

ENGG300 Engineering Project Practices

S2 Day 2013

Engineering

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General Information

Unit convenor and teaching staff Unit Convenor Eryk Dutkiewicz eryk.dutkiewicz@mq.edu.au Contact via eryk.dutkiewicz@mq.edu.au

Credit points 3

Prerequisites

(39cp including ENGG200(P)) and (admission to BE or BEBA or BEBBA or BEBCom or BEBSc)

Corequisites

Co-badged status

Unit description

This unit develops skills required for professional practice in engineering, particularly selflearning, collaborative problem solving, and communication. The vehicles for skills development include a research project, written report and oral presentation.

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:

Working knowledge of the engineering process and the associated documents.

Demonstrate competency in the use of documentation-related software to produce engineering documents.

Practical use of standard engineering work products for communication and documentation of the engineering process.

Experience in executing a complete, professional engineering process as an individual within an engineering team.

Ability to analyse, build and measure simple simulations or models of more complex engineering systems.

Assessment Tasks

Name	Weighting	Due
Requirements Document	15%	Week 5
Project Proposal Document	15%	Week 8
Design Document	20%	Week 10
Oral Report	5%	Weeks 12 and 13
Final Report	30%	Week 13
Notebook	5%	Each mixed session
Mixed Assignments	10%	Monday after Mixed Session

Requirements Document

Due: Week 5 Weighting: 15%

On successful completion you will be able to:

- Working knowledge of the engineering process and the associated documents.
- Demonstrate competency in the use of documentation-related software to produce engineering documents.
- Practical use of standard engineering work products for communication and documentation of the engineering process.
- Experience in executing a complete, professional engineering process as an individual within an engineering team.

Project Proposal Document

Due: Week 8 Weighting: 15%

On successful completion you will be able to:

- Working knowledge of the engineering process and the associated documents.
- Demonstrate competency in the use of documentation-related software to produce engineering documents.
- · Practical use of standard engineering work products for communication and

documentation of the engineering process.

• Experience in executing a complete, professional engineering process as an individual within an engineering team.

Design Document

Due: Week 10 Weighting: 20%

On successful completion you will be able to:

- Working knowledge of the engineering process and the associated documents.
- Demonstrate competency in the use of documentation-related software to produce engineering documents.
- Practical use of standard engineering work products for communication and documentation of the engineering process.
- Experience in executing a complete, professional engineering process as an individual within an engineering team.

Oral Report

Due: Weeks 12 and 13 Weighting: 5%

On successful completion you will be able to:

- Working knowledge of the engineering process and the associated documents.
- Practical use of standard engineering work products for communication and documentation of the engineering process.
- Experience in executing a complete, professional engineering process as an individual within an engineering team.

Final Report

Due: Week 13 Weighting: 30%

On successful completion you will be able to:

- Working knowledge of the engineering process and the associated documents.
- Demonstrate competency in the use of documentation-related software to produce engineering documents.
- · Practical use of standard engineering work products for communication and

documentation of the engineering process.

- Experience in executing a complete, professional engineering process as an individual within an engineering team.
- Ability to analyse, build and measure simple simulations or models of more complex engineering systems.

Notebook

Due: Each mixed session Weighting: 5%

On successful completion you will be able to:

· Working knowledge of the engineering process and the associated documents.

Mixed Assignments

Due: Monday after Mixed Session Weighting: 10%

On successful completion you will be able to:

- Working knowledge of the engineering process and the associated documents.
- Demonstrate competency in the use of documentation-related software to produce engineering documents.
- Practical use of standard engineering work products for communication and documentation of the engineering process.
- Ability to analyse, build and measure simple simulations or models of more complex engineering systems.

Delivery and Resources

There will be a number of pre-recorded lectures available on iLearn. The lectures will be made available in each week according to the topics that are to be covered in the corresponding week.

Notes (including tutorial questions) for mixed sessions will be available in the iLearn online system for download.

Policies and Procedures

Macquarie University policies and procedures are accessible from <u>Policy Central</u>. Students should be aware of the following policies in particular with regard to Learning and Teaching:

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

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

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

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

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

Special Consideration Policy http://www.mq.edu.au/policy/docs/special_consideration/policy.html

In addition, a number of other policies can be found in the <u>Learning and Teaching Category</u> of Policy Central.

Late Reports

Late reports will receive no credit but will still be required to achieve a passing grade. This penalty does not apply for cases in which an application for special consideration is made and approved. Wherever possible, these must be arranged with the unit convenor **prior** to the due date.

Student Support

Macquarie University provides a range of Academic Student Support Services. Details of these services can be accessed at: http://students.mq.edu.au/support/

UniWISE provides:

- Online learning resources and academic skills workshops http://www.students.mq.edu.a
 u/support/learning_skills/
- Personal assistance with your learning & study related questions.
- The Learning Help Desk is located in the Library foyer (level 2).
- Online and on-campus orientation events run by Mentors@Macquarie.

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

Details of these services can be accessed at http://www.student.mq.edu.au/ses/.

IT Help

If you wish to receive IT help, we would be glad to assist you at <u>http://informatics.mq.edu.au/hel</u>p/.

When using the university's IT, you must adhere to the <u>Acceptable Use Policy</u>. The policy applies to all who connect to the MQ network including students and it outlines what can be done.

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

- Experience in executing a complete, professional engineering process as an individual within an engineering team.
- Ability to analyse, build and measure simple simulations or models of more complex engineering systems.

Assessment tasks

- Requirements Document
- Project Proposal Document
- Design Document
- Final Report
- Mixed Assignments

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

- Working knowledge of the engineering process and the associated documents.
- Demonstrate competency in the use of documentation-related software to produce engineering documents.
- Practical use of standard engineering work products for communication and documentation of the engineering process.

- Experience in executing a complete, professional engineering process as an individual within an engineering team.
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Assessment tasks

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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

- Demonstrate competency in the use of documentation-related software to produce engineering documents.
- Practical use of standard engineering work products for communication and documentation of the engineering process.
- Experience in executing a complete, professional engineering process as an individual within an engineering team.
- Ability to analyse, build and measure simple simulations or models of more complex engineering systems.

Assessment tasks

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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

- Experience in executing a complete, professional engineering process as an individual within an engineering team.
- Ability to analyse, build and measure simple simulations or models of more complex engineering systems.

Assessment tasks

- Design Document
- Final Report
- Mixed Assignments

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 outcomes

- Working knowledge of the engineering process and the associated documents.
- Experience in executing a complete, professional engineering process as an individual within an engineering team.
- Ability to analyse, build and measure simple simulations or models of more complex engineering systems.

Assessment tasks

- Design Document
- Final Report
- Mixed Assignments

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

- Working knowledge of the engineering process and the associated documents.
- Demonstrate competency in the use of documentation-related software to produce engineering documents.
- Practical use of standard engineering work products for communication and documentation of the engineering process.
- Experience in executing a complete, professional engineering process as an individual within an engineering team.

Assessment tasks

- Requirements Document
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