UNSW AUSTRALIA

Course Outline

Semester 1 2015

Never Stand Still | Faculty of Engineering | School of Mechanical and Manufacturing Engineering

GSOE9820

Engineering Project Management

Contents

Course Outline

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1. COURSE STAFF

Contact details and consultation times for course convener

Mr Corey Martin
Office: Electrical Engineering (G17), Level 4, Room 414
Email: 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 for demonstration teaching staff

Ms Sandra Cowan
Email: sandra.cowan@unsw.edu.au

Mr Lars Moller
Email: lars.moller@unsw.edu.au

2. COURSE DETAILS

Units of credit

This is a 6 unit-of-credit (UoC) course, and involves 6 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.”

For a standard 24 UoC in the semester, this means 600 hours, spread over an effective 15 weeks of the semester (thirteen weeks plus stuvac plus one effective exam week), or 40 hours per week, for an average student aiming for a credit grade. Various factors, such as your own ability, your target grade, etc., will influence the time needed in your case.

Some students spend much more than 40 h/w, but you should aim for not less than 40 h/w on coursework for 24 UoC.

This means that you should aim to spend not less than about 10 h/w on this course, i.e. an additional 7 h/w of your own time. This should be spent in making sure that you understand the lecture material, completing the set assignments, further reading about the course material, and revising and learning for the examination.

There is no parallel teaching in this course.

Summary 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 both the contents of the course, terminologies used and exposure to several real world cases will support your preparations.

Student learning outcomes

At the conclusion of this course, it is expected that you will be able to:

- Know what a project is;
- Understand the role and responsibilities of a project manager;
- Be able to identify the different organisational types and structures as they relate to a project;
- Create project plans, schedules and budgets;
- Be able to identify, analyse and evaluate risks in projects;

- Be able to select and develop appropriate management styles to successfully complete a project;
- Understand project evaluation and control.

Graduate attributes

UNSW's graduate attributes are shown at
https://my.unsw.edu.au/student/atoz/GraduateAttributes.html

UNSW aspires to develop graduates who are rigorous scholars, capable of leadership and professional practice in a global community. The university has, thus, articulated the following Graduate Attributes as desired learning outcomes for ALL UNSW students.

UNSW graduates will be

1. Scholars who are:
   - (a) understanding of their discipline in its interdisciplinary context ✓
   - (b) capable of independent and collaborative enquiry ✓
   - (c) rigorous in their analysis, critique, and reflection ✓
   - (d) able to apply their knowledge and skills to solving problems ✓
   - (e) ethical practitioners ✓
   - (f) capable of effective communication ✓
   - (g) information literate ✓
   - (h) digitally literate

2. Leaders who are:
   - (a) enterprising, innovative and creative ✓
   - (b) capable of initiating as well as embracing change ✓
   - (c) collaborative team workers ✓

3. Professionals who are:
   - (a) capable of independent, self-directed practice ✓
   - (b) capable of lifelong learning ✓
   - (c) capable of operating within an agreed Code of Practice

4. Global Citizens who are:
   - (a) capable of applying their discipline in local, national and international contexts ✓
   - (b) culturally aware and capable of respecting diversity and acting in socially just/responsible ways ✓
   - (c) capable of environmental responsibility

✓ = Developed in this course

In this course, you will be encouraged to develop these graduate attributes by undertaking the selected activities and knowledge content. These attributes will be assessed within the prescribed assessment tasks.

You will be supported in developing the above attributes through:
(i) the design of academic programs;
(ii) course planning and documentation;
(iii) learning and teaching strategies; and
(iv) assessment strategies.

3. RATIONALE FOR INCLUSION OF CONTENT AND TEACHING APPROACH

This course is included to give you the skills to introduce you to Project Management knowledge areas. It aims to enhance your skills, which are helpful in other courses and programs you are enrolled in. It will also assist you in professional settings, since many areas of managing technology and business issues require managing projects of different size and type.

The content reflects the experience of the lecturer in managing a variety of organisations and projects with practical examples being drawn from that experience.

Effective learning is supported when you are actively engaged in the learning process and by a climate of enquiry, and these are both an integral part of the lectures and web based activities.

You become more engaged in the learning process if you can see the relevance of your studies to professional, disciplinary and/or personal contexts, and the relevance is shown in the lectures and assignments by way of examples drawn from industry.

Dialogue is encouraged between you, others in the class and the lecturer. Diversity of experiences is acknowledged, as some students in each class have prior project management experience. Your experiences are drawn on to illustrate various aspects, and this helps to increase motivation and engagement.

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. ASSESSMENT

General

You will be assessed by way of short web-based activities and an examination, both of which involve calculations and descriptive material.

The parts of the course contribute towards the overall grade as follows:

Web-based activities	40%
Final Examination	60%
Total	**100%**

In order to pass the course, you must achieve an ***overall mark of at least 50%***.

Web-Based activities

Web-based participation marks will be assessed on your contributions to online discussions, exercises and other learning activities via UNSW Moodle. These activities will be facilitated and assessed through either individual, team discussions. Therefore you are strongly advised to cover lecture/support materials regularly every week of the session.

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 3**. You will be notified of your web-based facilitator name and contact details through UNSW Moodle.

Submission of web-based activities

Web-based assignments are made available (released) each week and are due **the day before** the scheduled day of class in the week as shown in Table 1.

ACTIVITIES	DURATION (Weeks)	RELEASED	DUE
Project teams Kick-off	1	Week 3	Week 4
Project 1	2	Week 4	Week 6
Project 2	1	Week 6	Week 7
Project 3	1	Week 7	Week 8
Project 4	1	Week 8	Week 9
Project 5	2	Week 9	Week 11
Project 6	2	Week 10	Week 12

Table 1 - Schedule for web-based activities

Late submission of assignments will be NOT accepted.

Criteria 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

Examination

There will be a single three (3) hour examination at the end of the semester, covering all material of the whole semester.

You will need to provide your own calculator, of a make and model approved by UNSW, for the examination. The list of approved calculators is shown at https://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 *Administrative Matters for All Courses*, available from the School website.

6. ACADEMIC HONESTY AND PLAGIARISM

Plagiarism is using the words or ideas of others and presenting them 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 booklet, which provides essential information for avoiding plagiarism: https://my.unsw.edu.au/student/academiclife/Plagiarism.pdf

There is a range of resources to support students to avoid plagiarism. The Learning Centre assists students with understanding academic integrity and how not to plagiarize. They also hold workshops and can help students one-on-one. Information is available on the dedicated website Plagiarism and Academic Integrity website: http://www.lc.unsw.edu.au/plagiarism/index.html

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 a honours thesis) even suspension from the university. The Student Misconduct Procedures are available here: http://www.gs.unsw.edu.au/policy/documents/studentmisconductprocedures.pdf

Further information on School policy and procedures in the event of plagiarism is presented in a School handout, *Administrative Matters for All Courses*, available on the School website.

7. COURSE SCHEDULE

Day	**Time**	**Location**
Friday	0900–1200	Science Theatre (K-F13-G09)

TOPICS	**WEEK**
Introduction to modern project management	1
Organisational strategy and project selection	2
Organisational structure and culture	3
Defining the project	4
Good Friday Public Holiday **(Note: no classes will be taught on Friday ONLY)**	5
MID-SEMESTER BREAK (no class)	
Estimating project times and costs	6
Developing a project plan	7
Managing risk	8
Scheduling resources and costs	9
Reducing project duration	10
Effective leadership and team management	11
Outsourcing, managing inter-organisational relationships and Project closure	12

Table 2 - Course schedule

The schedule shown may be subject to change at short notice to suit exigencies.

8. RESOURCES FOR STUDENTS

Textbooks

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

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.

One starting point for assistance is: www.library.unsw.edu.au/servicesfor/index.html

9. COURSE EVALUATION AND DEVELOPMENT

Feedback on the course is gathered periodically using various means, including the Course and Teaching Evaluation and Improvement (CATEI) 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.

10. ADMINISTRATIVE MATTERS

You are expected to have read and be familiar with *Administrative Matters*, available on the School website. This document contains important information on student responsibilities and support, including special consideration, assessment, health and safety, and student equity and diversity.

C. Martin
12th February 2015