Unit Outline: KXC351 Software Engineering Project A

September 2005 - January 2006
Hangzhou, China

Prerequisites
Any two: KXC251 KXC252 KXC253 KXC254 KXC262 KXC281

Corequisites
None

Unit Weight
12.5% of one academic year

Unit Coordinator
Dr. Shuxiang Xu

Lecturing Staff
Assistant Professor Lu Huiqiang
Email: lhq@zjut.edu.cn

Scheduled Teaching Sessions
Lectures: Weeks 1 (upto 7 hours), 2, 4, 10 (all 3 hours)

Unit Website
The unit website is accessed from http://www.utas.edu.au/coursesonline/. You will need to use your University of Tasmania 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 technical staff at ZUT.

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.

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.

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

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 to evaluate your own and peers' performance at team and individual activities.

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, KXC351 Project A and KXC352 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 are expected to work to the supplied schedule, and have regular meetings/lectures with the lecturer.

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](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. 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 unit coordinator.

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/ti/policies/codes.html](http://www.utas.edu.au/ti/policies/codes.html)

**Schedule**

See the 'Schedule' section on the unit website.

See the Project Manual on the unit website for more information.

**Teaching and Support Staff**

**Teaching Staff**

**Unit Coordinator:**

Dr. Shuxiang Xu
E-Mail: Shuxiang.Xu@utas.edu.au

**Lecturing Staff**

Assistant Professor Lu Huiqiang
Email: lhq@zjut.edu.cn

**School Help Desk**

Contact technical staff at ZUT for information about accessing and using the Computer labs.

**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 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.
| Assessment Items | Item 1 | Title: Project - team component  
Type: In-Semester - group project  
Weighting: 60%  
Due: As specified in the Project Manual. |
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<td>Each person in the team will get the same mark for the team component, so it is</td>
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<td>very important that you all work as a team and contribute to the best of your</td>
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|                  | Item 2 | Title: Project - individual component  
Type: In-Semester - group project  
Weighting: 40%  
Due: As specified in the Project Manual. |
|                  |        | See the 'Assessment' section in unit website for more detailed information about assessment items.  |
|                  |        | 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](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 to 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](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/](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 on the School’s web site [http://www.comp.utas.edu.au/app/studyresources.jsp](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](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](http://www.comp.utas.edu.au/app/assess.jsp)