

# System Testing (7172)

## Unit Outline – Semester 1, 2009

### Faculty of Information Science and Engineering University of Canberra

Australian Government Higher Education (CRICOS)  
Registered Provider number: #00212K

This Unit Outline must be read in conjunction with:

- a) *Studying at the University of Canberra: A Guide to Policies and Procedures*, 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 <http://www.canberra.edu.au/student-services>
- b) *Guide to Student Services at the University of Canberra*, and is available at <http://www.canberra.edu.au/student-services>
- c) Any additional information specified in section 6f.

## 1. General Information

**1a Unit title: System Testing; System Testing PG**

**1b Unit number: 7172; 6690**

**1c Semester and year offered: 1-2009**

**1d Credit point value: 3**

**1e Unit level: 3; P**

**1f Unit Convenor: Charles Pfohl**  
Ph. 62012429, Room 11A22, E-mail [Charles.Pfohl@canberra.edu.au](mailto:Charles.Pfohl@canberra.edu.au)

**Moderator: Dr David Clark**  
Ph. 62012393, E-mail [David.Clark@canberra.edu.au](mailto:David.Clark@canberra.edu.au)

**1g Administrative Contact: Faculty of Information Sciences and Engineering**  
Ph. (02) 62012417, (02) 62012153, Fax: (02) 62015231, Room 11B14,  
E-mail: [ise@canberra.edu.au](mailto:ise@canberra.edu.au)

## **2: Academic Content**

### **2a Unit description and learning outcomes**

#### *Syllabus*

This unit uses a software quality management framework to address the alignment of business needs and software systems development outcomes. It covers the production of testable and verifiable artefacts including requirement specifications, code and systems, through all phases of a variety of system development life-cycles. Issues addressed include the role of management and risk and their relevance to systems verification and testing.

#### *Learning Outcomes*

Students will be able to describe and discuss the decisions faced by management, information systems developers (analysts, designers, programmers, testers, support staff), clients and users when assessing the production of systems of appropriate quality in a cost-effective manner. Students will be able to assess the risks of several approaches to the verification and testing of the outputs of various phases in the system development life-cycle. Students will be aware of the roles of, and conflicts between, clients, developers, system testers and user acceptance testers.

#### *Generic Skills*

A full list of the generic skills expected of UC graduates can be found at

<http://www.canberra.edu.au/uc/policies/acad/generic.html>

In this unit there is special emphasis on: *Communication, Information Literacy and Numeracy, Information and Communication Technology, Problem Solving, Working With Others, Professional Ethics, Personal Attributes*

### **2b Prerequisites and/or co-requisites**

#### **Prerequisite:**

- for ST: Systems Analysis and Modelling and 36 credit points.
- for STPG: Systems Analysis & Modelling G and 12 credit points towards MTech, or MBI or MIT.

## **3: Delivery of Unit and Timetable**

### **3a Delivery mode**

This unit will be delivered in traditional mode, that is on campus in standard semesters. Each week there will be a Lecture of two hours and a Tutorial session of two hours (starting week 2).

### **3b Schedule of topics/lectures/tutorials/practicals/field classes by week**

The UC timetable shows Lecture and Tutorial times. The schedule of weekly topics and tute work appears below. Details may change during the semester if the need arises. Any changes will be notified on the unit web site.

Week	Activity
1	Subject outline; Context, life cycles, PM & IS view of System Testing
2	PM and quality management; SE view of V&V / testing
3	<i>Canberra Day – Public Holiday</i>
4	Requirements
5	Acceptance tests using Fit – Dr. David Clark
6	(continued)
7	(continued)
8	<i>Class free period -</i>
9	<i>- this is where we shut up and you catch up</i>
10	<i>ANZAC Day – Public Holiday</i>
11	State of ST, Maintaining QA, Managing ST; The MITs method
12	Assignment 1 feedback
13	Metrics for ST; Test inventory, Build test inventory, Risk analysis
14	? Guest Lecture - to be arranged
15	Near future; Review
	<i>Exams are a wonderful opportunity to show what you have learned and how you can apply that knowledge</i>

## 4: Unit Resources

### 4a Lists of required texts/readings

**Text Book:** There isn't a prescribed text book for this unit. The material covered comes from a number of sources.

#### Recommended Readings:

- Sommerville, I. (2004) **Software Engineering**, 8-th edition, Addison Wesley.
- Mugridge, R. Cunningham, W (2005) **Fit for Developing Software**, Prentice Hall.
- Hutcheson, M. L. (2003) **Software Testing Fundamentals**, Wiley.
- Black, R. (2002) **Managing the Testing Process**, Wiley.
- Perry, W. E. (2006) **Effective Methods for Software Resting**

### 4b Materials and equipment

No special requirements. Students may use the School's computing laboratory resources.

### 4c Unit website

Various unit resources will be accessible via 'LearnOnline' supported by the 'Moodle' software platform.

## 5: Assessment

### 5a Assessment overview

Assessment Item (including exams held in the exam period)	Due Date of Assignments	Weighting (total to equal 100%)
Assignment 1	Tute week 11	25%
Assignment 2	Tute week 15	25%
Examination	University schedule	50%

**NOTE:** Both assignments are to be undertaken in groups of **nominally 3 students**.

Any differences will be negotiated with the lecturer, but must be 2 or 4.

Individual assignments will not be marked.

In all submitted written work, the author-date or 'Harvard' system, as outlined in the University Library Citation Guide available online at [http://www.canberra.edu.au/library/research-gateway/research\\_help/citation-guide](http://www.canberra.edu.au/library/research-gateway/research_help/citation-guide), should be used for referencing. Students may be required to submit text-based assignments electronically to be checked for matching text. If so, instructions on how to do this and information about the process will be made available in conjunction with the first of any such assessment items.

### 5b Details of each assessment item

1. Assignment 1: Acceptance tests using Fit.
2. Assignment 2: Using the Most Important Tests Method build a test inventory for a given system.
3. Examination: The 2-hour examination will be held in the exam period at the end of the semester. The examination is intended to explore your understanding of the key concepts covered during the semester. The examination will be closed book. You may take a non-electronic un-annotated language dictionary.

### 5c Special assessment requirements

1) In order to pass the unit you must pass both components: the **Continuous assessment** (Assignment 1 and 2 combined) **AND** the **Final Examination**.

Your **final grade** for the unit will be determined as follows:

<u>Grade</u>	<u>Exam</u>	<u>Total (Continuous + Exam)</u>
HD	>= 80% and	>= 85%
DI	>= 70% and	>= 75%
CR	>= 60% and	>= 65%
P	>= 50% and	>=50%

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.

#### **5d Supplementary assessment**

There will be no supplementary assessment / examination in this unit.

#### **5e Text-matching software**

Students may be required to submit text-based assignments electronically to be checked for matching text. If so, instructions on how to do this and information about the process will be made available in conjunction with the first of any such assessment items.

### **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 fifteen week semester is assumed to be 150 hours or an average of 10 hours per week. These hours include time spent in classes.

#### **6b Special needs**

Students who need assistance in undertaking the unit because of disability or other circumstances should inform their Unit Convener or the Disabilities Office as soon as possible so the necessary arrangements can be made.

#### **6c Attendance requirements**

You are strongly advised to attend all lectures and fully participate in tutorials. You would be wise to treat group meetings as also requiring attendance and participation.

#### **6d Required IT skills**

You are expected to be a competent computer user.

#### **6e Costs**

Books, web access, printing, and consumables.

#### **6e. Additional information**

Sources of other information will be announced in lectures and the unit website.

### **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 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), Section 3 (Delivery of Unit and timetable) and Section 5 (Assessment) of this document, will only be made by the Unit Convener if the written agreement of staff 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.