Unit Outline 2012
Faculty of Information Sciences and Engineering

Software Engineering Practice
7169
This Unit Outline must be read in conjunction with:

a) *UC Student Guide to Policies*, which sets out University-wide policies and procedures, including information on matters such as plagiarism, grade descriptors, moderation, feedback and deferred exams, and is available at *(scroll to bottom of page)*

b) *UC Guide to Student Services*, and is available at *(scroll to bottom of page)*

c) Any additional information specified in section 6h.

## 1: General Information

1a Unit title: Software Engineering Practice

1b Unit number: 7169

1c Semester and year offered: Semester 2, 2011

1d Credit point value: 3 Credit Points

1e Unit level: UG-Level 3

1f **Name of Unit Convener and contact details (including telephone and email)**
   Unit Convener: Dr. Bala M. Balachandran
   Ph. (02)62012622, Office: 11C22, E-mail: Bala.Balachandran@canberra.edu.au

   Lecturer: Scott Ashwin,
   Ph. 0414 969 411, Office 11C44, E-mail: Scott.Ashwin@act.gov.au

   Moderator: Dr. Dat Tran
   Ph. (02)62012394, Office: 11B17, E-mail: Dat.Tran@canberra.edu.au

1g **Administrative contact details (including name, location, telephone and email)**

   Faculty of Information Sciences and Engineering, 11B14, Tel 6201-2153 or 6201-2417,
   Email: ise@canberra.edu.au
2: Academic Content

2a Unit description and learning outcomes

- **Syllabus**
  The main emphases in this unit are the theory and practice of software engineering. Topics covered include techniques and processes for managing, specifying, designing, implementing, testing and evolving large software systems. Special attention is given to project and quality management. Critical systems are considered as well as verification and validation strategies and techniques. This unit builds on previous programming and information systems units to achieve its aim of bringing together, for students, various aspects of software engineering encountered in their course, and introduces some new and developing concepts in this discipline.

- **Learning outcomes:**
  On completion of this unit, students will:
  
  1. be able to start work in a team of software engineers involved in the building of reliable large software systems;
  2. be knowledgeable about the principles and applications of requirements engineering, software design, software implementation, software testing and validation techniques and approaches;
  3. have a working knowledge of designing software for reuse and with reuse;
  4. be able to choose a development methodology appropriate to a specific software project;
  5. have a strong background in software project and quality management and related issues of professional ethics.

2b Generic skills

A full list of generic skills expected of UC graduates can be found at [http://www.canberra.edu.au/uc/policies/acad/generic.html](http://www.canberra.edu.au/uc/policies/acad/generic.html)

In this unit there is special emphasis on the following:

1. Communication
2. Information Literacy and Numeracy
3. Information and Communication Technology
4. Problem Solving
5. Working with Others
6. Professional Ethics.

2c Prerequisites and/or co-requisites

*Software Technology 2*  
*And*  
*Systems Analysis and Modelling*

3: Delivery of Unit and Timetable

3a Delivery mode

**Delivery mode:** The unit is delivered with face-to-face contact including lectures, and lab/tutorials. In addition, some discussions and questions/answers may be presented on the unit Moodle website.

**Lectures:** One two-hour lecture/week.

**Tutorials:** One one-hour tutorial/week. (start Week 2)
Timetable of activities, such as lectures/tutorials/practicals/field classes, showing key dates and topics (Information might be provided in the form of a table)

The UC timetable shows Lecture and Tutorial times. The following timetable represents the pedagogical design of the unit, but as we proceed we may find that modifications will be desirable.

<table>
<thead>
<tr>
<th>Week</th>
<th>Lecture</th>
<th>Tutorial</th>
<th>Assessment item</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Lecture 1 – Unit Introduction&lt;br&gt;Lecture 2 – What is a Project?, Project Methodologies, Business Cases</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Lecture 1 – Morals and Ethics, Professionalism, People in a Project&lt;br&gt;Lecture 2 – Project Integration Management</td>
<td>Forming Project Teams</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Lecture 1 – Comms and Teams, Project Charter, Scope&lt;br&gt;Lecture 2 – Risk Management</td>
<td>Communications</td>
<td>Project – Business Case</td>
</tr>
<tr>
<td>4</td>
<td>Lecture 1 – Assignment Feedback&lt;br&gt;– Outline project topics and set out reporting&lt;br&gt;Lecture 2 – Time Management</td>
<td>Risk Logs</td>
<td>Learning Journal Part 1</td>
</tr>
<tr>
<td>5</td>
<td>Lecture 1 – Interface Design/Reporting&lt;br&gt;Lecture 2 – Inspire – Workshop 1</td>
<td>Work Breakdown Structures</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Public Holiday</td>
<td>Project Team Meetings</td>
<td>Project – Status Report 1</td>
</tr>
<tr>
<td>7</td>
<td>Lecture 1 – When Projects Go Wrong&lt;br&gt;Lecture 2 – Testing</td>
<td>Network Diagrams</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Class Free</td>
<td></td>
<td>Learning Journal Part 2</td>
</tr>
<tr>
<td>9</td>
<td>Lecture 1 – Project Showcase&lt;br&gt;Lecture 2 – Prince2</td>
<td>Project Team Meetings</td>
<td>Project – Status Report 2</td>
</tr>
<tr>
<td>10</td>
<td>Public Holiday</td>
<td>Project Team Meetings</td>
<td>Project – Status Report 3</td>
</tr>
<tr>
<td>11</td>
<td>Lecture 1 – Project Showcase&lt;br&gt;Lecture 2 – Inspire – Workshop 2</td>
<td>Project Team Meetings</td>
<td>Learning Journal Part 3</td>
</tr>
<tr>
<td>12</td>
<td>Lecture 1 – Closing a Project&lt;br&gt;Lecture 2 – Project Showcase</td>
<td>Project Team Meetings</td>
<td>Project – Status Report 4</td>
</tr>
<tr>
<td>Week</td>
<td>Lecture</td>
<td>Tutorial</td>
<td>Assessment item</td>
</tr>
<tr>
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</tr>
<tr>
<td>13</td>
<td>Lecture 1 – Procurement Planning, Cost Management Lecture 2 – Unit Recap, Exam Overview</td>
<td>Project Team Meetings</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Lecture 1 – Final Assessment Showcase Lecture 2 – Final Assessment Showcase</td>
<td>Project Team Meetings</td>
<td>Learning Journal Part 4 Project – Software Project - Documentation</td>
</tr>
</tbody>
</table>

4: Unit Resources

4a Recommended readings:


Key reference material on accessibility and related matters are as follows:

Liberty University – iTunes U - BUSI415 Project Management II


Other materials will be noted to students in lectures and tutorials.

4b Materials and equipment

No special requirements. Students may use the Faculty’s computing laboratory resources. Project groups may require server space and/or web hosting. This can be organised through the Building 11 network administrators. For any such requirements, please speak to your lecturer first.

Server Access: Prior to being granted access to server infrastructure within the building 11 network, all students within a team must agree to and sign a Computer Usage Agreement, specific to this extended access.

4c Unit website

Various unit resources, such as lecture notes and tutorial tasks, will be accessible via ‘LearnOnline’ supported by the ‘Moodle’ software platform.
5: Assessment

5a Assessment overview

Unless otherwise noted by the lecturer, all items are due 5pm on the Friday of the week noted below.

<table>
<thead>
<tr>
<th>Assessment item (including exams held in the exam period)</th>
<th>Due date of assignments</th>
<th>Weighting (total to equal 100%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Learning Journal</td>
<td>Submit in weeks 4, 8, 11 and 14</td>
<td>20%</td>
</tr>
<tr>
<td>2. Project Supporting Documents</td>
<td>Business Case – week 3</td>
<td>10%</td>
</tr>
<tr>
<td></td>
<td>Project Status Reports – week 6, 8, 10 and 12</td>
<td></td>
</tr>
<tr>
<td>3. Project Software</td>
<td>Lecture week 14</td>
<td>10%</td>
</tr>
<tr>
<td>4. Project Documentation &amp; Process (Plans &amp; Archive)</td>
<td>Tute week 14 Week 14</td>
<td>30%</td>
</tr>
<tr>
<td>5. Examination</td>
<td>Exam period</td>
<td>30%</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>100%</td>
</tr>
</tbody>
</table>

5b Details of each assessment item

1. **Learning Journal** – A collection of assigned research topics (posted to Moodle during the semester), Project reflections and an ongoing issues log for your project (sample can be found on Moodle). The final learning journal will include a peer review of your project team (sample can be found on Moodle).

2. **Project Supporting Documents** – Business case (samples and outlines to be covered in lectures, and ongoing status reports (samples and outlines to be covered in lectures).

3. **Project Software (Group Assessment)** - a working piece of software – details of the project can be found of Moodle.

5. **Project Documentation** (Group Assessment) - will be assessed through the value and quality the project team’s processes and deliverables, including project management plans and how you used them as well as the complete set of system development artefacts – details of the project can be found on Moodle.

5c Special assessment requirements

1) To **Pass** the unit, students need to obtain a mark of at least 50% in the Individual Assessment AND at least 50% in the Group Assessments.

To obtain a mark greater than a pass, students must submit all assessment items. Higher grades will be awarded once all pass conditions have been meet on the basis of the highest category below, in which your TOTAL mark fits: Credit 65-74, Distinction 75-84, High Distinction 85-100.

After all assessment items have been marked and graded, moderation is conducted across all tutorial groups.

2) In all cases, grades in this unit will be awarded solely on the basis of academic merit.
The normal exigencies of university life, such as administrative deficiencies or oversights, resource malfunctions or workloads in other units will not be a factor in the determination of grades in this unit.

3) The lecturer/tutor reserves the right to question students orally on any of their submitted work or assessment items.

4) Referencing requirements:
All work quoted from other written sources should be appropriately referenced using the “author-date” (Harvard) style; a citation guide is available in print from the bookshop or at: http://www.canberra.edu.au/library/attachments/pdf/1887-UC-reference-book-Fawccover.pdf

5) If there is any doubt with regard to the requirements of any assessment item, the onus lies with the student to obtain relevant information from the unit convenor. Tutors should be, however, the first point of contact in these matters.

6) Late penalties:
Students will be expected to make arrangements with the lecturer in advance of the due date for assignments if they expect to be submitting them late. Unless appropriate arrangements have been made, supported by an appropriate valid reason, late submissions will attract a penalty of 10% per day.

7) Submitted Material:
Students are required to keep a copy of all submissions.

5d Supplementary assessment
There will be no supplementary assessment / examination for this unit.

5e Academic Integrity
Students should uphold University standards on ethical scholarship. Good scholarship involves building on the work of others and use of others work must be acknowledged with proper attribution made. Cheating, plagiarism, and falsification of data are dishonest practices which contravene academic values.

5f Text-matching software
Text-matching software from an external service (such as Turnitin) may be used to check for plagiarism.
6: Student Responsibility

6a Workload
The amount of time you will need to spend on study in this unit will depend on a number of factors including your prior knowledge, learning skill level and learning style. Nevertheless, in planning your time commitments you should note that for a 3cp unit the total notional workload over the semester or term is assumed to be 150 hours. These hours include time spent in classes. The total workload for units of different credit point value should vary proportionally. For example, for a 6cp unit the total notional workload over a semester or term is assumed to be 300 hours.

6b Special needs
Students who need assistance in undertaking the unit because of disability or other circumstances should inform their Unit Convener or UC AccessAbility (formerly the Disabilities Office) as soon as possible so the necessary arrangements can be made.

6c Attendance requirements
You are strongly advised to attend and pay attention to all lectures. You should prepare in advance and fully participate in tutorials. Group meetings also require attendance and participation.

6d Withdrawal
If you are planning to withdraw please discuss with your unit convener. Please see this link for further information on deadlines.

6e Required IT skills
In addition to the IT skills assumed by all indirect pre-requisites and direct pre-requisite requirements (given in 2h above), students must have a good understanding of office systems (spreadsheet, word processing, general computer use), Web browsing and the use of Help features in software packages. Students must also manage network access using university accounts, and an account for printing assignments and other materials.

6f Costs
No additional costs will be incurred by students undertaking this unit apart from the normal costs of being a university student, such as books, travel, web access, printing, and consumables.

6g Work Integrated Learning
N/A

6h Additional information
Announcements made at lectures or tutorials are deemed to be made to the whole group. Documents published on the unit website are also deemed to be announcements to the whole group, so check it regularly.
7: Student Feedback

All students enrolled in this unit will have an opportunity to provide anonymous feedback on the unit at the end of the Semester via the Unit Satisfaction Survey (USS) which will be presented to you on OSIS. Your lecturer or tutor may also invite you to provide more detailed feedback on their teaching through an anonymous in-class questionnaire administered through the University’s Teaching and Learning Centre (TLC).

8: Authority of this Unit Outline

Any change to the information contained in Section 2 (Academic content), and Section 5 (Assessment) of this document, will only be made by the Unit Convener if the written agreement of Head of Discipline and a majority of students has been obtained; and if written advice of the change is then forwarded to each student enrolled in the unit at their registered term address. Any individual student who believes him/herself to be disadvantaged by a change is encouraged to discuss the matter with the Unit Convener.