THE UNIVERSITY OF
NEW SOUTH WALES

SCHOOL OF INFORMATION SYSTEMS TECHNOLOGY AND MANAGEMENT

Implementation Workshop

INFS3605

Session 1, 2005

COURSE OVERVIEW

This course is a capstone subject focusing on the implementation phase of the development of information systems. The earlier phases of requirements and design have been considered in previous information systems subjects. Implementation workshop considers in detail the issues of coding and implementing quality information systems in an organisational context. These issues include: identifying attributes of quality, project management (resource management), project effort estimation, software testing, maintenance, evaluation of software products and processes. Quality is an overarching issue that is a consideration within the domain of all the above issues and is a unifying theme throughout the whole course. To achieve the objectives of the course the concepts, principles and theoretical approaches outlined in the weekly lectures are reinforced by the practical components of the course. The vehicle for the practical component is a specification of a non-trivial information system which will be implemented by teams of students in the Java programming language. The majority of the lecture material will be directly related to the practical component of the course.

COURSE AIMS

On Completion of this course, students are expected to have:

- an appreciation of the concepts and principles of software development associated with the **implementation** of quality Information Systems within an organisational context.
- an understanding of the issues and skills involved in working as part of project team implementing a quality information system. Students will develop interpersonal communication skills by:
    - preparing correctly formatted and structured business reports
    - presenting professional presentations using effective communication techniques
    - negotiating technical, management and interpersonal issues within their teams
    - resolving problems within their development teams using effective conflict resolution techniques.
- an understanding of management tools in the control and implementation of a quality information system, including project management and quality assurance of information systems development.
- experienced the process of implementing a quality information system in the Java programming language.

FORMAT AND TEACHING APPROACH

The course will consist of a 1 hour lecture and a 2 hour tutorial/laboratory.
Each student will be part of a team of four students. This is the optimum team size for the project to be undertaken. Students within teams must be enrolled in and attend the same tutorial.

Tutorials

Enrol in tutorials for this subject via the TAS system. Changes to tutorial enrolment after week 1 ***must*** be approved by the lecturer in charge.

STAFF AND CONTACTS

John D'Ambra QUAD 2088 9385 4854, j.dambra@unsw.edu.au
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Email contact and usage

Students should note that it is school policy to only respond to email messages that are clearly identifiable as having originated from legitimate accounts. Legitimate email accounts are:

- A UNSW student account
- An identifiable employer provided account
- An identifiable ISP account (bigpond, ozemail, optusnet, etc)

Messages from Hotmail, Yahoo, Google and other similar services will not be replied to.

All students and staff are expected to use email responsibly and respectfully.

RESOURCES

Textbook
Pfleeger S.L., 2001, *Software Engineering Theory and Practice*, ISBN: 0-13-093129-2, Prentice Hall, NJ.

Subject web page
sistm.web.unsw.edu.au/courses/infs3605

References
Beizer B., *Black Box Testing: Techniques for Functional Testing of Software and Systems*, S005.14/33.

Fenton N.E., and Pfleeger S.L., *Software Metrics: A Rigorous Approach*, 2nd ed., S005.14/46A

Jorgensen P.C., *Software Testing: A Craftsman's Approach*, P005.14/29.

Sommerville I., *Software Engineering*, 5th ed., 1996. P005.1/4F

Perry, W., *Effective methods for Software Testing*, P005.14/28

Pressman R.S., 1998, *Software Engineering: A Practitioner's Approach,* McGraw Hill. 0201548097, Addison-Wesley:CA

Electronic Resources
http://www.swebok.org/
http://www.sei.cmu.edu/

Assessment

Summary of requirements

	MARKS	DUE
Project Management Overview	**2**	**Week 2**
Gantt charts, minutes of meetings	**3**	**Weeks 3 – 12**
Interface design and navigation diagram	**10**	**Week 4**
Test Procedure	**10**	**Week 11**
System walk-through	**20**	**Week 12**
Quality of code (individual mark)	**5**	**Week 12**
Exam	**50**	
	100	

- Attendance at laboratories is compulsory. The roll will be taken in each lab. Students are reminded that they are required to attend 80% of all classes or a failure in the course will be recorded.
- Any number of the assessment components may be scaled to a mean of 60%.
- All components of assessment must be completed at a satisfactory level (normally a minimum mark of 40%). If this level of performance is not achieved in any component a UF will be awarded.
- Late submission of assignments will incur a penalty of 10% of the percentage weight of the assessment component per day after the due date. An extension in the time of submission will only be granted under exceptional circumstances by the lecturer-in-charge. In all cases documented evidence must be provided.
- Team members are expected to work in a harmonious and professional manner.
- **This subject will be assessed in accordance with the School's assessment policies that can be found at:** http://www.sistm.unsw.edu.au

Academic Misconduct

Students are reminded that the University regards academic misconduct as a very serious matter. Students found guilty of academic misconduct are usually excluded from the University for 2 years. Because of the circumstances in individual cases the period of exclusion can range from one session to permanent exclusion from the University. The following are some of the actions which have resulted in students being found guilty of academic misconduct in recent years:

- taking unauthorised materials into an examination
- submitting work for assessment knowing it to be the work of another person
- improperly obtaining prior knowledge of an examination paper and using that knowledge in the examination
    - failing to acknowledge the source of material in an assignment.

Plagiarism entails taking and using as one's own, the thoughts or writings of another without acknowledgement including:
(a) where paragraphs, sentences, a single sentence or significant part of a sentence which are copied directly, are not enclosed in quotation marks and appropriately footnoted;
(b) where direct quotations are not used, but ideas or arguments are paraphrased or summarised, and the source of the material is not acknowledged either by footnoting or other reference within the text of the paper; and
(c) where an idea, which appears elsewhere in print, film or electronic medium, is used or developed without reference being made to the author or the source of the idea.

EDUCATION DEVELOPMENT UNIT

Additional learning support, tailored to the needs of FCE students, is available from the Education Development Unit (EDU) in the Faculty. The EDU offers a range of services for FCE students including:

- Academic skills workshops run throughout the session;
- Printed and on-line study skills resources e.g. referencing guide, report writing and exam preparation;
- A drop-in resource centre containing books and audio visual material that can be borrowed;
- A limited consultation service for students with individual or small group learning needs.

More information about the EDU services including on-line resources, workshop details and consultation request forms are available from the EDU website.

Contacts and location:

EDU Web: http://education.fce.unsw.edu.au
EDU Location: Room 2039, Level 2 Quadrangle Building

EDU services are free and confidential and are available to students of the Faculty of Commerce and Economics.

OTHER UNSW SUPPORT

In addition to the EDU services, the UNSW Learning Centre provides academic skills support services for students. The Learning Centre is located on Level 2 of the Library and can be contacted by Phone: 9385 3890 or through their website: http://www.lc.unsw.edu.au/. Students experiencing problems of an academic or personal nature are encouraged to contact the Counselling Service at UNSW. This service is free and confidential and run by professional counsellors. The Counselling Service is located on Level 2, Quadrangle East Wing, and can be contact on 9385 5418.

	Lecture Schedule	
Week	Topic	Reading (Pfleeger)
1	Course Outline Assessment Our place in the engineering process Successful Information Systems Quality Information Systems Programming Practice: • Coupling • Cohesion • Exception Handling • Fault Prevention and Fault Tolerance • Writing programs	Chapters 1, 5, (sect. 5 .5), 7
2	Implementation and Project Management	Chapter 3, sections 3.1, 3.2, 3.4, 3.5
3	Interface Design – Navigation Diagrams	
4	Estimating Implementation Effort • Function Points	Chapter 3, sections 3.3
5	Estimating Implementation Effort • Algorithmic Methods	Chapter 3, sections 3.3
6	Program Testing	Chapter 8
7	System Testing	Chapter 9
8	Planning for testing	Chapter 9 (9.8)
9	Software Development and Knowledge Mgt.: Documenting & Delivering Systems	Chapter 10
10	System Maintenance	Chapter 11
11	Evaluation: Products	Chapter 12
12	Evaluation: Process	Chapter 13
13	Walk-Throughs (no lecture)	
14	**Revision**	

Laboratories

Lab. no	Week 1	Activity
1	2	Team formation Understanding the specification Project Management Overview Due Screen and report design