

## Module Information

Module Identifier	<b>CS22310</b>
Module Title	<b>User Centred Design and Human Computer Interaction</b>
Academic Year	<b>2014/2015</b>
Co-ordinator	<b><u><a href="mailto:ais@aber.ac.uk?subject=CS22310">Dr Angharad Danielle Adrienne Shaw (mailto:ais@aber.ac.uk?subject=CS22310)</a></u></b>
Semester	<b>Semester 2</b>
Pre-Requisite	<b>enrollment in the Department of Computer Science.</b>
Other Staff	<b><u><a href="mailto:ais@aber.ac.uk?subject=CS22310">Dr Angharad Danielle Adrienne Shaw (mailto:ais@aber.ac.uk?subject=CS22310)</a></u></b>

### Course Delivery

#### Delivery Type Delivery length / details

Lecture 20 Hours.

### Assessment

Assessment Type	Assessment length / details	Proportion
Semester Exam	1.5 Hours Written Exam	50%
Semester Assessment	User Centred Design of Computer System. Approx 25 hours	50%
Supplementary Exam	1.5 Hours Supplementary Exam Resit failed examination and/or resubmission of failed/non-submitted coursework components or ones of equivalent value	100%

### Learning Outcomes

This module will enable the student to incorporate principles of user centred design into the development of applications built on modern windowing systems.

On successful completion of this module students should be able to:

- design and implement effective user interfaces, making appropriate use of development techniques.
- apply task and user modelling techniques to the design and evaluation of an interactive system.
- appreciate the limitations of human capacities, and identify how they affect design choices.
- evaluate ethical situations and make professional judgements on them.

### Aims

This course deals with the issue of how systems should be built in order to make them understandable by, and accessible to, users. Principles of good interface design are introduced and applied to the issue of human computer interaction. The course also considers methods and tools for achieving good computer interface design.

### Content

1. Fundamental principles of good design - 3 Lectures

Functionality. Usability. Socio-technical system interaction. Task and dialogue levels.

2. Models for Human Computer Interaction - 3 Lectures

Mental models. Taskflow models. Dialogue interaction models. Interface metaphors.

3. Methods for Human Computer Interaction - 4 Lectures

Requirements specification. User interface design. Evaluation techniques. Standards for HCI and requirements.

4. Guidelines for screen interfaces - 4 Lectures

HCI characteristics, human cognitive abilities, attention, short-term memory, use of colour. Web accessibility issues.

5. Ethical issues - 3 Lectures

Difficult ethical issues. Examples from the Internet. Evaluating ethical issues and developing decision skills for difficult situations.

6. Current and future developments - 2 Lectures

Changing issues in user interface design, and new research developments.

### Module Skills

Skills Type	Skills details
Application of Number	No.
Communication	Written skills will be needed to complete examination and coursework.
Improving own Learning and Performance	See 2 above .
Information Technology	The whole module concerns this area.
Personal Development and Career planning	Module looks at quite new areas of computing and may lead to new options in career choice
Problem solving	This is inherent to the topic.
Research skills	The students will need to search for and use relevant technical information while completing practical work.
Subject Specific Skills	Yes. See module title and content.
Team work	No.

## Reading List

### Recommended Text

Shneiderman, Ben. (2005.) *Designing the user interface :strategies for effective human-computer interaction /Ben Shneiderman, Catherine Plaisant.* 4th International ed. Pearson/Addison Wesley [Primo search \(http://primo.aber.ac.uk/primo\\_library/libweb/action/search.do?v1%28freeText0%29=Designing+the+user+interface+%3Astrategies+for+effective+human-computer+interaction+%2FBen+Shneiderman%2C+Catherine+Plaisant.+Shneiderman%2C+Ben.&fn=search&vid=ABERU\\_VU1\)](http://primo.aber.ac.uk/primo_library/libweb/action/search.do?v1%28freeText0%29=Designing+the+user+interface+%3Astrategies+for+effective+human-computer+interaction+%2FBen+Shneiderman%2C+Catherine+Plaisant.+Shneiderman%2C+Ben.&fn=search&vid=ABERU_VU1)

### Supplementary Text

William M. Newman and Michael G. Lamming (1995) *Interactive System Design* Addison Wesley [Primo search \(http://primo.aber.ac.uk/primo\\_library/libweb/action/search.do?v1%28freeText0%29=Interactive+System+Design+William+M.+Newman+and+Michael+G.+Lamming&fn=search&vid=ABERU\\_VU1\)](http://primo.aber.ac.uk/primo_library/libweb/action/search.do?v1%28freeText0%29=Interactive+System+Design+William+M.+Newman+and+Michael+G.+Lamming&fn=search&vid=ABERU_VU1)

### Consult For Futher Information

Leventhal, Laura M. (2007.) *Usability engineering :process, products, and examples /Laura M. Leventhal, Julie A. Barnes.* Prentice Hall [Primo search \(http://primo.aber.ac.uk/primo\\_library/libweb/action/search.do?v1%28freeText0%29=Usability+engineering+%3Aprocess%2C+products%2C+and+examples+%2FLaura+M.+Leventhal%2C+Julie+A.+Barnes.+Leventhal%2C+Laura+M.&fn=search&vid=ABERU\\_VU1\)](http://primo.aber.ac.uk/primo_library/libweb/action/search.do?v1%28freeText0%29=Usability+engineering+%3Aprocess%2C+products%2C+and+examples+%2FLaura+M.+Leventhal%2C+Julie+A.+Barnes.+Leventhal%2C+Laura+M.&fn=search&vid=ABERU_VU1)

Norman, Donald A. (2002.) *The design of everyday things /Donald A. Norman.* 1st Basic paperback. Basic Books [Primo search \(http://primo.aber.ac.uk/primo\\_library/libweb/action/search.do?v1%28freeText0%29=The+design+of+everyday+things+%2FDonald+A.+Norman.+Norman%2C+Donald+A.&fn=search&vid=ABERU\\_VU1\)](http://primo.aber.ac.uk/primo_library/libweb/action/search.do?v1%28freeText0%29=The+design+of+everyday+things+%2FDonald+A.+Norman.+Norman%2C+Donald+A.&fn=search&vid=ABERU_VU1)

Preece, Jenny. (1993.) *A Guide to usability :human factors in computing /edited by Jenny Preece ...[et al.].* Addison-Wesley [Primo search \(http://primo.aber.ac.uk/primo\\_library/libweb/action/search.do?v1%28freeText0%29=A+Guide+to+usability+%3Ahuman+factors+in+computing+%2Fedited+by+Jenny+Preece+...%5Bet+al.%5D.+Preece%2C+Jenny.&fn=search&vid=ABERU\\_VU1\)](http://primo.aber.ac.uk/primo_library/libweb/action/search.do?v1%28freeText0%29=A+Guide+to+usability+%3Ahuman+factors+in+computing+%2Fedited+by+Jenny+Preece+...%5Bet+al.%5D.+Preece%2C+Jenny.&fn=search&vid=ABERU_VU1)

## Notes

This module is at [CQFW \(http://wales.gov.uk/topics/educationandskills/qualificationsinwales/creditqualificationsframework/?lang=en\)](http://wales.gov.uk/topics/educationandskills/qualificationsinwales/creditqualificationsframework/?lang=en) Level 5