Australian National University

COMP3900/COMP6390
Human Computer Interface Design and Evaluation/HCI and Usability Engineering

This course will provide an introduction to the field of Human Computer Interaction and will introduce students to behavioural research methods and techniques used in usability testing. The course will give students the essential theoretical background to approaches, methods and techniques followed by practical experience in conducting usability studies for interactive systems. [For postgraduate: Aspects of professional practice in integrating usability testing with the software development cycle will be considered].

Mode of Delivery	On campus
Prerequisites	**COMP3900** To enrol in this course you must have completed COMP1110 or COMP1140 or COMP1510; and 12 units of 2000 level COMP courses. **COMP6390** To enrol in this course you must be studying Master of Computing or have completed COMP6442.
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SEMESTER 2
2016

Course URL: https://wattle.anu.edu.au

COURSE OVERVIEW

Learning Outcomes

Upon completion of this course, the student will be able to:

- Describe and explain design principles for interactive user interfaces
- Gather requirements for, iterate over the design of, and evaluate an interactive user interface
- Explain the communication skills needed for requirements gathering, team development of interactive software and user evaluation of interactive software
- Describe how user interface development can be integrated into an overall software development process
- Understand sufficient theory of human computer interaction, experimental methodology and inferential statistics to be able to read modern research literature in interface technology and design.
- Identify key design errors in simple user interfaces and suggest alternative designs.
- Discuss ethical issues involved in developing and evaluating interactive user interfaces.

Assessment Summary

The assessment will consist of a combination of individual and group assignments totalling 50%, and a final exam worth 50%.

Assessment Task	Value	Due Date
1. Assignment 1 (individual): Understanding and documenting interactions	15%	End of week 4, Saturday 13th August, 6:00pm
2. Assignment 2 (group): Early-stage prototype design	15%	End of week 7, Saturday 3rd September, 6:00pm
3. Assignment 3 (group): User evaluation experiment	15%	End of week 11, Saturday 15th October, 6:00pm
4. Assignment 4 (individual): Personal reflections on design and evaluation, including the roles played in the two group assignments	5%	End of week 12, Saturday 22 October, 6:00pm

Research-Led Teaching

We will use the research processes from the field of Human-Computer interaction to lead the way this course is taught, both in class and in the assignments. These processes cover gathering original data, analysing that data and making design and evaluation decisions. Classroom and assignment work will be supported by peer-reviewed HCI publications and the students will be taught how to read, understand and critique these publications. Past and current HCI research projects at the ANU will be used as specific examples, both in the course material and with guest lecturers.

Student-Centred Learning

Class activities will focus on activities that encourage students to generate and share knowledge about the topics. In the lectures these activities include compact presentation on the topic from the lecturer, small-group discussions to understand the topic through examples and larger-group consolidation of those discussions. This approach recognises that the students will have had extensive use of interactive software systems and that they bring a wide range of experience to this class. Each of the eight tutorials will have a specific worksheet for the activities of that tutorial and the students will be guided by the tutor.

Feedback

Staff Feedback

Students will be provided with verbal feedback during in-class activities and written comments in response to assignment submissions. Students can request additional feedback through an individual consultation with the lecturer by appointment.

Student Feedback

ANU is committed to the demonstration of educational excellence and regularly seeks feedback from students. One of the formal ways students have to provide feedback is through Student Experience of Learning Support (SELS) surveys. The feedback given in these surveys is anonymous and provides the Colleges, University Education Committee and Academic Board with opportunities to recognise excellent teaching and opportunities for improvement.

For more information on student surveys at ANU and reports on the feedback provided on ANU courses, go to

http://unistats.anu.edu.au/surveys/selt/students/ and
http://unistats.anu.edu.au/surveys/selt/results/learning/

There is also a forum within the College for class representatives to gather feedback which is given to the teaching staff during the semester so that the staff can act on the feedback in that semester.

Policies

ANU has educational policies, procedures and guidelines, which are designed to ensure that staff and students are aware of the University's academic standards, and implement them. You can find the University's education policies and an explanatory glossary at: http://policies.anu.edu.au/

Students are expected to have read the Academic Misconduct Rules 2014 before the commencement of their course. Other key policies include:

- Student Assessment (Coursework)
- Student Surveys and Evaluations

Required Resources

Prescribed Texts

Norman, Donald *The Design of Everyday Things London/New York: MIT Press, 2013. (Required reading).* This textbook will be available at the ANU Co-op Bookshop.

A list of other reference books will be given at the start of the course.

COURSE SCHEDULE

The normal weekly schedule is:

- Tutorial on Tuesday or Wednesday (1hr) on 8 of the 13 weeks
- Lecture on Wednesday afternoon (2hr)
- Lecture on Thursday morning (1hr)

Some weeks do not have Wednesday or Thursday lectures so you should check the course Wattle pages each week.

This totals 30 hours of lectures and 8 1-hour tutorials. Some tutorials reinforce the previous week's lecture material. Other tutorials provide practical examples that introduce the following lectures. All the material (including standard lectures, guest lectures, assignments and tutorial exercises) is available for inclusion in the final examination. The table in the Appendix to this outline gives a detailed week-by week description of the schedule as planned at the start of the semester. If we have to make changes to the schedule these changes will be shown on the course's Wattle pages.

ASSESSMENT

Assessment Tasks

Assignments

Assignment specifications and templates are located on Wattle in the folder labelled "Specifications and templates for Assignments 1, 2, 3 and 4". The Wattle upload points for the assignments are located on the Wattle page immediately below that folder. The upload points for the group assignments will become visible to students when they have joined an assignment group.

Examination

The final exam will be worth 50% of the overall course grade and will take place during the end-of-semester examination period. Information about the exam format and permitted materials will be released closer to the exam date.

Assignment submission

Assignments are to be submitted using the links provided on the course Wattle site. Please keep a copy of the assignment for your records.

- Assignments 1 and 4: Each student should individually upload a PDF on Wattle.
- Assignments 2 and 3: One student from each group should be responsible for submitting the assignment. The main submission document should be in PDF format. If there are other documents or files that make up the submission the student responsible for uploading them should discuss this with the lecturer. The upload points in Wattle for these two assignments are set for Group upload.

Extensions and penalties

Extensions and late submission of assessment pieces are covered by the Student Assessment (Coursework) Policy and Procedure.

The lecturer may grant extensions for both the individual and group assignments. If you need an extension, you must request it in writing/email from the lecturer on or before the due date. If you have documented and appropriate medical evidence that demonstrates you were not able to request an extension on or before the due date, you may be able to request it after the due date.

Returning assignments

Written feedback on assignments will be uploaded to students through the Wattle submission system.

Referencing requirements

Students should use Harvard style referencing in their assessments. This style uses an author-date reference in the text, for example (Stevenson 2012), and a list of the full citations of all the documents referred to in the text at the end of the document, alphabetically ordered by the first author's surname. For example,

Stevenson, D. (2012) Tertiary-Level Telehealth: A Media Space Application, Computer Supported Cooperative Work, 20(1):61-92

See https://academicskills.anu.edu.au/resources/handouts/referencing-style-guides for more details.

HCI Course structure 2016

Week	Tutorial	Lecture Wednesday	Lecture Thursday	Due dates
1 19th July	**No tutorial**	Course overview, learning outcomes, HCI design approach, assignments	Requirements for HCI design Preparation for Assignment 1	
2 25th July	T1: Communicating about design	Design principles	Design principles	Email to lecturer re assignment 1
3 1st Aug	T2: Working with design principles	Scenarios, prototypes and design thinking	Designing for disabilities	
4 8th Aug	**No tutorial**	**Guest speaker**: Using technology to overcome a disability	**No Thursday lecture**	Assignment 1 Saturday 6pm
5 15th Aug	T3: Technology usability evaluation experiment	Cultural diversity in HCI	HCI Design Styles	Email to lecturer re assignment 2
6 22nd Aug	T4: Website evaluation and interview practice	Evaluation in HCI Ethical behaviour in HCI	Evaluation in HCI	
7 29th Aug	**No tutorial**	**No Wednesday lecture**	**No Thursday lecture**	Assignment 2 Saturday 6pm
	Mid-semester break			
	Mid-semester break			
8 19th Sept	T5: Preparation for assignment 3	Quantitative evaluation in HCI	Quantitative evaluation in HCI	
9 26th Sept	T6: Quantitative evaluation in HCI	Quantitative evaluation in HCI	**Guest lecturer** on quantitative evaluation in HCI	Email to lecturer re assignment 3
10 3rd Oct	**No tutorial**	HCI and software development	HCI research tools and resources	
11 10th Oct	T7: To be announced	HCI in the developing world	**No Thursday lecture**	Assignment 3 Saturday 6pm
12 17th Oct	T8: Writing short-form and long-form answers to exam questions	Wednesday lecture topic to be announced	Thursday lecture topic to be announced	Assignment 4 Saturday 6pm
13 24th Oct	**No tutorial**	**No Wednesday lecture**	**No Thursday lecture**	