successful completion you will be able to:

- Ability to appreciate the main characteristics of and differences between the engineering disciplines offered in the engineering degree
- Recognition of professional, social, economic and environmental aspects of the engineering specializations.
- An understanding of the engineer's role in an industrial or academic setting.
- Ability to give professional oral presentations on technical topics.

Group Meeting 4

Due: **07:00PM 16/5/2014**

Weighting: **2%**

There are 5 scheduled Group Meetings totally. Students need to attend and sign for the minutes and submit them on time.

On successful completion you will be able to:

- Ability to appreciate the main characteristics of and differences between the engineering disciplines offered in the engineering degree
- Recognition of professional, social, economic and environmental aspects of the engineering specializations.
- An understanding of the engineer's role in an industrial or academic setting.
- Ability to give professional oral presentations on technical topics.

Group Meeting 5

Due: **07:00PM 30/5/2014**

Weighting: **2%**

There are 5 scheduled Group Meetings totally. Students need to attend and sign for the minutes and submit them on time.

On successful completion you will be able to:

- Ability to appreciate the main characteristics of and differences between the engineering disciplines offered in the engineering degree
- Recognition of professional, social, economic and environmental aspects of the engineering specializations.
- An understanding of the engineer's role in an industrial or academic setting.
- Ability to give professional oral presentations on technical topics.

Practicals

Due: **See the Schedule on iLearn**

Weighting: **35%**

There are totally 7 Practical's starting from Week 3. The total mark is 10%.

On successful completion you will be able to:

- An understanding of the engineer's role in an industrial or academic setting.
- Ability to produce professional reports and short papers.
- Ability to give professional oral presentations on technical topics.

Assignment 1

Due: **07:00PM 9/5/2014**

Weighting: **10%**

This is based on lectures in Week 2, 4 and 5.

On successful completion you will be able to:

- Recognition of professional, social, economic and environmental aspects of the engineering specializations.
- Ability to produce professional reports and short papers.

Assignment 2

Due: **07:00PM 30/5/2014**

Weighting: **5%**

This is based on the pracs and lectures on MATLAB.

On successful completion you will be able to:

- An understanding of the engineer's role in an industrial or academic setting.
- Ability to produce professional reports and short papers.

Project Oral Presentation

Due: **During the prac in week 12**

Weighting: **20%**

Students need to do presentations as a group. Each student will be marked by Academics, tutors and possibly other students.

On successful completion you will be able to:

- Ability to appreciate the main characteristics of and differences between the engineering disciplines offered in the engineering degree
- Recognition of professional, social, economic and environmental aspects of the engineering specializations.
- An understanding of the engineer's role in an industrial or academic setting.
- Ability to give professional oral presentations on technical topics.

Final Project Report

Due: **07:00PM 13/6/2014**

Weighting: **20%**

This is a report on the project that the student does.

On successful completion you will be able to:

- Ability to appreciate the main characteristics of and differences between the engineering disciplines offered in the engineering degree
- Recognition of professional, social, economic and environmental aspects of the engineering specializations.
- Ability to produce professional reports and short papers.

Delivery and Resources

No books or other publications for reference will be recommended. The students need to search the related resources by Internet themselves. Some lectures may provide some links to the related resources.

Changes since last offering:

Logbook is not required as part of the assessment. Matlab part will be lectured by Gengfa Fang.

Unit Schedule

Week	Lecture Topic	Lecturer	Practical	Due Assignments/Tasks
Week 1	Introduction to The Unit	G. Fang		
Week 2	Professional Document Preparation: IEEE Style Writing	T. Parker		
Week 3	Project Introduction and Time Planning	M. Heimlich	LaTeX Professional Document	Group Meeting 1 (during Pracs)
Week 4	Professional Document Preparation: Graphing and Plotting (GNU Plot)	T. Parker	LaTeX Professional Document	
Week 5	Professional Document Preparation: Technical Drawing	T. Parker	LaTeX Professional Document	Group Meeting 2
Week 6	Matlab	G. Fang	GNU Plotting	
Week 7	Matlab	G. Fang	GNU Plotting	Group Meeting 3
Week 8	Engineering Majors	C. Lang	CAD Drawing	Assignment 1: Professional Document
Week 9	Industry Lecture	TBD	Matlab Programming	Group Meeting 4
Week 10	Industry Lecture	TBD	Matlab Programming	
Week 11	Presentation Preparation	M. Heimlich		Group Meeting 5 Assignment 2: MATLAB

Week 12			Project Oral Presentations	
Week 13				Final Project Report

Policies and Procedures

Macquarie University policies and procedures are accessible from [Policy Central](#). Students should be aware of the following policies in particular with regard to Learning and Teaching:

Academic Honesty Policy http://mq.edu.au/policy/docs/academic_honesty/policy.html

Assessment Policy <http://mq.edu.au/policy/docs/assessment/policy.html>

Grading Policy <http://mq.edu.au/policy/docs/grading/policy.html>

Grade Appeal Policy <http://mq.edu.au/policy/docs/gradeappeal/policy.html>

Grievance Management Policy http://mq.edu.au/policy/docs/grievance_management/policy.html

Disruption to Studies Policy http://www.mq.edu.au/policy/docs/disruption_studies/policy.html *The Disruption to Studies Policy is effective from March 3 2014 and replaces the Special Consideration Policy.*

In addition, a number of other policies can be found in the [Learning and Teaching Category](#) of Policy Central.

Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: https://students.mq.edu.au/support/student_conduct/

Student Support

Macquarie University provides a range of support services for students. For details, visit <http://students.mq.edu.au/support/>

Learning Skills

Learning Skills (mq.edu.au/learningskills) provides academic writing resources and study strategies to improve your marks and take control of your study.

- [Workshops](#)
- [StudyWise](#)
- [Academic Integrity Module for Students](#)

- [Ask a Learning Adviser](#)

Student Services and Support

Students with a disability are encouraged to contact the [Disability Service](#) who can provide appropriate help with any issues that arise during their studies.

Student Enquiries

For all student enquiries, visit Student Connect at ask.mq.edu.au

IT Help

For help with University computer systems and technology, visit <http://informatics.mq.edu.au/help/>.

When using the University's IT, you must adhere to the [Acceptable Use Policy](#). The policy applies to all who connect to the MQ network including students.

Graduate Capabilities

Capable of Professional and Personal Judgement and Initiative

We want our graduates to have emotional intelligence and sound interpersonal skills and to demonstrate discernment and common sense in their professional and personal judgement. They will exercise initiative as needed. They will be capable of risk assessment, and be able to handle ambiguity and complexity, enabling them to be adaptable in diverse and changing environments.

This graduate capability is supported by:

Learning outcomes

- Ability to appreciate the main characteristics of and differences between the engineering disciplines offered in the engineering degree
- Recognition of professional, social, economic and environmental aspects of the engineering specializations.
- An understanding of the engineer's role in an industrial or academic setting.
- Ability to produce professional reports and short papers.
- Ability to give professional oral presentations on technical topics.

Assessment tasks

- Group Meeting 1
- Group Meeting 2
- Group Meeting 3
- Group Meeting 4
- Group Meeting 5

- Project Oral Presentation
- Final Project Report

Commitment to Continuous Learning

Our graduates will have enquiring minds and a literate curiosity which will lead them to pursue knowledge for its own sake. They will continue to pursue learning in their careers and as they participate in the world. They will be capable of reflecting on their experiences and relationships with others and the environment, learning from them, and growing - personally, professionally and socially.

This graduate capability is supported by:

Learning outcome

- Ability to appreciate the main characteristics of and differences between the engineering disciplines offered in the engineering degree

Assessment tasks

- Group Meeting 1
- Group Meeting 2
- Group Meeting 3
- Group Meeting 4
- Group Meeting 5
- Assignment 1
- Assignment 2
- Project Oral Presentation
- Final Project Report

Discipline Specific Knowledge and Skills

Our graduates will take with them the intellectual development, depth and breadth of knowledge, scholarly understanding, and specific subject content in their chosen fields to make them competent and confident in their subject or profession. They will be able to demonstrate, where relevant, professional technical competence and meet professional standards. They will be able to articulate the structure of knowledge of their discipline, be able to adapt discipline-specific knowledge to novel situations, and be able to contribute from their discipline to inter-disciplinary solutions to problems.

This graduate capability is supported by:

Learning outcomes

- Ability to appreciate the main characteristics of and differences between the engineering disciplines offered in the engineering degree
- Recognition of professional, social, economic and environmental aspects of the

engineering specializations.

Assessment tasks

- Practicals
- Assignment 1
- Assignment 2
- Project Oral Presentation
- Final Project Report

Critical, Analytical and Integrative Thinking

We want our graduates to be capable of reasoning, questioning and analysing, and to integrate and synthesise learning and knowledge from a range of sources and environments; to be able to critique constraints, assumptions and limitations; to be able to think independently and systemically in relation to scholarly activity, in the workplace, and in the world. We want them to have a level of scientific and information technology literacy.

This graduate capability is supported by:

Learning outcomes

- Ability to appreciate the main characteristics of and differences between the engineering disciplines offered in the engineering degree
- Recognition of professional, social, economic and environmental aspects of the engineering specializations.
- An understanding of the engineer's role in an industrial or academic setting.

Assessment tasks

- Practicals
- Assignment 1
- Assignment 2
- Project Oral Presentation
- Final Project Report

Problem Solving and Research Capability

Our graduates should be capable of researching; of analysing, and interpreting and assessing data and information in various forms; of drawing connections across fields of knowledge; and they should be able to relate their knowledge to complex situations at work or in the world, in order to diagnose and solve problems. We want them to have the confidence to take the initiative in doing so, within an awareness of their own limitations.

This graduate capability is supported by:

Learning outcomes

- Ability to appreciate the main characteristics of and differences between the engineering disciplines offered in the engineering degree
- Recognition of professional, social, economic and environmental aspects of the engineering specializations.
- An understanding of the engineer's role in an industrial or academic setting.

Assessment tasks

- Practicals
- Assignment 1
- Assignment 2
- Final Project Report

Creative and Innovative

Our graduates will also be capable of creative thinking and of creating knowledge. They will be imaginative and open to experience and capable of innovation at work and in the community. We want them to be engaged in applying their critical, creative thinking.

This graduate capability is supported by:

Learning outcome

- Ability to appreciate the main characteristics of and differences between the engineering disciplines offered in the engineering degree

Assessment tasks

- Practicals
- Assignment 1
- Assignment 2
- Final Project Report

Effective Communication

We want to develop in our students the ability to communicate and convey their views in forms effective with different audiences. We want our graduates to take with them the capability to read, listen, question, gather and evaluate information resources in a variety of formats, assess, write clearly, speak effectively, and to use visual communication and communication technologies as appropriate.

This graduate capability is supported by:

Learning outcomes

- Ability to appreciate the main characteristics of and differences between the engineering

disciplines offered in the engineering degree

- Recognition of professional, social, economic and environmental aspects of the engineering specializations.
- An understanding of the engineer's role in an industrial or academic setting.
- Ability to produce professional reports and short papers.

Assessment tasks

- Group Meeting 3
- Group Meeting 4
- Group Meeting 5
- Practicals
- Project Oral Presentation

Engaged and Ethical Local and Global citizens

As local citizens our graduates will be aware of indigenous perspectives and of the nation's historical context. They will be engaged with the challenges of contemporary society and with knowledge and ideas. We want our graduates to have respect for diversity, to be open-minded, sensitive to others and inclusive, and to be open to other cultures and perspectives: they should have a level of cultural literacy. Our graduates should be aware of disadvantage and social justice, and be willing to participate to help create a wiser and better society.

This graduate capability is supported by:

Learning outcome

- Ability to appreciate the main characteristics of and differences between the engineering disciplines offered in the engineering degree

Assessment tasks

- Group Meeting 1
- Group Meeting 2
- Group Meeting 3
- Group Meeting 4
- Group Meeting 5
- Project Oral Presentation

Socially and Environmentally Active and Responsible

We want our graduates to be aware of and have respect for self and others; to be able to work with others as a leader and a team player; to have a sense of connectedness with others and country; and to have a sense of mutual obligation. Our graduates should be informed and active participants in moving society towards sustainability.

This graduate capability is supported by:

Learning outcomes

- Ability to appreciate the main characteristics of and differences between the engineering disciplines offered in the engineering degree
- Recognition of professional, social, economic and environmental aspects of the engineering specializations.
- An understanding of the engineer's role in an industrial or academic setting.

Assessment tasks

- Group Meeting 1
- Group Meeting 2
- Group Meeting 3
- Group Meeting 4
- Group Meeting 5
- Practicals
- Project Oral Presentation
- Final Project Report

Changes since First Published

Date	Description
07/08/2014	Learning outcomes were updated considering other new majors.