



Faculty of Science, Engineering and Built Environment

SIT725 Software Engineering

Deakin University Unit Guide

Trimester 2, 2018

CONTENTS

WELCOME	2
WHO IS THE UNIT TEAM?	2
Unit chair: leads the teaching team and is responsible for overall delivery of this unit	2
Unit chair details	2
Other members of the team and how to contact them	2
Administrative queries	3
ABOUT THIS UNIT	3
Unit development in response to student feedback	3
Your course and Deakin's Graduate Learning Outcomes	3
Your Unit Learning Outcomes	4
ASSESSING YOUR ACHIEVEMENT OF THE UNIT LEARNING OUTCOMES	4
Overview	4
Summative assessments	4
- Summative assessment task 1	4
- Summative assessment task 2	5
- Summative assessment task 3	6
Your learning experiences in this Unit - and your expected commitment	6
Contact Hours	7
Note	7
UNIT LEARNING RESOURCES	7
Essential learning resources	7
Recommended learning resources	8
KEY DATES FOR THIS TRIMESTER	8
UNIT WEEKLY ACTIVITIES	8

WELCOME

Welcome to **SIT725 Software Engineering**. This unit forms a part of the Master of Information Technology degree and is for students who are involved in the software development stream. The primary focus of this unit is to extend your existing software engineering knowledge by introducing advanced software development approaches and techniques, industry standard and practices.

Since the topics of this unit are based on basic principles and methods of software engineering, it is highly recommended that you have the basic knowledge of Software Engineering before taking this unit. Please read this unit guide carefully as it explains the structure, content, assessments and rules associated with the unit.

To begin with, we suggest you do the following before the unit commences:

Read the Unit Guide carefully and make sure you understand the rules and requirements of this unit;

- Get your study materials ready, e.g., purchase the textbook;
- Note the due dates of your assignments;
- Make sure you can access CloudDeakin and your Deakin e-mail account without problems;
- Download and read the first set of class slides;

I wish you an enjoyable and challenging trimester.

Good luck!

Dr. Shamsul Huda

SIT725 Unit Chair

This Unit Guide provides you with the key information about this Unit. For the best chance of success, you should read it very carefully and refer to it frequently throughout the trimester. Your Unit site (accessed in **DeakinSync**) also provides information about your **rights and responsibilities**. We will assume you have read this before the Unit commences, and we expect you to refer to it throughout the trimester.

WHO IS THE UNIT TEAM?

Unit chair: leads the teaching team and is responsible for overall delivery of this unit

Shamsul Huda

Unit chair details

Campus: Melbourne Burwood Campus
221 Burwood Highway
BURWOOD VIC 3125

Email: shamsul.huda@deakin.edu.au

Phone: +61 3 924 45509

Other members of the team and how to contact them

Other staff member's contact details will be released soon.

Administrative queries

- Contact your Unit Chair or Campus Leader
- Drop in or contact [Student Central](#) to speak with a Student Adviser

For additional support information, please see the Rights and Responsibilities section under 'Resources' in your unit site

ABOUT THIS UNIT

This unit covers advanced approaches of applying software engineering to web application development, including the web application formulation and planning, analysis and design models, relationship between UML models and web application designs, and the web application testing. The unit will also cover other advanced topics and methodologies in software engineering, as well as recent developments.

Unit development in response to student feedback

Every trimester, we ask students to tell us, through eVALUate, what helped and hindered their learning in each Unit. You are strongly encouraged to provide constructive feedback for this Unit when eVALUate opens (you will be emailed a link).

In previous versions of this unit, students have told us the following aspects of the Unit have helped them to achieve the learning outcomes:

Industry standard tools and their practices in the practical classes helped them to achieve the learning outcome and were helpful to learn software engineering skills.

Many students have also suggested to make the availability of more resources. More reference resources have been added in the unit guide and will be made available as the contents are uploaded through CloudDeakin.

If you have any concerns about the Unit during the trimester, please contact the unit teaching team - preferably early in the trimester - so we can discuss your concerns, and make adjustments, if appropriate.

Your course and Deakin's Graduate Learning Outcomes

GLO1 Discipline knowledge and capabilities:	appropriate to the level of study related to a discipline or profession
GLO2 Communication:	using oral, written and interpersonal communication to inform, motivate and effect change
GLO3 Digital literacy:	using technologies to find, use and disseminate information
GLO4 Critical thinking:	evaluating information using critical and analytical thinking and judgment
GLO5 Problem solving:	creating solutions to authentic (real world and ill-defined) problems
GLO6 Self-management:	working and learning independently, and taking responsibility for personal actions
GLO7 Teamwork:	working and learning with others from different disciplines and backgrounds
GLO8 Global citizenship:	engaging ethically and productively in the professional context and with diverse communities and cultures in a global context

Each Deakin course has **course learning outcomes** which explain what the Deakin Learning Outcomes mean in your discipline. Learning in each unit builds towards the course learning outcomes.

Your Unit Learning Outcomes

Each Unit in your course is a building block towards these Graduate Learning Outcomes - not all Units develop and assess every Graduate Learning Outcome (GLO).

	These are the Learning Outcomes (ULO) for this Unit At the completion of this Unit, successful students can:	Deakin Graduate Learning Outcomes
ULO1	Apply software engineering principles and methods to the requirement gathering and analysis, system analysis, modelling, design, implementation, testing and development management of a Web application	GLO1, GLO4, GLO5
ULO2	Assess existing Web applications or designs from a professional point of view	GLO1, GLO2, GLO4, GLO5
ULO3	Search for related materials about current research work and state-of-art techniques of Web engineering	GLO1, GLO2, GLO3, GLO6
ULO4	Analyse materials from various resources independently and critically	GLO1, GLO3, GLO4
ULO5	Develop a Web application within a team	GLO1, GLO2, GLO6, GLO7, GLO8

ASSESSING YOUR ACHIEVEMENT OF THE UNIT LEARNING OUTCOMES

Overview

In brief, these are the assessment tasks for this Unit (details below):

Written group analysis report 20%, written group design report 20%, examination 60%

Summative assessments

(tasks that will be graded or marked)

NOTE: It is your responsibility to keep a backup copy of every assignment where it is possible (eg written/digital reports, essays, videos, images). In the unusual event that one of your assignments is misplaced, you will need to submit the backup copy. Any work you submit may be checked by electronic or other means for the purposes of detecting collusion and/or plagiarism.

When you are required to submit an assignment through your unit site (accessed in DeakinSync), you should receive an email to your Deakin email address confirming that it has been submitted. You should check that you can see your assignment in the Submissions view of the Assignment folder after upload, and check for, and keep, the email receipt for the submission.

- Summative assessment task 1

	Written group analysis report
Brief description of assessment task	Web application analysis. Students will analyse an existing Web application using Web engineering principles and methods. It is to be completed as a group.

Detail of student output	A written analysis report is to be submitted. No length and word number limitations, but the report should cover the required aspects and provide technical details.
Grading and weighting (% total mark for unit)	20%, numerically marked.
This task assesses your achievement of these Unit Learning Outcome(s)	ULO1, students apply software engineering principles and methods to analyse the requirements and the design of an existing Web application. ULO2, students conduct the assessment of an existing Web application. ULO3, students search for new techniques when analysing a Web application. ULO4, students need independent and critical thinking skills to conduct the analysis. ULO5, students do this assignment in a team.
This task assesses your achievement of these Graduate Learning Outcome(s)	GLO1, students apply software engineering principles and methods to analyse the requirements and the design of an existing Web application. GLO2, students are required to communicate with their team members. GLO3, students search for analysis methods from digital resources. GLO4, students use their critical thinking skills to analyse an existing web application. GLO5, students solve problems in the analysis. GLO6, students are required to manage their time and effort to submit the assignment on time. GLO7, students do this assignment in a team. GLO8, students cooperate with their team members who have different academic and cultural backgrounds.
How and when you will receive feedback on your work	Feedback on understanding of topic content will be provided through dedicated discussion boards within the CloudDeakin site. Assessment results and feedback will be sent to students via CloudDeakin after the assessment is completed.
When and how to submit your work	Due date: 5:00pm (AEST) Monday, 20 August. The assignment is to be submitted via the unit site (accessed in DeakinSync).

- Summative assessment task 2

	Written group design report
Brief description of assessment task	Web application design. This work is based on your analysis in assignment 1. It is to be completed as a group.
Detail of student output	A written design report is to be submitted. No length and word number limitations, but the report should cover the required aspects and provide design details.
Grading and weighting (% total mark for unit)	20%, numerically marked.
This task assesses your achievement of these Unit Learning Outcome(s)	ULO1, students apply software engineering principles and methods to model and design a Web application. ULO2, the design is based on the assessment of an existing Web application. ULO3, students search for new techniques when designing a Web application. ULO4, students need independent and critical thinking skills to conduct the design. ULO5, student do this assignment in a team.

This task assesses your achievement of these Graduate Learning Outcome(s)	GLO1, students apply software engineering principles and methods to model and design a web application. GLO2, students are required to communicate with their group members. GLO3, students search for modeling and design methods from digital resources. GLO4, students use their critical thinking skills to choose the best design of a web application. GLO5, students solve problems in the design. GLO6, students are required to manage their time and effort to submit the assignment on time. GLO7, this assignment is a team work. GLO8, students cooperate with team members who have different academic and cultural backgrounds.
How and when you will receive feedback on your work	Feedback on understanding of topic content will be provided through dedicated discussion boards within the CloudDeakin site. Assessment results and feedback will be sent to students via CloudDeakin after the assessment is completed.
When and how to submit your work	Due date: 5:00pm (AEST), Monday, 17 September. The assignment is to be submitted via the unit site (accessed in DeakinSync).

- Summative assessment task 3

	Examination
Brief description of assessment task	The examination will assess and validate student knowledge of and ability to apply critical thinking techniques to identify and analyse problems from technical and non-technical perspectives. Questions will be based on the topics covered in class during the entire trimester of study.
Detail of student output	Students are required to sit the 2-hour closed book examination under supervised conditions. The examination will usually comprise of short answer, long answer and multiple-choice questions, which will require the student to respond in writing.
Grading and weighting (% total mark for unit)	60%
This task assesses your achievement of these Unit Learning Outcome(s)	ULO1, ULO2, ULO3, ULO4, the exam covers the major content of this unit.
This task assesses your achievement of these Graduate Learning Outcome(s)	GLO1, GLO4, GLO5, web engineering knowledge, critical thinking and problem solving skills are required to answer exam questions.
How and when you will receive feedback on your work	A practice examination will be provided on CloudDeakin mid-trimester, a dedicated discussion board will be available. Deakin University will release the final assessment results at the stipulated timeframe. Students will receive a mark, which is an indicator of their overall performance in this unit of study.
When and how to submit your work	The Division of Student Administration manages examination schedules. Students will be required to attend a two hour supervised written examination during the end of trimester examination period. Please refer to DeakinSync for examination time, date and venue.

Your learning experiences in this Unit - and your expected commitment

To be successful in this unit, you must:

- Read all materials in preparation for your classes or seminars, and follow up each with further study and research on the topic;
- Start your assessment tasks well ahead of the due date;
- Read or listen to all feedback carefully, and use it in your future work;
- Attend and engage in all timetabled learning experiences as follows:

Contact Hours

Campus: 1 x 1 hour class per week, 1 x 2 hour practical per week.

Cloud (online): 1 x 1 hour scheduled online workshop per week.

Students will on average spend 150 hrs over the trimester on learning and assessment activities in this unit. For campus students this includes class time, designated activities, assessment tasks, readings and study time. For cloud students the time should be divided between online learning activities, discussion boards, designated activities, assessment tasks, readings and study time.

The unit site will be the focal point for learning in this unit. All resources of this unit are available in the site, including class slides, Echo recordings (previously iLectures), seminar materials, assignments, and other related materials. The resources, except the assignments, are organised by weeks.

In addition, the administration of this unit, including announcements (news) and assignment submission, is also conducted through the unit site. Therefore, students need to visit the site regularly to get the latest resources and information of this unit.

The discussion boards will be monitored by academic staff involved in teaching in this unit frequently so that responses to student questions or feedback will be made within 2-3 working days if not earlier.

Note

At Deakin,

- *Lectures* are referred to as *classes* (definition: a general meeting for all students, for which students do not need to register and where students are engaged through presentations and learning activities)
- *Tutorials, workshops and seminars* are referred to as seminars (definition: more interactive meetings for smaller groups of students).
- For the complete list of agreed definitions for learning experiences, see the [Course Design and Delivery Procedure](#).

UNIT LEARNING RESOURCES

Your unit learning resources are available in your unit site accessed in DeakinSync.

Essential learning resources

The SIT725 website can be accessed via the unit site. To facilitate and assist you in your learning, we will publish the following resources in the unit site:

Class slides (available progressively);

- Reading materials for each week (available progressively);
- Seminar materials for each week (available progressively);
- Assignment materials;
- Resource bins for supplementary materials;
- Other relevant materials and tools.

Recommended learning resources

The following textbooks are highly recommended:

(1) Ian Somerville: Software Engineering, Addison Wesley (Tenth edition, 2015),

Following textbooks will also be useful and will be followed in this unit. These will be cited in the lecture content as necessary.

(2) Roger S. Pressman : Software Engineering: A Practitioners Approach. (8th Edition, 2014)

(3) Kenneth S. Rubin : Essential Scrum: A Practical Guide to the Most Popular Agile Process, 1st edition, 2013,

(4) Roger S. Pressman and David Lowe (2009): Web Engineering: A Practitioners Approach. McGraw-Hill,

The textbook is necessary for this unit study. The book covers main aspects, principles and methods of Web engineering. You should read the corresponding chapters of the textbook after each class to help you understand the class contents better.

The book can also help you review your previous software engineering knowledge if you studied software engineering before, or learn some basic principles and methods of software engineering if you did not study software engineering before. Textbooks, reference books, general books and software may be ordered from the bookshop:

- phone 1800 686 681 (freecall);
- email to DUSA-Bookshop@deakin.edu.au; or
- order online from the University bookshop web site at <http://www.dusabookshop.com.au/>

KEY DATES FOR THIS TRIMESTER

Trimester begins (classes begin)	Monday 9 July 2018
Intra-trimester break (a short break during trimester)	Monday 13 August - Sunday 19 August 2018
Trimester ends (classes cease)	Friday 28 September 2018
Study period (examination preparation period)	Monday 1 October - Friday 5 October 2018
Examinations begin	Monday 8 October 2018
Examinations end	Friday 19 October 2018
Inter-trimester break (the period between trimesters)	Monday 22 October - Friday 2 November 2018
Unit results released	Friday 2 November 2018 (6pm)

UNIT WEEKLY ACTIVITIES

Week	Commencing	Topic	Assessment activity
1	9 July 2018	Introduction to SIT725 and Web Engineering	
2	16 July	Formulation and Planning	

3	23 July	Analysis Modeling of Web Applications (I)	
4	30 July	Analysis Modeling of Web Applications (II)	
5	6 August	Web Application Design (I)	
6	20 August	Web Application Design (II)	Assignment 1: Written group analysis report
7	27 August	Web Application Design (III)	
8	3 September	Construction and Deployment	
9	10 September	Testing Web Applications (I)	
10	17 September	Testing Web Applications (II)	Assignment 2: Written group design report
11*	24 September	Future Directions	

Intra-trimester break: Monday 13 August - Sunday 19 August 2018 (between weeks 5 and 6)

*Friday 28 September: AFL Grand Final Eve public holiday - University closed