MONASH University
Information Technology

# FIT2053
# Web-based information systems

## Unit Guide

## Semester 1, 2010



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# FIT2053 Web-based information systems - Semester 1, 2010

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# Introduction

Welcome to FIT2053 Web-based Information Systems for semester 1, 2009. This 6 point unit is core to the Information Systems and Information Management majors in the BITS. It is also appropriate for students of other BITS majors. The unit has been designed to provide you with an understanding of the nature of the web and its impact on information systems and systems development. It is not a heavily technical unit, though it does have some broad introductory content on web technology. Students who are interested in getting into web technology in depth are advised to try the Web Systems units - FIT1011, FIT2028 and FIT3043

# Unit synopsis

Web-based information systems require a development approach, development skills and a range of participants unlike those used for other forms of information system. This unit aims to provide students with a broad understanding of the nature of the web-based information systems development process, and how it is applied in different types of information systems.
The unit will examine the following main areas:

- the basic technologies associated with the internet and the world-wide web;
- the influence of these technologies on the use and development of information systems on the web;
- the development processes required to build systems which make use of web and internet technologies
- analysis and design issues and techniques for web-based systems
- issues in managing web development teams and web projects

The emphasis throughout the unit will be on providing a broad overview of topics, rather than examining any one topic in great depth. There will be a strong emphasis on practical demonstration of the concepts being studied, and case studies will be used to highlight key aspects of theory.

# Learning outcomes

At the completion of this unit students will have -
A knowledge and understanding of:

- the technological capabilities associated with the internet and the world-wide web and the basic technological capabilities required to develop web-based systems;
- the main tasks in the web-based information systems development process and the main techniques used to perform them
- the mixture of skills and competencies required for successful development of a web-based information system;
- the principles of good practice with respect to the management of web-based information systems project.

Developed attitudes which enable them to:

- recognise the range of skills and competencies required in the development of web-based information systems
- recognise the special expertise and skills which information professionals can contribute to the development of a web-based information system.

Gained the skills to:

- identify the range of technical and systems expertise needed in the development of a web-based system for a given set of circumstances;
- perform some of the basic information analysis and design tasks required during development of a web-based information system.

Demonstrated the communication skills necessary to:

- recognise the importance of a team-based approach to web-based information systems development;
- interact with system users and with other members of a team in the tasks involved in the development of a web-based information system;
- develop interpersonal communication skills with team members in Web-based systems developement activities.

## Contact hours

2 hrs lectures/wk, 2 hrs laboratories/wk

## Workload

For on campus students, workload commitments are:

- two-hour lecture and
- two-hour studio session (requiring advance preparation)
- a minimum of 2 hours of personal study per one hour of contact time in order to satisfy the reading and assignment expectations.

## Unit relationships

# Teaching and learning method

## Teaching approach

The lectures will be used to teach the basic factual core of the unit. They will provide students with a broad theoretical framework of the nature of the web and its component technologies, the different types of web-based systems and their differing development needs. This will be accompanied by a theoretical overview of the system development process for web-based systems and the tasks involved in it.

Case studies of web development projects will be used to illustrate the development processes and activities integral to the development of different types of web-based system, and detailing the techniques of systems analysis, design and implementation used in the development process. The importance of team-based development approaches will be stressed. Particular emphasis will be given to consideration of the role of information profesionals in regard to the analysis, design and information management aspects of web-based systems.

Laboratory/tutorial work will require students to examine a range of technologies and techniques used in web systems development, and to carry out some key of the key development tasks for which information professionals would normally be responsible.

Assignments will be used to reinforce the formal teaching content, by requiring the students to apply them to the solution of practical problems.

## Timetable information

For information on timetabling for on-campus classes please refer to MUTTS,
http://mutts.monash.edu.au/MUTTS/

## Tutorial allocation

On-campus students should register for tutorials/laboratories using the Allocate+ system:
http://allocate.its.monash.edu.au/

## Unit Schedule

| Week | Date* | Topic | Key dates |
|---|---|---|---|
| 1 | 01/03/10 | Introduction to unit. The nature of the World Wide Web and web-based information systems. Issues in web site development and usage | |
| 2 | 08/03/10 | Information dissemination and connectivity. Connectivity requirements for information dissemination and access. Web technologies for sending, transmitting and receiving information. Implications for web-based information systems | |
| 3 | 15/03/10 | Information collections, information architectures and hypertext on the web. Information requirements for structuring and managing large collections of information. Web technologies for information collections; their implications for site design and management. Introduction to information architecture | |
| 4 | 22/03/10 | Making information usable, interesting and attractive. Introduction to mark-up languages for document display - HTML and CSS. | Assignment 1 due |

| | | | |
|---|---|---|---|
| | | Impact on web page design and layout; page design and usability. Implications for web-based systems development | |
| 5 | 29/03/10 | Representation of information - importance to meaning. Multimedia for web sites; text, graphics, sound, video, animation, etc. Web technologies for multimedia display; impacts on web page development | |
| Mid semester break | | | |
| 6 | 12/04/10 | Making information find-able. Mark-up languages for document search and retrieval. XML, schemas, DTDs. Implications for web-based systems | |
| 7 | 19/04/10 | Re-constructing the web; Web site interactivity; client and server-side scripting. AJAX. The semantic web and Web 2.0. Introduction to Web services and service-oriented architectures. | Unit test |
| 8 | 26/04/10 | Web connectivity and web page/site design; advances in connectivity and their impacts on web applications | |
| 9 | 03/05/10 | Information architectures and web page/site design. Classification of site content; Site navigation; content labelling; impacts of information architectures on site usability | |
| 10 | 10/05/10 | Information display and site uability; .Multimedia content design; usability issues in web content design. Implications for web-based systems | |
| 11 | 17/05/10 | Managing web sites. Content management and CMS software; Site maintenance; Performance monitoring and site evaluation | |
| 12 | 24/05/10 | Web futures. Trends in web applications and web usage; implications for IT professionals | Assignment 2 due |
| 13 | 31/05/10 | Revision and exam preparation. | |

*Please note that these dates may only apply to Australian campuses of Monash University. Off-shore students need to check the dates with their unit leader.

# Unit Resources

## Prescribed text(s) and readings

None

## Recommended text(s) and readings

Extensive use wil be made of web site references which will be posted on the unit web site on a topic by topic basis during the semester. Students who wish to buy text books on specific topics should consider the following. Details as to which topics each book supports will be provided during semester.

- Chapman N & Chapman J (2006) Web Design, John Wiley & Sons
- Chapman N & Chapman J (2007) Digital Media Tools, John Wiley & Sons
- Flanders V & Peters D (2002) Son of web pages that suck: Learn good design by looking at bad design, Sybex
- Goldfarb C (2004) XML Handbook (5th ed), Pearson Prentice
- Hall Krug S (2005) Don't make me think: A common-sense approach to web usability, New Riders
- McCracken D & Wolfe R (2004) User-centered web site development, Pearson Prentice Hall
- Nielsen, J. (2000). Designing Web Usability. New Riders
- Nielsen J & Pernice K (2007) Eyetracking web usability, New Riders
- Rosenfeld, L. & Morville, P. (2006) Information Architecture for the World Wide Web, O'Reilly
- Siegel, D (1997) Secrets of Successful Web Sites: Project Management on the World Wide Web, Hayden Books
- Wodtke, C (2009) Information Architecture: Blueprints for the web, New Riders

## Equipment and consumables required or provided

Students will need access to:

- a personal computer with Windows XP
- the internet, preferably by broadband
- a printer for assignments

## Study resources

Study resources we will provide for your study are:

- Weekly detailed lecture notes outlining the learning objectives, discussion of the content, required readings and exercises;
- Weekly tutorial or laboratory tasks and exercises with some sample solutions;
- Assignment specifications and some sample solutions;
- Sample examination questions and solutions;
- This Unit Guide outlining the administrative information for the unit;
- The unit web site on MUSO, where resources outlined above will be made available.

# Assessment

## Overview

Examination (3 hours): 50%; In-semester assessment: 50%
Students must gain a satisfactory result in both the practical and exercises work and the exam to gain a pass in the unit.

## Faculty assessment policy

To pass a unit which includes an examination as part of the assessment a student must obtain:

- 40% or more in the unit's examination, and
- 40% or more in the unit's total non-examination assessment, and
- an overall unit mark of 50% or more.

If a student does not achieve 40% or more in the unit examination or the unit non-examination total assessment, and the total mark for the unit is greater than 50% then a mark of no greater than 49-N will be recorded for the unit.

## Assignment tasks

### Assignment coversheets

Assignment coversheets are available via "Student Forms" on the Faculty website:
http://www.infotech.monash.edu.au/resources/student/forms/
You MUST submit a completed coversheet with all assignments, ensuring that the plagiarism declaration section is signed.

**Assignment submission and return procedures, and assessment criteria will be specified with each assignment.**

- **Assignment task 1**

  **Title:**
  Assignment 1
  **Description:**
  Prepare and present to the tutorial class a comparative analysis of a set of web sites, highlighting the strengths and weaknesses of the web as an information management and communication medium.
  **Weighting:**
  10%
  **Due date:**
  Weeks 4 and 5 during tutorial

- **Assignment task 2**

  **Title:**
  Assignment 2
  **Description:**
  Make a tutorial presentation on a selected paper or group of papers relating to a topic of interest and importance for web design

**Weighting:**
10%
**Due date:**
Date of submission will vary from student to student. Arrangements will be organized in tutorial classes during the semester

- **Assignment task 3**

**Title:**
Assignment 3
**Description:**
Prepare a secification of a web site design to meet a given set of user requirements
**Weighting:**
20%
**Due date:**
Week 12 during tutorial

## Examinations

- **Examination 1**

**Weighting:** 50%
**Length:** 3 hours
**Type (open/closed book):** Closed book
**Remarks:**

Runs in formal examination period at end of semester

- **Examination 2**

**Weighting:** 10%
**Length:** 1.5 hours
**Type (open/closed book):** Closed book
**Remarks:**

Unit Test runs during class in week 7 of semester

**See Appendix for End of semester special consideration / deferred exams process.**

## Due dates and extensions

Please make every effort to submit work by the due dates. It is your responsibility to structure your study program around assignment deadlines, family, work and other commitments. Factors such as normal work pressures, vacations, etc. are not regarded as appropriate reasons for granting extensions. Students are advised to NOT assume that granting of an extension is a matter of course.

Students requesting an extension for any assessment during semester (eg. Assignments, tests or presentations) are required to submit a Special Consideration application form (in-semester exam/assessment task), along with original copies of supporting documentation, directly to their lecturer within two working days before the assessment submission deadline. Lecturers will provide specific outcomes directly to students via email within 2 working days. The lecturer reserves the right to refuse late applications.

A copy of the email or other written communication of an extension must be attached to the assignment submission.

Refer to the Faculty Special consideration webpage or further details and to access application forms: http://www.infotech.monash.edu.au/resources/student/equity/special-consideration.html

## Late assignment

Assignments received after the due date will be subject to a penalty of 5% per day, including weekends. Assignments received later than one week (seven days) after the due date will not normally be accepted. In some cases, this period may be shorter if there is a need to release sample solutions.

This policy is strict because comments or guidance will be given on assignments as they are returned, and sample solutions may also be published and distributed, after assignment marking or with the returned assignment.

## Return dates

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

# Appendix

Please visit the following URL: http://www.infotech.monash.edu.au/units/appendix.html for further information about:

- Continuous improvement
- Unit evaluations
- Communication, participation and feedback
- Library access
- Monash University Studies Online (MUSO)
- Plagiarism, cheating and collusion
- Register of counselling about plagiarism
- Non-discriminatory language
- Students with disability
- End of semester special consideration / deferred exams