



**MONASH** University  
Information Technology

**FIT4002**  
**Software engineering studio project**

**Unit Guide**

**Semester 1, 2012**

The information contained in this unit guide is correct at time of publication. The University has the right to change any of the elements contained in this document at any time.

*Last updated: 28 Feb 2012*

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# **FIT4002 Software engineering studio project - Semester 1, 2012**

Students will undertake a large project and work in groups on a software project for a client. The client may be internal to Monash or from the industry or research organisation. In general, projects involve all aspects of the system development lifecycle. Groups are responsible for their own project management, with guidance from a supervisor. Some projects will warrant students working in pairs or individually.

## **Contact Hours**

2 hrs lectures/wk

## **Workload**

For Software Engineering Studio unit, the workload commitments are for 2 semesters of study:

- attending weekly two-hour seminar series (presentations by unit coordinator and guest speakers; students presentations)
- fortnightly group meetings with project supervisor
- regular meetings with client (may be off-campus)
- regular meetings of project group
- 8-10 hrs of personal study including undertaking all stages of the software lifecycle for the project, preparation of project documentation, preparation for individual and group presentation, software walkthroughs and SWEBOK interviews.

## **Unit Relationships**

### **Prohibitions**

CSE4002

### **Prerequisites**

FIT3077 or CSE3308 and one of FIT2002, FIT3086 or BUS2176

### **Chief Examiner**

Dr Peter Tischer

### **Campus Lecturer**

### **Clayton**

**Peter Tischer (Unit coordinator, project supervisor)**

Consultation hours: Matters for unit-coordinator may be raised during weekly seminar slot, matters for project supervisor may be raised during fortnightly meeting

**David Squire (project supervisor)**

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Consultation hours: Matters may be raised during fortnightly meeting

**Kevin Korb (project supervisor)**

Consultation hours: Matters may be raised during fortnightly meeting

**Robyn Mcnamara (project supervisor)**

Consultation hours: Matters may be raised during fortnightly meeting

# Academic Overview

## Outcomes

At the completion of this unit students will have:

- experience of all stages in the development of a SE project
- experience of the role and responsibilities of clients and developers in a SE project
- understanding of the way in which computer systems are designed, developed and implemented;
- understanding of the role of methodologies, tools and techniques;
- understanding of the processes and components of a quality system;
- ability to adopt a systematic and professional approach to the production of quality computer systems;
- understanding of ethical behaviour;
- ability to plan and manage the full range of activities in an SE project;
- ability to work productively in a team and individually;
- ability to communicate effectively with clients and users;
- ability to develop and deliver on time a computer system that meets the specified requirements.

## Graduate Attributes

Monash prepares its graduates to be:

1. responsible and effective global citizens who:

- a. engage in an internationalised world
- b. exhibit cross-cultural competence
- c. demonstrate ethical values

critical and creative scholars who:

- a. produce innovative solutions to problems
- b. apply research skills to a range of challenges
- c. communicate perceptively and effectively

## Assessment Summary

Assignments: 100%

<b>Assessment Task</b>	<b>Value</b>	<b>Due Date</b>
Individual seminar presentation	5%	In seminar slot in semester 1 (Weeks 7 to 9)
Software walkthroughs	20%	One code walk through scheduled each semester (Week 10)
Group presentations	20%	One presentation each semester in the seminar slot (Weeks 11 and 12)
Individual SWEBOK interviews	5%	Will be scheduled during the examination period
Process and project	20%	Different due dates throughout the project. Final versions of

## Academic Overview

documentation		all documentation will be assessed at the end of the project (see unit schedule and more detailed breakdown on Moodle site).
Software product	30%	Client acceptance sign-off due semester 2 (Week 11), final project website with all software artifacts due end of semester 2 (Week 12)

## Teaching Approach

- **Studio teaching**

Studio teaching is a facilitated active, participatory, peer learning approach.

- **Seminars**

Students will listen to presentations from the unit-coordinator, guest speakers and fellow students on topics relevant to the studio project.

## Feedback

### Our feedback to You

Types of feedback you can expect to receive in this unit are:

- Other: Verbal feedback on progress from supervisor in fortnightly meetings; written comments on drafts of project documentation; written feedback on first SWEBOK interview; marking guide on group presentations; verbal feedback from supervisor and client during software walkthrough

### Your feedback to Us

Monash is committed to excellence in education and regularly seeks feedback from students, employers and staff. One of the key formal ways students have to provide feedback is through SETU, Student Evaluation of Teacher and Unit. The University's student evaluation policy requires that every unit is evaluated each year. Students are strongly encouraged to complete the surveys. The feedback is anonymous and provides the Faculty with evidence of aspects that students are satisfied and areas for improvement.

For more information on Monash's educational strategy, and on student evaluations, see:

<http://www.monash.edu.au/about/monash-directions/directions.html>

<http://www.policy.monash.edu/policy-bank/academic/education/quality/student-evaluation-policy.html>

## Previous Student Evaluations of this unit

Feedback from previous SETU surveys has been incorporated into changes in the unit structure this semester.

If you wish to view how previous students rated this unit, please go to

<https://emuapps.monash.edu.au/unitevaluations/index.jsp>

## **Required Resources**

Please check with your lecturer before purchasing any Required Resources. Prescribed texts are available for you to borrow in the library, and prescribed software is available in student labs.

Customised Software Engineering laboratory (the MUSE lab) at Clayton with the standard lab image plus high end software engineering & testing tools from IBM/Rational, Websphere software from IBM, Testing tools from Compuware. Open source tools such as Eclipse, Junit & coverage testing tools.

## **Field trips**

May require visit to project client.

## Unit Schedule

Week	Activities	Assessment
0	Unit covers two semesters, however this unit schedule lists only semester 1 activities (see Moodle site for full year schedule)	No formal assessment or activities are undertaken in week 0
1	(Tuesday - EXTRA CLASS WEEK 1 only) introduction to projects, (Friday - Normal 2 hr seminar slot) unit housekeeping; process and problem solving; further information on projects	
2	Leadership and group dynamics	
3	Analysis and requirements engineering	Project Management Plan first draft (part of Assessment Task 5)
4	Software architecture and design	
5	Software process	Initial requirements document (part of Assessment Task 5)
6	No seminar, Good Friday public holiday	
7	Student presentations	Individual seminar presentation
8	Student presentations	Individual seminar presentation
9	Student presentations	Individual seminar presentation
10	Software walkthroughs	Software walkthrough with supervisor and client
11	Group presentations	Group presentation of project, Peer assessment forms
12	Group presentations	Group presentation of project
	SWOT VAC	No formal assessment is undertaken SWOT VAC. SWEBOK Interview will be held during examination period
	Examination period	LINK to Assessment Policy: <a href="http://policy.monash.edu.au/policy-bank/academic/education/assessment/assessment-in-coursework-policy.html">http://policy.monash.edu.au/policy-bank/academic/education/assessment/assessment-in-coursework-policy.html</a>

\*Unit Schedule details will be maintained and communicated to you via your MUSO (Blackboard or Moodle) learning system.

# Assessment Requirements

## Assessment Policy

Faculty Policy - Unit Assessment Hurdles

(<http://www.infotech.monash.edu.au/resources/staff/edgov/policies/assessment-examinations/unit-assessment-hu>)

## Assessment Tasks

### Participation

Attendance at all seminar classes is mandatory.

Students must also attend fortnightly meetings with project supervisors.

#### • Assessment task 1

**Title:**

Individual seminar presentation

**Description:**

Each student will be required to give a short seminar presentation to the class on a relevant topic (topic to be prior approved by the unit coordinator).

**Weighting:**

5%

**Criteria for assessment:**

Assessment criteria will be:

- ◆ Amount of research and preparation
- ◆ Understanding of the topic
- ◆ Quality of the oral presentation

**Due date:**

In seminar slot in semester 1 (Weeks 7 to 9)

#### • Assessment task 2

**Title:**

Software walkthroughs

**Description:**

Each semester, each project group will undertake a software walkthrough with the project supervisor. The unit coordinator and/or the client may also attend.

**Weighting:**

20%

**Criteria for assessment:**

There will be one software walkthrough each semester (10% each).

For each walkthrough, 5% will be a group mark, 5% an individual mark.

For the group mark, the assessment criteria will be the overall quality of the project group's code as a whole.

For the individual mark, the assessment criteria will be their individual contribution to the project group code, as well as their demonstrated understanding of the code.

**Due date:**

One code walk through scheduled each semester (Week 10)

• **Assessment task 3**

**Title:**

Group presentations

**Description:**

Each project group will give a presentation each semester in the class seminar time slot. In semester 1, it will be presentation on the project and progress to date. In semester 2, the presentation will describe the project as a whole and the final software product.

**Weighting:**

20%

**Criteria for assessment:**

There will be one group presentation each semester (10% each).

For each presentation, 5% will be a group mark, 5% an individual mark.

All students in a team will get the same group mark (5%) for the following assessment criteria:

1. Selection and organisation of content
2. Co-ordination of multiple speakers
3. Quality of visual aids
4. Timing

Each student will receive an individual mark (5%) for the following assessment criteria:

1. Quality of presentation (understandability, coherence)
2. Voice (audibility, intonation, variation)
3. Use of language (e.g., vocabulary, appropriate level, use of jargon)
4. Non-verbal communication (e.g., body language, eye contact)

**Due date:**

One presentation each semester in the seminar slot (Weeks 11 and 12)

• **Assessment task 4**

**Title:**

Individual SWEBOK interviews

**Description:**

Each semester, the student will be interviewed on their knowledge and understanding of SWEBOK, and how it relates to their project. The 15-30 minute interview is a formal exam will be with the unit coordinator, the project supervisor and other members of the BSE teaching group.

**Weighting:**

5%

**Criteria for assessment:**

Assessment criteria:

- ◆ Knowledge and understanding of the fundamental areas of software engineering (SWEBOK)
- ◆ Ability to relate SWEBOK to their particular project

**Hurdle requirements:**

## Assessment Requirements

The semester 1 interview will be a hurdle, where the student will receive written feedback.  
The semester 2 interview will be marked.

**Due date:**

Will be scheduled during the examination period

### • Assessment task 5

**Title:**

Process and project documentation

**Description:**

There will be a variety of process and project documentation to be produced during the project, which must be updated as required. See Moodle site for the unit for details.

**Weighting:**

20%

**Criteria for assessment:**

Each piece of documentation will be assessed on:

- ◆ Appropriateness of content
- ◆ Technical quality of content
- ◆ Quality of writing and presentation

While there will be a single overall mark out of 20 for this assessment component, the marks each individual team member receives may be adjusted to reflect their individual contribution to the project.

**Due date:**

Different due dates throughout the project. Final versions of all documentation will be assessed at the end of the project (see unit schedule and more detailed breakdown on Moodle site).

### • Assessment task 6

**Title:**

Software product

**Description:**

The final software deliverable for the project.

**Weighting:**

30%

**Criteria for assessment:**

The overall software deliverable for the project will be assessed on:

- ◆ Scope of functionality
- ◆ Performance on acceptance testing
- ◆ Quality of software artifacts (e.g. reusability, maintainability)

While there will be a single overall mark out of 30 for this assessment component, the marks each individual team member receives may be adjusted to reflect their individual contribution to the project.

**Due date:**

Client acceptance sign-off due semester 2 (Week 11), final project website with all software artifacts due end of semester 2 (Week 12)

## **Examinations**

### **Assignment submission**

It is a University requirement (<http://www.policy.monash.edu/policy-bank/academic/education/conduct/plagiarism-procedures.html>) for students to submit an assignment coversheet for each assessment item. Faculty Assignment coversheets can be found at <http://www.infotech.monash.edu.au/resources/student/forms/>. Please check with your Lecturer on the submission method for your assignment coversheet (e.g. attach a file to the online assignment submission, hand-in a hard copy, or use an online quiz).

### **Online submission**

If Electronic Submission has been approved for your unit, please submit your work via the VLE site for this unit, which you can access via links in the my.monash portal.

### **Extensions and penalties**

Submission must be made by the due date otherwise penalties will be enforced.

You must negotiate any extensions formally with your campus unit leader via the in-semester special consideration process:

<http://www.infotech.monash.edu.au/resources/student/equity/special-consideration.html>.

### **Returning assignments**

Students can expect assignments to be returned within two weeks of the submission date or after receipt, whichever is later.

## Other Information

### Policies

Monash has educational policies, procedures and guidelines, which are designed to ensure that staff and students are aware of the University's academic standards, and to provide advice on how they might uphold them. You can find Monash's Education Policies at:

<http://policy.monash.edu.au/policy-bank/academic/education/index.html>

Key educational policies include:

- Plagiarism  
(<http://www.policy.monash.edu/policy-bank/academic/education/conduct/plagiarism-policy.html>)
- Assessment  
(<http://www.policy.monash.edu/policy-bank/academic/education/assessment/assessment-in-coursework-p>)
- Special Consideration  
(<http://www.policy.monash.edu/policy-bank/academic/education/assessment/special-consideration-policy.h>)
- Grading Scale  
(<http://www.policy.monash.edu/policy-bank/academic/education/assessment/grading-scale-policy.html>)
- Discipline: Student Policy  
(<http://www.policy.monash.edu/policy-bank/academic/education/conduct/student-discipline-policy.html>)
- Academic Calendar and Semesters (<http://www.monash.edu.au/students/key-dates/>);
- Orientation and Transition (<http://www.infotech.monash.edu.au/resources/student/orientation/>);  
and
- Academic and Administrative Complaints and Grievances Policy  
(<http://www.policy.monash.edu/policy-bank/academic/education/management/complaints-grievance-policy>)
- Codes of Practice for Teaching and Learning  
(<http://www.policy.monash.edu.au/policy-bank/academic/education/conduct/suppdocs/code-of-practice-tea>)

### Student services

The University provides many different kinds of support services for you. Contact your tutor if you need advice and see the range of services available at [www.monash.edu.au/students](http://www.monash.edu.au/students). For Sunway see <http://www.monash.edu.my/Student-services>, and for South Africa see <http://www.monash.ac.za/current/>

The Monash University Library provides a range of services and resources that enable you to save time and be more effective in your learning and research. Go to <http://www.lib.monash.edu.au> or the library tab in my.monash portal for more information. At Sunway, visit the Library and Learning Commons at <http://www.lib.monash.edu.my/>. At South Africa visit <http://www.lib.monash.ac.za/>.

Academic support services may be available for students who have a disability or medical condition. Registration with the Disability Liaison Unit is required. Further information is available as follows:

- Website: <http://monash.edu/equity-diversity/disability/index.html>;
- Email: [dlu@monash.edu](mailto:dlu@monash.edu)
- Drop In: Equity and Diversity Centre, Level 1 Gallery Building (Building 55), Monash University, Clayton Campus, or Student Community Services Department, Level 2, Building 2, Monash University, Sunway Campus
- Telephone: 03 9905 5704, or contact the Student Advisor, Student Community Services at 03 55146018 at Sunway

## Reading list

- Relevant Journal Articles and Conference Proceedings depending on the project chosen.
- Gilb T and Graham D, Software inspection, Addison-Wesley, 1993
- Stiller, Project-based Software Engineering, Prentice-Hall, 2001
- Humphrey W, Managing the software process, Addison-Wesley, 1989
- Pfleeger S.L., Software Engineering Theory and Practice, Prentice Hall 2001
- Somerville I.S., Software Engineering Addison Wesley 2001
- Sallis P, Tate G and MacDonell S, Software Engineering: Practice, Management, Improvement, Addison-Wesley, 1995
- Humphrey W, Introduction to the Personal Software Process, Addison Wesley 2000
- Pressman R.S., Software Engineering, A Practitioner's approach, Fifth Ed., McGraw Hill, 2001
- Maciaszek, Requirements Analysis and System Design: Developing Information Systems with UML 2001, Prentice-Hall, 2001