

# INFO 3004 HUMAN-COMPUTER INTERACTION (ADVANCED)

**Credit Points** 10

**Legacy Code** 300901

**Coordinator** Omar Mubin ([https://directory.westernsydney.edu.au/search/name/Omar Mubin/](https://directory.westernsydney.edu.au/search/name/Omar%20Mubin/))

**Description** IT graduates must be able to develop and evaluate software, websites and mobile apps that not only look professional but are usable, functional and accessible. However, the study of HCI is often restricted to its use as a tool in the software development process. This advanced unit also examines HCI as a field of research and how to conduct research into human user factors. Students in this advanced unit will be required to complete a research project and produce a final research report, which is of a standard capable of being considered for publication in a HCI conference or journal.

**School** Computer, Data & Math Sciences

**Discipline** Information Technology, Not Elsewhere Classified.

**Student Contribution Band** HECS Band 2 10cp

Check your HECS Band contribution amount via the Fees ([https://www.westernsydney.edu.au/currentstudents/current\\_students/fees/](https://www.westernsydney.edu.au/currentstudents/current_students/fees/)) page.

**Level** Undergraduate Level 3 subject

**Incompatible Subjects** INFO 3003 - Human-Computer Interaction INFS 3015 - Software Interface Design

**Restrictions** Students must be enrolled in program 2801 Bachelor of Information Systems Advanced/Bachelor of Laws, 3684 Bachelor of Information and Communications Technology (Advanced), 3688 Bachelor of Information Systems Advanced or 3745 Bachelor of Information Systems Advanced/Bachelor of Business.

## Learning Outcomes

On successful completion of this subject, students should be able to:

1. Apply cognitive models to the design of application user interfaces.
2. Describe ways in which users' characteristics (i.e., age, education, cultural differences, disability etc.) require adaptation of a user interface to increase effectiveness.
3. Integrate appropriate user-centred design methodologies into the development of an application, website or emerging technology (such as mobile and wearable devices)
4. Discuss the advantages and disadvantages for using a human-centred software development approach.
5. Describe and use the major usability guidelines and standards.
6. Develop low-fidelity prototypes, and high-fidelity prototypes.
7. Develop user interfaces for domain specific applications.
8. Create an appropriate user evaluation plan with carefully chosen subjective and objective measures.
9. Discuss state of the art research issues and novel interaction technologies under the umbrella of HCI.
10. Conduct a research based project in HCI and write a research report, which could be considered for publication in a HCI conference or journal.

## Subject Content

Understanding the user and the user experience  
 Interaction styles  
 Usability standards  
 User-centred design methods  
 Development tools and prototyping  
 Matching interface elements to user requirements  
 Usability testing: tools and methodologies  
 Accessibility and assistive technologies  
 Rich media  
 Localisation, globalisation  
 Personalisation and trust  
 Developing for multiple devices (Computer, PDAs, 3G phones etc)  
 Human Computer Interface In Industry  
 HCI and virtual worlds  
 Emerging technologies  
 Current technological and theoretical advances in HCI  
 Research initiatives in HCI

## Assessment

The following table summarises the standard assessment tasks for this subject. Please note this is a guide only. Assessment tasks are regularly updated, where there is a difference your Learning Guide takes precedence.

Item	Length	Percent	Threshold	Individual/Group Task
Log/Workbook	In-class basic tutorial questions to be completed in a log book during the tutorial session. Number of questions will usually range from 3 - 5	10	Y	Individual
Log/Workbook	In extension to class work, students will be given weekly exercises that they must be complete at home and submit at two points in the semester W7 and W12	15	Y	Individual

Applied Project	Part A - 1200 words Part B - 1200 words in addition to a set of diagrams as part of an appendix Part C - 10 minutes presentation.	55	Y	Individual
Report	2000 words	20	Y	Individual

Teaching Periods

## Autumn

### Campbelltown

#### Day

**Subject Contact** Omar Mubin ([https://directory.westernsydney.edu.au/search/name/Omar Mubin/](https://directory.westernsydney.edu.au/search/name/Omar%20Mubin/))

View timetable ([https://classregistration.westernsydney.edu.au/even/timetable/?subject\\_code=INFO3004\\_22-AUT\\_CA\\_D#subjects](https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=INFO3004_22-AUT_CA_D#subjects))

### Penrith (Kingswood)

#### Day

**Subject Contact** Omar Mubin ([https://directory.westernsydney.edu.au/search/name/Omar Mubin/](https://directory.westernsydney.edu.au/search/name/Omar%20Mubin/))

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### Parramatta - Victoria Rd

#### Day

**Subject Contact** Omar Mubin ([https://directory.westernsydney.edu.au/search/name/Omar Mubin/](https://directory.westernsydney.edu.au/search/name/Omar%20Mubin/))

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