FIT3057
Enterprise programming

Unit Guide

Semester 1, 2010

Last updated: 12 Feb 2010

Table of Contents

FIT3057 Enterprise programming - Semester 1, 2010

Chief Examiner:

Dr Chris Ling
Senior Lecturer
Phone: +61 3 990 32808
Fax: +61 3 990 31077

Lecturer(s) / Leader(s):

Caulfield

Dr Chris Ling
Senior Lecturer
Phone: +61 3 990 32808
Fax: +61 3 990 31077

Introduction

Welcome to FIT3057 Enterprise Programming for Semester 1, 2010. This 6 point unit is tailored for undergraduate degree programs in the Faculty of IT. This unit is centered on the development of web-based enterprise applications using Java technologies. It focuses on the role of the System Architect in devloping these systems. It explores enterprise system development aspects with emphasis on the relationship between theoretical knowledge and its practical application using cases and real examples of enterprise systems.

Unit synopsis

This unit focuses on the theory and application of object-oriented programming techniques as implemented in the Java programming language and its ability to build server-side and enterprise applications for the World Wide Web. It also looks at the Open Source technologies available for enterprise computing. Students gain practical experience with the issues and technologies related to the development of large scale enterprise systems including: Transactions and distributed transaction processing, interoperability and persistence, scalability and the choices facing enterprise system architects and developers.

Learning outcomes

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

- a commercially relevant programming language and its associated libraries;
- the object oriented programming paradigm and how to apply it to distributed programming;
- the technical issues underlying distributed enterprise computing, including concurrency and transactions, interoperability, scalability and manageability;
- the role of a System Architect in developing these systems, including managing system workload and capacity, understanding and modelling required business processes, and managing the development and testing of enterprise systems.

Developed attitudes that enable them to:

- appreciate the need to develop distributed software for the enterprise on the World Wide Web;
- recognise the issues involved in enterprise application development to be different from non-distributed standalone software development.

Developed the skills to:

- construct applications with a portable graphical user interface;
- design, develop and test a small to medium size distributed application written in Java for the enterprise.

Contact hours

2 hrs lectures/wk, 2 hrs laboratories/wk

Workload

For on campus students, workload commitments are:

- two-hour lecture;
- two-hour laboratory;
- a minimum of 2-3 hours of personal study per one hour of contact time in order to satisfy the reading and assignment expectations; and
- Up to 5 hours per week in some weeks, for use of a computer, including time for newsgroups/discussion groups.

Unit relationships

Prerequisites

FIT2024 or CSE2201 or equivalent

Prohibitions

CSE3420, CSE3450, GCO3823

Teaching and learning method

Teaching approach

The approach to teaching and learning include a weekly two-hour lecture and a two-hour (laboratory). Additionally, each student should spend a minimum of 8 to 12 hours for personal study every week and should allocate up to 5 hours per week in some weeks for use of a computer, including time for newsgroup and discussion.

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, Java Revision, GUI	No lab class in Week 1. Lab classes start in Week 2
2	08/03/10	Network Programming	Week 1 Exercise due
3	15/03/10	Database programming and JDBC	Week 2 Exercise due
4	22/03/10	Client-side Java	Week 3 Exercise due
5	29/03/10	Enterprise Computing, Introduction to Java EE	Week 4 Exercise due
Mid semester break			
6	12/04/10	Unit Test	Week 5 Exercise due
7	19/04/10	Persistence	
8	26/04/10	Web Tier 1	Week 7 Exercise due
9	03/05/10	Web Tier 2	Week 8 Exercise due
10	10/05/10	Session Beans	Week 9 Exercise due
11	17/05/10	Message Driven Beans, JMS	Week 10 Exercise due
12	24/05/10	Java EE in the Industry (Guest Lecture)	

			Java EE assignment due on Friday 29 May
13	31/05/10	Revision	

*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

- Wigglesworth, J. and P. McMillan (2004). Java Programming: Advanced Topics. 3rd Edition. Cambridge, Mass, ISBN 0619159685
- Horstmann, C.S. and G. Cornell (2005). Core Java 2 Volume 2 - Advanced Features, Sun Microsystems. ISBN 0131118269
- Horstmann, C.S. (2008). Big Java. 3rd Edition.
- The Java EE Tutorial (2007). Sun Microsystems. Available from Sun Java EE website.
- Burke, B. and Monson-Haefel, R. (2006). Enterprise JavaBeans 3.0, 5th Edition, O'Reilly. ISBN 059600978X
- Mukhar, K. and Zelenak, C. (2006). Beginning Java EE 5 From Novice to Professional, Apress. ISBN 1590594703 (pbk)

Others:

- Matena, V., S. Krishnan, L. DeMichiel and B. Stearns (2003). Applying Enterprise JavaBeans Second Edition, Sun Microsystems.
- Boone, K (2003). Applied Enterprise JavaBeans Technology, Prentice Hall.
- Ahmed, K and C. Umrysh (2002) Developing Enterprise Java Applications with J2EE and UML, Addison Wesley.

Required software and/or hardware

You will need access to:

- Java SE 6
- NetBeans IDE with Java EE support and Glassfish application server

Equipment and consumables required or provided

Students studying off-campus are required to have the minimum system configuration specified by the Faculty as a condition of accepting admission, and regular Internet access. On-campus students, and those studying at supported study locations may use the facilities available in the computing labs. Information about computer use for students is available from the ITS Student Resource Guide in the Monash University Handbook. You will need to allocate up to **n** hours per week for use of a computer, including time for newsgroups/discussion groups.

Study resources

Study resources we will provide for your study are:

- Weekly detailed lecture notes outlining the learning objectives and discussion of the content.
- Weekly laboratory tasks and exercises with sample solutions provided one to two weeks later;
- Assignment specifications and sample solution;
- A sample examination and suggested solution

- Discussion groups;
- 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): 40%; In-semester assessment: 60%

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.

The unit's examination includes the final examination during the university examination period and the unit test during the semester.

The unit's non-examination assessment includes the lab exercises and the enterprise system development assignment.

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:
  Lab Exercises
  Description:
  Programming tasks in the lab.
  Weighting:
  20%
  Due date:
  Each weekly exercise will be due for assessment in the following week's class.

- **Assignment task 2**

Title:
Enterprise System Development
Description:
To develop a non-trivial web-based enterprise system.
Weighting:
30%
Due date:
Friday 28 May (Week 12)

Examinations

- **Examination 1**

Weighting: 40%
Length: 3 hours
Type (open/closed book): Closed book
Remarks:

This will be conducted during the university exam period.

- **Examination 2**

Weighting: 10%
Length: 1 hour
Type (open/closed book): Closed book
Remarks:

This is the unit test component which will be conducted during the Week 6 lecture.

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 a drop in grade for each 5 day period. Assignments received later than one week after the due date will not normally be accepted.

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