Unit Outline: KXA351 Software Engineering Project A

Semester 1, 2007

Sandy Bay Campus, Hobart
Newnham Campus, Launceston

Prerequisites
Any two level 200 computing units

Corequisites
None

Unit Weight
12.5% of one academic year

Unit Coordinator
Robert Ollington

Lecturing Staff
Sandy Bay Campus, Hobart: Robert Ollington
Newnham Campus, Launceston: Robert Ollington

When in Launceston, Robert’s contact details are:
E-Mail: Robert.Ollington@utas.edu.au
Phone: (03) 6324 3300
Room: V114, Newnham Campus, Launceston

Scheduled Teaching Sessions
Lectures: Weeks 1 (7 hrs) , 2, 4, 10 (all 3 hours)
The Unit Timetable can be accessed from the Study Resources section of the School website.

Unit Website
The unit website is accessed from http://www.utas.edu.au/coursesonline/. You will need to use your university email pop account username and password to log on to the WebCT system. Once authenticated by the system your personalised MyWebCT area will be displayed. It contains links to the websites that you have permission to access - including the website for this unit.
This unit is Web Dependent: content & communication. This means that you will need to use the Web for this unit. The unit website contains unit information and resources.
If you are not able to access the unit website, please contact the University IT help desk:
Entrance Level, Morris Miller Library, Sandy Bay Campus;
Entrance Level, Launceston Campus Library, Newnham Campus.
Telephone: 6226 1818 and 1300 304 903.
The 1300 number is a local call from within Tas, with the exception of mobiles.
Email: servicedesk@utas.edu.au
Website: http://www.utas.edu.au/servicedesk/student/index.html

University Website
Information and Resources for 'Current Students' are available on the university website at:
http://www.utas.edu.au/students/

Provider
School of Computing - Faculty of Science, Engineering, and Technology.
http://www.comp.utas.edu.au

OVERVIEW

Introduction
The project course aims to provide students with the experience of developing a medium-scale computing project in a small team. This unit provides students with the experience of working in a team and dealing with the associated problems of communication and team management.

Learning Outcomes
On successful completion of this unit, you will be able to:

1. Question a client to extract and analyse the software requirements and present the analysis in a written report while working in a team;
2. (having analysed the requirements) Prepare appropriate design documents while working in a team;
3. (having prepared design documents) Construct and integrate a significant software system while working in a team;
4. (having developed a software system) Construct promotional material as a team;
5. (having developed a software system) Produce written technical and instructive documentation on the implemented solution;
6. Orally present and demonstrate the software system to staff and industry representatives while working as a team;
7. Evaluate in writing the quality of reports or software developed by another team;
8. Formulate a schedule for a team of people and individually and collectively manage your time;
9. Work in a small team with a client, acting professionally and planning effectively and be able
Unit Content

Software Engineering Project provides students with the experience of developing a medium-scale computing project in a small team. All aspects of the development process will be considered: problem specification, requirement extraction, system design, implementation, testing and documentation. The units provide students with the experience of working in a team and dealing with the associated problems of communication and team management.

In the first two years of your degree you learn a great deal of theory about software engineering but practical experience is limited to artificial assignments. Software Engineering Project allows you to apply this theoretical knowledge on a real-world project so that you will be able to transfer to industry easily.

The software engineering project is broken into two units, KXA351 Project A and KXA352 Project B, which must be completed over consecutive semesters. Students work on the same project in both units, unless circumstances prevent this.

Each student is placed into a project team of 5 students. A team of three or four may be necessary due to class size. Each team then chooses a project from the list available. Each project has a real client.

In Project A you complete release 1 (or a third of the project), you do the remaining two thirds in Project B. In Project A you will be supplied with a week by week schedule and have regular meetings/lectures with the lecturer. In Project A each team member is expected to contribute to each phase of the project (e.g. design, implementation and documentation).

A more detailed description of the unit is contained in the 'Project Manual' (available on the unit website).

For more information see the section titled 'Content' on the unit website.

Generic Skills

The university has defined a set of generic graduate attributes expected in its graduates. http://www.utas.edu.au/policy/subject.html#graduates Your course is designed to enable you to develop generic skills that are valued in, and expected of, graduates. These are skills that you will need to develop over time. Hence you are encouraged to look for opportunities, as you study each unit, to reflect on and improve these skills.

These are the generic skills that you should be developing in this unit.

Knowledge

1. Apply previous software development knowledge and independently learn new skills to build a software system according to client requirements and deadlines;
2. Investigate and overcome issues and challenges associated with constructing a substantial piece of software;
3. Develop research skills to identify and use appropriate software development tools and other resources.

Communication Skills

1. Develop the ability to extract requirements from a client, analyse and organise the information and formulate ideas and to communicate all the information and ideas effectively and fluently, in both written and oral forms using communication technologies as appropriate.

Problem-solving

1. Apply problem-solving skills to develop a practical solution to a non-trivial computing project;
2. Ability to interact effectively with others in order to work towards a common outcome;

Global Perspective

1. Demonstrate mastery of skills appropriate to professional practice in preparation for the transition to an IT working environment;
2. Recognise the critical importance of the field of project management in the development of software systems;
3. Ability to interact with members of the Tasmanian IT industry.

LEARNING AND TEACHING

Approach to Learning

You are expected to spend about 130 hrs studying in this unit - this includes attendance at scheduled teaching sessions. (For a 13 week semester this is, on average, 10 hr/wk.) This is the amount of study time that the 'typical' student will need to reach the level of competence and understanding required to fulfil the unit objectives.

You are expected to:

* attend all scheduled lectures, unless otherwise notified by the unit coordinator
prepare for, and actively participate in lectures
complete the assigned learning tasks
review what has been learnt
complete assessment items and submit them on time
access and be familiar with the information and resources available on the unit website
seek help from teaching staff if you have any questions or difficulties in studying this unit

Requirements:

- You are expected to attend all client and management meetings, and arrange regular meetings with the other students in your project group.
- You must make allowance for the fact that laboratories are used by other students and your access to the machines may be limited when deadlines are near.
- There are no extensions in this unit. This is a group work unit. If you are unable to complete your work by the deadline because of illness or other serious cause, you should make arrangements with your group to cover for you, and make up the work with them at a later time. You should discuss these arrangements with the lecturer.

You are encouraged to read the university's Code of Conduct for Teaching and Learning. Part A describes the 'Responsibility of the University to Students' and part B describes the 'Responsibilities of Students to the University'. [http://www.utas.edu.au/tl/policies/codes.html](http://www.utas.edu.au/tl/policies/codes.html)

Schedule

See the 'Schedule' section on the unit website.

See the Project Manual on the unit website for extremely detailed information.

Teaching and Support Staff

**Teaching Staff**

**Unit Coordinator:**

Robert Ollington  
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Room: 461, Sandy Bay Campus, Hobart

**Lecturing Staff**

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**School Help Desk**

Contact the School Help Desk if you have any queries or problems with accessing, using, or printing from the computers in the School of Computing labs.

- **Hobart:** the Help Desk is located near the School's reception desk and is open from 10am - 4pm Monday-Friday. The phone number is 6226 2960.
- **Launceston:** the Help Desk is located near the entrance to the computing labs and is open in the morning from 10am - 12pm, and in the afternoon from 2pm - 4:30pm, Monday-Thursday. On Fridays it is open from 10am - 12pm in the morning and 2pm - 4pm in the afternoon. The phone number is 6324 3447.
- **Burnie:** the computer labs at the NWC are maintained by ITS. Please contact the University Help Desk for assistance. The 6 Macs are maintained by the School of Computing. If you have a query or problem that is specific to the School of Computing please phone the School of Computing Help Desk in Launceston.

**University Services and Support**

The University has staff available to assist you, such as the:

- Learning Development Advisor
- Student Counselor
- Careers Advisor
- Disability Officer

For more information and contact details see the Services and Support section on the University 'Current Students' web page. [http://www.utas.edu.au/students/](http://www.utas.edu.au/students/)

**Resources**

**Unit Website**

The unit website contains unit information and resources. The unit website is updated regularly, providing important announcements for the unit. Each person is expected to read the announcements daily.
Prescribed Text
None

Readings

Software
The software that you will need to access the unit website and to study this unit, including general purpose software such as word processors, is provided on the computers in the School's computing labs. If you intend to use software on other computers please check that the versions are compatible.

The software that you will need to use is dependant on which project you undertake.

Computing Facilities
The School has PC labs (Windows XP), Mac labs (Mac OS-X 10.4), and Networking labs at the Newnham and Sandy Bay campuses. It also maintains 6 Macs (Mac OS-X 10.4) at the NW Centre. Unix accounts can be accessed from all Macs and PCs.

If you have not used these facilities before please contact the School Help Desk to organise your account details. If you would like to access the facilities at the Newnham and Sandy Bay campuses after hours please contact the School Help Desk.

Please contact the School Help Desk if you have difficulty accessing or using these facilities.

Some specific project software will be installed in PC Lab 1 and Mac Lab 1. Projects that don't require specific software can use computers in any lab, but it is preferred that you use the computers in the above labs.

Some projects will require the students to use their own computers at home, as the software can not be installed in a general access lab. Students should choose their projects carefully.

Each project team will get a work area on Alacritas or Lawson. Each team can have its own LPS account.

Use of Facilities
Use of computing facilities provided by the School is subject to the School's Ethics Guidelines - http://www.comp.utas.edu.au/app/ethics.jsp. Copies of the guidelines are also available in all School labs. The School's facilities may only be used for study-related purposes, and may not be used for personal gain. The playing of games is strictly prohibited in all labs at all times. Before being granted access to the School's facilities, you will be required to sign a declaration that you have read and understand these guidelines, and that you will abide by them. Disciplinary action may be taken against students who violate the guidelines.

Occupational Health and Safety
The university is committed to providing a safe and secure teaching and learning environment. For more information see http://www.admin.utas.edu.au/hr/ooh/pol_proc/

Some projects involve visiting a client on an industrial site, if they have a health and safety induction program, you may be required to participate.

ASSESSMENT

Assessment Items

Item 1
Title: Project - team component
Type: In-Semester - group project
Weighting: 60%
Due: As specified in the Project Manual.

The team component is made up of: 20% Design, 20% Software, 5% Professionalism and 15% Marketing. Each person in the team will get the same mark for the team component, so it is very important that you all work as a team and contribute to the best of your ability.

Item 2
Title: Project - individual component
Type: In-Semester - group project
Weighting: 40%
Due: As specified in the Project Manual.

The individual component is made up of: 10% Design, 10% Software, 5% Professionalism, and 15% PSP.
In-Semester Assessment

Unless specifically stated in the specification of the assessment item provided on the unit website, it is required that:

- work submitted by a student is the work of that student alone OR
- where the assessment item is to be completed by a group of students, the work submitted by the group of students is the work of that group of students alone.

Plagiarism

Plagiarism is a form of cheating. It is taking and using someone else's thoughts, writings or inventions and representing them as your own, for example:

- using an author's words without putting them in quotation marks and citing the source;
- using an author's ideas without proper acknowledgment and citation; or
- copying another student's work.

If you have any doubts about how to refer to the work of others in your assignments, please consult your lecturer or tutor for relevant referencing guidelines, and the academic integrity resources on the web at http://www.utas.edu.au/tl/supporting/academicintegrity/index.html.

The intentional copying of someone else's work as one's own is a serious offence punishable by penalties that may range from a fine or deduction/cancellation of marks and, in the most serious of cases, to exclusion from a unit, a course or the University. Details of penalties that can be imposed are available in the Ordinance of Student Discipline – Part 3 Academic Misconduct, see http://www.utas.edu.au/policy/subject.html#students.

The University reserves the right to submit assignments to plagiarism detection software, and might then retain a copy of the assignment on its database for the purpose of future plagiarism checking.

Referencing

The university document on plagiarism contains information about referencing the work or ideas of others. (See http://www.utas.edu.au/plagiarism/.) The preferred text referencing systems for the School is the Harvard system (also referred to as the author-date system).

Submissions

The details of the submission method (paper, electronic or other) for each assignment will be supplied in a separate assignment specification sheet. All in-semester assignment submissions (including electronic submissions) are to include an Assignment Cover Sheet which includes a statement confirming that the submission is your own work. If this undertaking is not signed, the assignment will not be marked. The Assignment Cover Sheet is available from the School Help Desk in Launceston and Hobart, and on the School's web site http://www.comp.utas.edu.au/app/studyresources.jsp.

Extensions

Assessment items will not be accepted after the due date except under the conditions stated in the school policy on late assessment. http://www.comp.utas.edu.au/app/late_assess.jsp

Final Grade

Passing grades will be awarded based on the AVCC guidelines:

- PP at least 50% of the overall mark but less than 60%
- CR at least 60% of the overall mark but less than 70%
- DN at least 70% of the overall mark but less than 80%
- HD at least 80% of the overall mark

The maximum mark awarded to a student who fails the unit will be 44.

For more information, including other grades such as Supplementary and Terminating grades, see the School of Computing's guidelines for assessment - available at: http://www.comp.utas.edu.au/app/assess.jsp