



Mechanical and Manufacturing Engineering

# Course Outline

Semester 2 2018

**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: Ainsworth Building (J17), Room 507  
Email: [corey.martin@unsw.edu.au](mailto:corey.martin@unsw.edu.au)  
Moodle: <https://moodle.telt.unsw.edu.au/login/index.php>

Consultation concerning this course is available immediately after 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** - Ms Sandra Cowan - Email: [sandra.cowan@unsw.edu.au](mailto:sandra.cowan@unsw.edu.au)

Please see the course [Moodle](#).

# 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

	<b>Day</b>	<b>Time</b>	<b>Location</b>
<b>Lectures</b>	<b>Wednesday (Commence in week 1)</b>	<b>6-9pm</b>	<b>Ainsworth G03 (K-J17-G03)</b>
<b>Online Lectures</b>	<b>Wednesday (Weeks 6 &amp; 7)</b>	<b>6-9pm</b>	<b>Online</b>
<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.

### *Aims of the course*

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 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.

## 5. Course schedule

Week	Date	Topics	Suggested Readings
1	25-Jul-18	Introduction to modern project management	Larson, Ch 1
2	1-Aug-18	Organisational strategy and project selection	Larson, Ch 2
3	8-Aug-18	Dynamic teams, organisational structure and culture	Larson, Ch 3 & 11
4	15-Aug-18	Defining Projects	Larson, Ch 4
5	22-Aug-18	Estimating project times and cost	Larson, Ch 5
6	29-Aug-18	Developing a project plan – <i>Online lecture</i>	Larson, Ch 6, Ch 7.1
7	5-Sep-18	Scheduling resources and cost – <i>Online lecture</i>	Larson, Ch 8
8	12-Sep-18	Reducing project duration, progress and performance measurement and evaluation	Larson, Ch 9 & 13
9	19-Sep-18	QUIZ	
	26-Sep-18	MID-SEMESTER BREAK (No Class)	
10	3-Oct-18	Managing risk	Larson, Ch 7
11	10-Oct-18	Outsourcing and Introduction to Agile PM	Larson, Ch 12, 17
12	17-Oct-18	Project Closure	Larson, Ch 14
13	24-Oct-18	No class scheduled	

## 6. Assessment

### Assessment overview

Assessment		Length	Weight	Learning outcomes assessed	Assessment criteria	Due date and submission requirements	Deadline for absolute fail	Marks returned
1	Web-based activities - Project 1	2 weeks	10%	1, 2, 3 and 4	Refer to Web-based activities marking criteria	Refer to Table 1 - Schedule for web-based activities	Refer to Table 1 - 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 Table 1 - Schedule for web-based activities	Refer to Table 1 - 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 Table 1 - Schedule for web-based activities	Refer to Table 1 - Schedule for web-based activities	Two weeks after submission
2	Quiz	1 hour	15%	1, 2 and 3	Lecture material from weeks 6,7 & 8.	Online in class, during week 9	N/A	One week after submission
3	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 of understanding your method; even if the numerical results are incorrect.

### *Submission*

Work submitted late without an approved extension by the course coordinator or delegated authority is subject to a late penalty of 20 per cent (20%) of the maximum mark possible for that assessment item, per calendar day.

The late penalty is applied per calendar day (including weekends and public holidays) that the assessment is overdue. There is no pro-rata of the late penalty for submissions made part way through a day.

Work submitted after the 'deadline for absolute fail' is not accepted and a mark of zero will be awarded for that assessment item.

For some assessment items, a late penalty may not be appropriate. These are clearly indicated in the course outline, and such assessments receive a mark of zero if not completed by the specified date. Examples include:

- a. Weekly online tests or laboratory work worth a small proportion of the subject mark, or
- b. Online quizzes where answers are released to students on completion, or
- c. Professional assessment tasks, where the intention is to create an authentic assessment that has an absolute submission date, or
- d. Pass/Fail assessment tasks.

### *Marking*

Marking guidelines for assignment submissions will be provided at the same time as assignment details to assist with meeting assessable requirements. Submissions will be marked according to the marking guidelines provided.

### *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 are not permitted to change groups; however the course coordinator or head demonstrator may request that you change groups to ensure a balanced distribution of group members.

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	1-Aug	15-Aug	17-Aug
Project 2	22-Aug	5-Sep	7-Sep
Project 3*	3-Oct	24-Oct	26-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.

### *Quiz*

The quiz will be held in class in week 9. Students are required to bring their own devices as the quiz is online.

The quiz will be approximately 1 hour in duration and run in two (2) sessions. Groups 1-25 are to attend Session 1, Groups 26-50 Session 2.

### **Examinations**

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

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 information on UNSW's [Special Consideration page](#).

## 7. Expected resources for students

### Textbook (Required)

Gray C.F. and Larson E.W. Project Management, 7<sup>th</sup> edition, McGraw Hill International edition, 2017. ISBN: 9781259666094

### 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/>

Moodle: <https://moodle.telt.unsw.edu.au/login/index.php>

## 8. 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 additional time for completion of the Quiz, the provision of additional time between projects and the introduction of online lectures to enable greater student flexibility.

## 9. 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](#).

## 10. 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)
- [Exams](#)
- [Approved Calculators](#)
- [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