



Mechanical and Manufacturing Engineering

# Course Outline

Semester 2 2017

## **GSOE9820**

# **Engineering Project Management**

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# 1. Staff contact details

## Contact details and consultation times for course convenor

Name: Mr Corey Martin  
Office location: Ainsworth Building (J17), Room 507  
Email: [corey.martin@unsw.edu.au](mailto:corey.martin@unsw.edu.au)

Consultation concerning this course is available immediately after the classes. Face-to-face consultation outside this time is available by appointment only.

## Contact details and consultation times for additional lecturers/demonstrators/lab staff

### Head Demonstrator:

Name: Ms Sandra Cowan  
Email: [sandra.cowan@unsw.edu.au](mailto:sandra.cowan@unsw.edu.au)

# 2. Important links

- [Moodle](#)
- [UNSW Mechanical and Manufacturing Engineering](#)
- [Course Outlines](#)
- [Student intranet](#)
- [UNSW Mechanical and Manufacturing Engineering Facebook](#)
- [UNSW Handbook](#)

# 3. Course details

## Credit Points

This is a 6 unit-of-credit (UoC) course, and involves 2-3 hours per week (h/w) of face-to-face contact.

The UNSW website states “The normal workload expectations of a student are approximately 25 hours per semester for each UoC, including class contact hours, other learning activities, preparation and time spent on all assessable work. Thus, for a full-time enrolled student, the normal workload, averaged across the 16 weeks of teaching, study and examination periods, is about 37.5 hours per week.”

This means that you should aim to spend about 9 h/w on this course. The additional time should be spent in making sure that you understand the lecture material, completing the set assignments, further reading, and revising for any examinations.

## Contact hours

	Day	Time	Location
<b>Lectures</b>	Monday (Commence in week 1)	6-9pm	Rex Vowels Theatre (K-F17-LG3)
<b>Demonstrations</b>	Are provided in the form of Web-based activities and require you to work in project teams over the duration of the semester. (Commence in week 2 of semester).		

Please refer to your class timetable for the learning activities you are enrolled in and attend only those classes.

## Summary and Aims of the course

This course will introduce to you the fundamental principles of project management in an engineering context, enabling you to become a successful project manager.

This course takes an integrated approach to managing projects, exploring both technical and managerial challenges. It emphasises not only individual project implementation, but also provides a strategic perspective of how to manage projects at the program and portfolio levels.

The course will provide you with a powerful set of tools to improve your ability to plan, implement and manage activities to accomplish specific organisational objectives in often complex and challenging work environments.

The Project Management Standards (e.g. PMBOK) are also included in the course in order to comprehensively identify the critical knowledge areas that project managers must understand if they are to become successful managers. The course is also a pathway for Project Management Institute (PMI) certification since both the contents of the course, terminologies used and exposure to several real world cases will support your preparations.

## Student learning outcomes

This course is designed to address the learning outcomes below and the corresponding Engineers Australia Stage 1 Competency Standards for Professional Engineers as shown. The full list of Stage 1 Competency Standards may be found in Appendix A.

After successfully completing this course, you should be able to:

	Learning Outcome	EA Stage 1 Competencies
1.	Know what a project is as well as understand the role and responsibilities of a project manager	PE1.1, 1.3, 1.6 PE2.4 PE3.1
2.	Be able to create project plans, schedules and budgets	PE1.1, 1.2, 1.3, 1.5 PE2.1, 2.2, 2.3, 2.4

3.	Be able to select and use the appropriate tools to aid in managing a project	PE2.1, 2.2, 2.3, 2.4
4.	Be able to select and develop appropriate management styles to successfully complete a project.	PE3.1, 3.2, 3.3, 3.4, 3.5, 3.6

## 4. Teaching strategies

Lectures in the course are designed to cover the terminology and core concepts and theories in Project Management to help you develop a range of skills, such as managing project teams, project schedules, budgets as well as being aware of strategic topics, different environments, cultures and ethics of projects and community issues. They do not simply reiterate the texts, but build on the lecture topics using examples taken directly from industry to show how the theory is applied in practice and the details of when, where and how it should be applied.

Web-based activities are designed to provide you with the opportunity to put your learning into practice and allow you to strengthen your understanding of key concepts.

## 5. Course schedule

Date	Topics	Suggested Readings
24-Jul-17	Introduction to modern project management	Ch. 1
31-Jul-17	Organisational strategy and project selection	Ch. 2
07-Aug-17	Defining the project	Ch. 4
14-Aug-17	Dynamic Teams, Organisational structure and culture	Ch. 3, 11
21-Aug-17	Estimating project times and costs	Ch. 5
28-Aug-17	Developing a project plan	Ch. 6
04-Sep-17	Scheduling resources and costs	Ch. 8
11-Sep-17	Reducing project duration & Progress and Performance Measurement and Evaluation	Ch. 9, 13
18-Sep-17	Managing risk	Ch. 7
25-Sep-17	MID-SEMESTER BREAK (No Class)	
02-Oct-17	Public Holiday (No Class)	
09-Oct-17	Effective leadership	Ch. 10
16-Oct-17	Introduction to Agile Project Management and Project closure	Ch. 14, 17
24-Jul-17	No class scheduled	

# 6. Assessment

## Assessment overview

Task	Assessment	Length	Weight	Learning outcomes assessed	Assessment criteria	Due date and submission requirements	Deadline for absolute fail	Marks returned
T1	Web-based activities - Project 1	2 weeks	10%	1, 2, 3 and 4	Refer to Web-based activities marking criteria	Refer to schedule for web-based activities	Refer to schedule for web-based activities	Two weeks after submission
	Web-based activities - Project 2	2 weeks	15%	1, 2, 3 and 4	Refer to Web-based activities marking criteria	Refer to schedule for web-based activities	Refer to schedule for web-based activities	Two weeks after submission
	Web-based activities - Project 3 – Case Study	3 weeks	25%	1, 2, 3 and 4	Refer to Web-based activities marking criteria	Refer to schedule for web-based activities	Refer to schedule for web-based activities	Two weeks after submission
T2	Quiz	1 hour	15%	1, 2 and 3	Lecture material from weeks 1-8.	Online in class, during week 9	N/A	One week after submission
T3	Final exam	2 hours	35%	1, 2 and 3	All course content from weeks 1-13 inclusive.	Exam period, date TBA	N/A	Upon release of final results

## Assignments

### *Presentation*

All submissions are expected to be neat and clearly set out. Your results are the pinnacle of all your hard work and should be treated with due respect. Presenting results clearly gives the marker the best chance for understanding your method; even if the numerical results are incorrect.

### *Submission*

Late submissions will be penalised 5 marks per calendar day (including weekends). An extension may only be granted in exceptional circumstances. Special consideration for assessment tasks must be processed through [student.unsw.edu.au/special-consideration](http://student.unsw.edu.au/special-consideration).

It is always worth submitting late assessment tasks when possible. Completion of the work, even late, may be taken into account in cases of special consideration.

Where there is no special consideration granted, the 'deadline for absolute fail' in the table above indicates the time after which a submitted assignment will not be marked, and will achieve a score of zero for the purpose of determining overall grade in the course.

## Web-based activities

The purpose of the web-based activities is to provide students with the opportunity to consolidate and apply the materials covered in the lectures; therefore you are strongly advised to cover lecture/support materials regularly every week of the session.

These activities will be facilitated and assessed through individual and team discussions. Web-based participation marks will be assessed on your individual contributions to online discussions, exercises and other learning activities via UNSW Moodle.

### *Marking Criteria used for Web-based activities*

1. Participation
  - a. Discuss team member's posts
  - b. Put your thoughts forward
  - c. Work to plan
  - d. Be early, rather than late
2. Content of Posts
  - a. Quality posts
  - b. Correct answers
  - c. 'Outside of Box' thinking
  - d. Presentation
  - e. Proper English. E.g. no slang.

3. Final Report
  - a. Correct answers
  - b. Presentation
  - c. On time
  
4. Project Management Skills
  - a. Early start
  - b. Provide structured plan
  - c. Follow up on deadlines
  - d. Responses to posts
  - e. Leadership
  
5. Team member skills
  - a. Respond to PM's plan and requests
  - b. Provide answers and discussion
  - c. Interaction. Give feedback on posts
  - d. Provide quality work, not quantity

There will be several web-based groups. Each of you will be randomly assigned to one of these web-based groups by the end of Week 2. You will be notified of your web-based facilitator name and contact details through UNSW Moodle.

*Submission of web-based activities*

Web-based projects commence in week 2 and are made available on Moodle during the semester.

Each project is due 1 hour before class (i.e. 5pm) on the date specified in Table 1.

<b>ACTIVITIES</b>	<b>Release Date (@ 9pm)</b>	<b>Due Date (@ 5pm)</b>	<b>Deadline for absolute fail (@5pm)</b>
Project 1	31-Jul	14-Aug	16-Aug
Project 2	28-Aug	11-Sep	13-Sep
Project 3*	2-Oct	23-Oct	25-Oct

Table 1 - Schedule for web-based activities

\* It will be a requirement for students to purchase individually (estimated at USD \$5) a copy of a Harvard Business Review case study for Project 3. Details of the actual case study will be provided on Moodle before the project is released.

**Examinations**

There will be a single, two (2) hour examination at the end of the semester.

The final examination assesses all materials covered throughout the semester to meet the course learning outcomes.



You must be available for all tests and examinations. Final examinations for each course are held during the University examination periods, which are June for Semester 1 and November for Semester 2.

Provisional Examination timetables are generally published on myUNSW in May for Semester 1 and September for Semester 2.

For further information on exams, please see the [Exams](#) section on the intranet.

### *Calculators*

You will need to provide your own calculator, of a make and model approved by UNSW, for the examinations. The list of approved calculators is shown at [student.unsw.edu.au/exam-approved-calculators-and-computers](http://student.unsw.edu.au/exam-approved-calculators-and-computers)

It is your responsibility to ensure that your calculator is of an approved make and model, and to obtain an “Approved” sticker for it from the School Office or the Engineering Student Centre prior to the examination. Calculators not bearing an “Approved” sticker will not be allowed into the examination room.

### **Special consideration and supplementary assessment**

For details of applying for special consideration and conditions for the award of supplementary assessment, see the [School intranet](#), and the information on UNSW’s [Special Consideration page](#).

## **7. Attendance**

You are required to attend a minimum of 80% of all classes, including lectures, labs and seminars. It is possible to fail the course if your total absences equal to more than 20% of the required attendance. Please see the [School intranet](#) and the [UNSW attendance page](#) for more information.

## **8. Expected resources for students**

### **Textbook (Required)**

Gray C.F. and Larson E.W. Project Management, 6<sup>th</sup> edition, McGraw Hill International edition, 2014. ISBN: 9781743071809

(\*Note: The 7<sup>th</sup> edition has just recently been released and is also acceptable)

### **Case Study (Required)**

Students are required to purchase individually (estimated at USD \$5) a copy of a Harvard

Business Review case study for Project 3. Details of the actual case study will be provided on Moodle.

### **Additional materials provided in UNSW Moodle**

This course uses UNSW Moodle (<http://moodle.telt.unsw.edu.au>).

Items found on UNSW Moodle include:

- Web-based activities;
- Copies of weekly lectures;
- Class announcements.

### **Recommended Internet sites**

There are many websites giving lectures, papers and data on project management in general. A useful reference site is <http://www.pmi.org>

### **Other Resources**

If you wish to explore any of the lecture topics in more depth, then other resources are available and assistance may be obtained from the UNSW Library.

UNSW Library website: <https://www.library.unsw.edu.au/>

## **9. Course evaluation and development**

Feedback on the course is gathered periodically using various means, including the UNSW myExperience process, informal discussion in the final class for the course, and the School's Student/Staff meetings. Your feedback is taken seriously, and continual improvements are made to the course based, in part, on such feedback.

In this course, recent improvements resulting from student feedback include the provision of more detailed explanations on how to successfully complete the web-based activities.

## **10. Academic honesty and plagiarism**

UNSW has an ongoing commitment to fostering a culture of learning informed by academic integrity. All UNSW students have a responsibility to adhere to this principle of academic integrity. Plagiarism undermines academic integrity and is not tolerated at UNSW. *Plagiarism at UNSW is defined as using the words or ideas of others and passing them off as your own.*

Plagiarism is a type of intellectual theft. It can take many forms, from deliberate cheating to accidentally copying from a source without acknowledgement. UNSW has produced a website with a wealth of resources to support students to understand and avoid plagiarism:

[student.unsw.edu.au/plagiarism](http://student.unsw.edu.au/plagiarism) The Learning Centre assists students with understanding academic integrity and how not to plagiarise. They also hold workshops and can help students one-on-one.

You are also reminded that careful time management is an important part of study and one of the identified causes of plagiarism is poor time management. Students should allow sufficient time for research, drafting and the proper referencing of sources in preparing all assessment tasks.

If plagiarism is found in your work when you are in first year, your lecturer will offer you assistance to improve your academic skills. They may ask you to look at some online resources, attend the Learning Centre, or sometimes resubmit your work with the problem fixed. However more serious instances in first year, such as stealing another student's work or paying someone to do your work, may be investigated under the Student Misconduct Procedures.

Repeated plagiarism (even in first year), plagiarism after first year, or serious instances, may also be investigated under the Student Misconduct Procedures. The penalties under the procedures can include a reduction in marks, failing a course or for the most serious matters (like plagiarism in an honours thesis) even suspension from the university. The Student Misconduct Procedures are available here:

[www.gs.unsw.edu.au/policy/documents/studentmisconductprocedures.pdf](http://www.gs.unsw.edu.au/policy/documents/studentmisconductprocedures.pdf)

Further information on School policy and procedures in the event of plagiarism is available on the [intranet](#).

## 11. Administrative matters and links

All students are expected to read and be familiar with School guidelines and policies, available on the intranet. In particular, students should be familiar with the following:

- [Attendance, Participation and Class Etiquette](#)
- [UNSW Email Address](#)
- [Computing Facilities](#)
- [Assessment Matters](#) (including guidelines for assignments, exams and special consideration)
- [Academic Honesty and Plagiarism](#)
- [Student Equity and Disabilities Unit](#)
- [Health and Safety](#)
- [Student Support Services](#)

# Appendix A: Engineers Australia (EA) Competencies

## Stage 1 Competencies for Professional Engineers

	<b>Program Intended Learning Outcomes</b>
<b>PE1: Knowledge and Skill Base</b>	PE1.1 Comprehensive, theory-based understanding of underpinning fundamentals
	PE1.2 Conceptual understanding of underpinning maths, analysis, statistics, computing
	PE1.3 In-depth understanding of specialist bodies of knowledge
	PE1.4 Discernment of knowledge development and research directions
	PE1.5 Knowledge of engineering design practice
	PE1.6 Understanding of scope, principles, norms, accountabilities of sustainable engineering practice
<b>PE2: Engineering Application Ability</b>	PE2.1 Application of established engineering methods to complex problem solving
	PE2.2 Fluent application of engineering techniques, tools and resources
	PE2.3 Application of systematic engineering synthesis and design processes
	PE2.4 Application of systematic approaches to the conduct and management of engineering projects
<b>PE3: Professional and Personal Attributes</b>	PE3.1 Ethical conduct and professional accountability
	PE3.2 Effective oral and written communication (professional and lay domains)
	PE3.3 Creative, innovative and pro-active demeanour
	PE3.4 Professional use and management of information
	PE3.5 Orderly management of self, and professional conduct
	PE3.6 Effective team membership and team leadership