

# The University of Newcastle

## SENG3300/SENG6300 - User Interface Design

### Course Outline

**Course Coordinator** Oliver Obst <oliver.obst@newcastle.edu.au>  
**Semester** Semester 1 - 2007  
**Unit Weighting** 10  
**Teaching Methods**  
Lecture  
Laboratory  
Workshop

#### **Brief Course Description**

Introduces design and analysis methods for user interface design. Relevant perceptual psychology is introduced, and guidelines for user interface design are derived. Design methods are discussed. Analysis of interfaces by experimentation on humans is described. The subject includes a large practical project in which the students engineer a user interface.

#### **Contact Hours**

Workshop for 1 Hour per Week for the Full Term  
Lecture for 3 Hours per Week for the Full Term  
Computer Lab for 1 Hour per Week for the Full Term

#### **Learning Materials/Texts**

##### **Main textbook:**

Interaction Design. Preece, Rogers, Sharp (Wiley and Sons, 2002), <http://www.id-book.com/>

**Additionally (and optional):** Designing the User Interface: Strategies for Effective Human-Computer Interaction. Shneiderman, B., 2004.

##### **Additional readings (all papers are available online):**

1. Gould, John, et al. "The 1984 Olympic Message System: a test of behavioral principles of system design." CACM 30, no. 9 (1987).
2. Blanch, Renaud, Yves Guiard, and Michel Beaudouin-Lafon. "Semantic pointing: improving target acquisition with control-display ratio adaptation." CHI, 2004.
3. Edwards, Keith, Scott Hudson, Joshua Marinacci, Roy Rodenstein, Thomas Rodriguez, and Ian Smith. "Systematic output modification in a 2D user interface toolkit." UIST, 1997.
4. Myers, Brad. "A new model for handling input." ACM TOIS 8, no. 3 (July 1990).
5. Nielsen, Jakob. Ten Usability Heuristics.
6. Tognazzini, Bruce. First Principles of Interaction Design.
7. Rettig, Marc. "Prototyping for Tiny Fingers." CACM 37, no. 4 (April 1994).
8. Cooper, Alan. The Perils of Prototyping. 1994.
9. Myers, Brad, Scott Hudson, and Randy Pausch. "Past, present, and future of user interface software tools." ACM TOCHI 7, no. 1 (March 2000).
10. Nielsen, Jakob. Heuristic Evaluation.
11. Gomoll, Kathleen, and Anne Nicol. "Guidelines for user observation." User Observation: Guidelines for Apple Developers (January 1990).
12. Zelkowitz M. V. and D. Wallace, Experimental models for validating computer technology, IEEE Computer 31(5), (May, 1998)
13. Apitz, Georg, and Francois Guimbretiere. "CrossY: a crossing-based drawing application." UIST, 2004.

### Course Objectives

1. Introduce students to guidelines for user interfaces.
2. Introduce students to design methods for user interfaces.
3. Introduce students to analysis methods for user interfaces.
4. Provide students with practical experience in design methods for user interfaces.
5. Provide students with practical experience in analysis methods for user interfaces.

### Course Content

1. Introduction to Goal-Directed and Scenario-Based Design.
2. Principles of interaction design.
3. Analysis and Specification of user interfaces.
4. Prototyping techniques and processes.
5. Quality Assurance and Testing for user interfaces.
6. Practical experience in analysis methods for user interfaces.
7. An introduction to Voice User Interfaces.

Assessment Items		
Project Proposal	Written assignment, about one page per group	10%
Project Assignment	Written assignment, one paper prototype per group	10%
Project Final Report	Written assignment, per group	40%
Project presentation		PASS/FAIL
Final Examination	Individual	40%

**Due dates:** Proposal: 12/03/2007, Assignment 02/04/2007, Final Report 04/06/2007.

### Mandatory requirements:

- Satisfactory completion of all items

### Assumed Knowledge

SENG1120 and SENG2130.

Callaghan Campus Timetable				
SENG3300				
User Interface Design				
Enquiries: School of Electrical Eng and Computer Science				
Semester 1 - 2007				
Computer Lab	Tuesday	16:00 - 17:00	[ES137]	Wks 2-13 only. With SENG6300.
or	Tuesday	14:00 - 15:00	[ES137]	Wks 2-13 only. With SENG6300.
or	Tuesday	18:00 - 19:00	[EF14]	Wks 2-13 only. With SENG6300.
and Lecture	Monday	15:00 - 18:00	[ES204]	With SENG6300.
and Workshop	Monday	13:00 - 14:00	[ES238]	Wks 2-13 only. With SENG6300.

## **Plagiarism**

University policy prohibits students plagiarising any material under any circumstances. A student plagiarises if he or she presents the thoughts or works of another as one's own. Without limiting the generality of this definition, it may include:

- copying or paraphrasing material from any source without due acknowledgment;
- using another's ideas without due acknowledgment;
- working with others without permission and presenting the resulting work as though it was completed independently.

Plagiarism is not only related to written works, but also to material such as data, images, music, formulae, websites and computer programs.

Aiding another student to plagiarise is also a violation of the Plagiarism Policy and may invoke a penalty.

For further information on the University policy on plagiarism, please refer to the Policy on Student Academic Integrity at the following link -

<http://www.newcastle.edu.au/policylibrary/000608.html>

The University has established a software plagiarism detection system called Turnitin. When you submit assessment items please be aware that for the purpose of assessing any assessment item the University may -

- Reproduce this assessment item and provide a copy to another member of the University; and/or
- Communicate a copy of this assessment item to a plagiarism checking service (which may then retain a copy of the item on its database for the purpose of future plagiarism checking).
- Submit the assessment item to other forms of plagiarism checking

## **Written Assessment Items**

Students may be required to provide written assessment items in electronic form as well as hard copy.

## **Extension of Time for Assessment Items, Deferred Assessment and Special Consideration for Assessment Items or Formal Written Examinations**

Students are required to submit assessment items by the due date, as advised in the Course Outline, unless the Course Coordinator approves an extension of time for submission of the item. University policy is that an assessment item submitted after the due date, without an approved extension, will be penalised.

Any student:

1. who is applying for an extension of time for submission of an assessment item on the basis of medical, compassionate, hardship/trauma or unavoidable commitment; or

2. whose attendance at or performance in an assessment item or formal written examination has been or will be affected by medical, compassionate, hardship/trauma or unavoidable commitment;

must report the circumstances, with supporting documentation, to the appropriate officer following the instructions provided in the Special Circumstances Affecting Assessment Procedure - Policy 000641.

Note: different procedures apply for minor and major assessment tasks.

Please go to the Policy at <http://www.newcastle.edu.au/policylibrary/000641.html> for further information, particularly for information on the options available to you.

Students should be aware of the following important deadlines:

**Requests for Special Consideration** must be lodged no later than 3 working days after the date of submission or examination.

**Requests for Extensions of Time on Assessment Items** must be lodged no later than the due date of the item.

**Requests for Rescheduling Exams** must be lodged no later than 10 working days before the date of the examination.

Your application may not be accepted if it is received after the deadline. Students who are unable to meet the above deadlines due to extenuating circumstances should speak to their Program Officer in the first instance.

### **Changing your Enrolment**

The last dates to withdraw without financial or academic penalty (called the HECS Census Dates) are:

For semester 1 courses: 31 March 2007

For semester 2 courses: 31 August 2007

For Trimester 1 courses: 16 February 2007

For Trimester 2 courses: 8 June 2007

For Trimester 3 courses: 21 September 2007.

Students may withdraw from a course without academic penalty on or before the last day of semester. Any withdrawal from a course after the last day of semester will result in a fail grade.

Students cannot enrol in a new course after the second week of semester/trimester, except under exceptional circumstances. Any application to add a course after the second week of semester/trimester must be on the appropriate form, and should be discussed with staff in the Student Hubs.

To change your enrolment online, please refer to

<http://www.newcastle.edu.au/study/enrolment/changingenrolment.html>

## Faculty Information

The Student Hubs are a one-stop shop for the delivery of student related services and are the first point of contact for students on campus.

The four Student Hubs are located at:

### Callaghan campus

- Shortland Hub: Level 3, Shortland Union Building
- Hunter Hub: Student Services Centre, Hunter side of campus

### City Precinct

- City Hub & Information Common: University House, ground floor in combination with an Information Common for the City Precinct

### Ourimbah campus

- Ourimbah Hub: Administration Building

## Faculty websites

### Faculty of Business and Law

<http://www.newcastle.edu.au/faculty/business-law/>

### Faculty of Education and Arts

<http://www.newcastle.edu.au/faculty/education-arts/>

### Faculty of Engineering and Built Environment

<http://www.newcastle.edu.au/faculty/engineering/>

### Faculty of Health

<http://www.newcastle.edu.au/faculty/health/>

### Faculty of Science and Information Technology

<http://www.newcastle.edu.au/faculty/science-it/>

## Contact details

### Callaghan, City and Port Macquarie

Phone: 02 4921 5000

Email: [EnquiryCentre@newcastle.edu.au](mailto:EnquiryCentre@newcastle.edu.au)

### Ourimbah

Phone: 02 4348 4030

Email: [EnquiryCentre@newcastle.edu.au](mailto:EnquiryCentre@newcastle.edu.au)

**The Dean of Students**

Resolution Precinct

Phone: 02 4921 5806

Fax: 02 4921 7151

Email: [resolutionprecinct@newcastle.edu.au](mailto:resolutionprecinct@newcastle.edu.au)

**Deputy Dean of Students (Ourimbah)**

Phone: 02 4348 4123

Fax: 02 4348 4145

Email: [resolutionprecinct@newcastle.edu.au](mailto:resolutionprecinct@newcastle.edu.au)

Various services are offered by the University Student Support Unit:

<http://www.newcastle.edu.au/study/studentsupport/index.html>

**Alteration of this Course Outline**

No change to this course outline will be permitted after the end of the second week of the term except in exceptional circumstances and with Head of School approval. Students will be notified in advance of any approved changes to this outline.

**Web Address for Rules Governing Undergraduate Academic Awards**

<http://www.newcastle.edu.au/policylibrary/000311.html>

**Web Address for Rules Governing Postgraduate Academic Awards**

<http://www.newcastle.edu.au/policylibrary/000306.html>

**Web Address for Rules Governing Professional Doctorate Awards**

<http://www.newcastle.edu.au/policylibrary/000580.html>

**STUDENTS WITH A DISABILITY OR CHRONIC ILLNESS**

The University is committed to providing a range of support services for students with a disability or chronic illness.

If you have a disability or chronic illness which you feel may impact on your studies, please feel free to discuss your support needs with your lecturer or course coordinator.

Disability Support may also be provided by the Student Support Service (Disability). Students must be registered to receive this type of support. To register please contact the Disability Liaison Officer on 02 4921 5766, or via email at: [student-disability@newcastle.edu.au](mailto:student-disability@newcastle.edu.au)

As some forms of support can take a few weeks to implement it is extremely important that you discuss your needs with your lecturer, course coordinator or Student Support Service staff at the beginning of each semester.

For more information related to confidentiality and documentation please visit the Student Support Service (Disability) website at: [www.newcastle.edu.au/services/disability](http://www.newcastle.edu.au/services/disability)