Faculty of Science and Engineering
School of Elec Eng, Comp and Math Sci (EECMS)

Curtin University

Unit Outline

ICTE3002 Human Computer Interface
Semester 1, 2022

Unit study package code:	ICTE3002
Mode of study:	Internal
Tuition pattern summary:	Note: For any specific variations to this tuition pattern and for precise information refer to the Learning Activities section.
	Lecture: 1 x 2 Hours Weekly Computer Laboratory: 1 x 1 Hours Weekly
	This unit does not have a fieldwork component.
Credit Value:	25.0
Pre-requisite units:	COMP1002 (v.0) Data Structures and Algorithms or any previous version *AND* ISAD1000 (v.0) Introduction to Software Engineering or any previous version
Co-requisite units:	Nil
Anti-requisite units:	ICTE5001 (v.0) Advanced Human Computer Interface or any previous version
Result type:	Grade/Mark
Approved incidental fees:	Information about approved incidental fees can be obtained from our website. Visit fees.curtin.edu.au/incidental_fees.cfm for details.

Unit coordinator:	**Title:**	Dr
	Name:	Susannah Soon
	Phone:	92664655
	Email:	susannah.soon@curtin.edu.au
	Location:	Building: - - Room: -
	Consultation times:	TBA
Teaching Staff:	**Name:**	Susannah Soon
	Phone:	92664655
	Email:	susannah.soon@curtin.edu.au
	Location:	Building: B314 - Room: -
Administrative contact:	**Name:**	EECMS Teaching Support
	Phone:	-
	Email:	EECMS@TeachingSupport.curtin.edu.au
	Location:	Building: B314 - Room: -

Learning Management System: Blackboard (lms.curtin.edu.au)

Acknowledgement of Country

We respectfully acknowledge the Indigenous Elders, custodians, their descendants and kin of this land past and present. The Centre for Aboriginal Studies aspires to contribute to positive social change for Indigenous Australians through higher education and research.

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Coronavirus (COVID-19) Update

Curtin University is committed to supporting all our students and staff whether they are on campus, working remotely or overseas. Your health, safety and wellbeing are our priority and the continuing COVID-19 pandemic may require changes to the unit schedule, learning activities, delivery modes and assessment to provide flexible and safe options to our community. Curtin will endeavour to keep changes and disruptions to a minimum at all times. For current advice and further information visit https://www.curtin.edu.au/novel-coronavirus/.

Syllabus

An introduction to human computer interfaces, including the motivation and contexts for using these. The class teaches a process for user centred development as well as different measures for evaluation and models that inform human computer interface design. Social issues influencing human computer interface design and use are considered, as well as multi-cultural interaction and communication in order to accommodate human diversity. The different user interface standards and principles of graphical user interfaces are covered in addition to designing and programming GUIs both in native and web formats and widgets. Geometry management, event management and user interaction are introduced. Finally, user interface programming environments and future developments are discussed.

Introduction

Human–computer interaction (HCI) is the study of interaction between people (users) and computers. It is often regarded as the intersection of computer science, behavioural sciences, design and several other fields of study. Interaction between users and computers occurs at the user interface, which includes both software and hardware.

The Association for Computing Machinery defines human-computer interaction as "a discipline concerned with the design, evaluation and implementation of interactive computing systems for human use and with the study of major phenomena surrounding them." An important facet of HCI is the securing of user satisfaction.

Attention to human-machine interaction is important because poorly designed human-machine interfaces can lead to many unexpected problems. A classic example of this is the Three Mile Island accident where investigations concluded that the design of the human-machine interface was at least partially responsible for the disaster. Similarly, accidents in aviation have resulted from manufacturers' decisions to use non-standard flight instrument layouts: even though the new designs were proposed to be superior, pilots had already ingrained the "standard" layout and thus the conceptually good idea actually had undesirable results. Thus, human-machine interaction is a complex field.

This unit, in line with current research and university values, strives to achieve a positive and inclusive educational environment. This supports improved academic performance, increased confidence and creates a greater sense of safety and belonging. Your teaching team is committed to providing a safe and inclusive learning experience and requires students to take reasonable and appropriate measures to actively eliminate discrimination on the basis of ability; cultural and social background; and diverse sex, sexuality, and gender. Link to Equity and Inclusivity web resources: https://about.curtin.edu.au/values-vision-strategy/diversity-equity/

Unit Learning Outcomes

All graduates of Curtin University achieve a set of six Graduate Capabilities during their course of study. These inform an employer that, through your studies, you have acquired discipline knowledge and a range of other skills and capabilities which employers would value in a professional setting. Each unit in your course addresses the Graduate Capabilities through a clearly identified set of learning outcomes. They form a vital part in the process referred to as assurance of learning. The learning outcomes notify you of what you are expected to know, understand or be able to do in order to be successful in this unit. Each assessment for this unit is carefully designed to test your knowledge of one or more of the unit learning outcomes. On successfully completing all of the assessments you will have achieved all of these learning outcomes.

Your course has been designed so that on graduating you will have achieved all of Curtin's Graduate Capabilities through the assurance of learning processes in each unit.

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	On successful completion of this unit students can:	Graduate Capabilities addressed
1	Adapt and analyse principles of good user interface design, including the application of theories from social science that provide an understanding of how interactive systems fit into a broader organisational and social context	🌐 👥
2	Evaluate the role of the user (including users' different interpretations) in the development, implementation and evaluation of interactive systems	🖥 🌐 👥
3	Evaluate different theories, methodologies and standards of Human Computer Interface	🌐 ⓘ
4	Analyse the difference between the responsibilities of a user interface and the rest of the system	🖥 🌐
5	Work professionally within a team to design and evaluate an interactive system	🌐 ⓘ

Curtin's Graduate Capabilities

✓	Apply discipline knowledge, principles and concepts	💡	Innovative, creative and entrepreneurial	🖥	Effective communicators with digital competency
🌐	Globally engaged and responsive	👥	Culturally competent to engage respectfully with local First Peoples and other diverse cultures	ⓘ	Industry connected and career capable

Find out more about Curtin's Graduate Capabilities at the Curtin Learning and Teaching website: clt.curtin.edu.au

Learning Activities

One 2-hour lecture, and one 1-hour practical session per week. Practical sessions starts on week 2. The lecture notes do not represent the sum total of knowledge that can be gained from attending lectures. Practical sessions are important, thus students are required to attend every week.

Learning Resources

Recommended texts

You do not have to purchase the following textbooks but you may like to refer to them.

- Helen Sharp, Yvonne Rogers & Jennifer Preece: Interaction Design: Beyond Human– Computer Interaction, 5th ed, Wiley Ltd., 2019 (Available through Curtin Library Proquest) (ISBN/ISSN: 1119547253)

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Assessment

Assessment policy exemptions

- There are no exemptions to the assessment policy

Assessment schedule

	Task	Value %	Date Due	Unit Learning Outcome(s) Assessed	Late Assessments Accepted?*	Assessment Extensions Considered?*
1	Presentation	20%	**Week:** 8 **Day:** - **Time:** -	1,2,4	No	No
2	Assignment 1 - Interface Design with group report	50%	**Week:** 12 **Day:** - **Time:** -	1,2,3,5	No	No
3	Assignment 2 - Interface Evaluation	30%	**Week:** 13 **Day:** - **Time:** -	1,2,4,5	No	No

*Please refer to the Late Assessment and the Assessment Extension sections below for specific details and conditions.

Detailed information on assessment tasks

1. As a group, you will design and test a Graphical User Interface using user-centric and design principles. Your assignment will be submitted as a report and video.
2. Team evaluation and implementation of GUI design.
3. 10-15 min formal presentation involving all team members.

Pass requirements

1. Participate sufficiently in assignment 1 and 2 and fulfil individual requirement.
2. Participate in the formal presentation.
3. Gain an overall assessment score of at least 50%

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Assessment Moderation

Fair assessment through moderation

Moderation describes a quality assurance process to ensure that assessments are appropriate to the learning outcomes, and that students work is evaluated consistently by assessors. Minimum standards for the moderation of assessments are described in the Assessment and Student Progression Manual, available from policies.curtin.edu.au/findapolicy/

Pre-marking moderation

This unit complies with moderation of assessments as described in the Assessment and Student Progression Manual.

Intra-marking / Post-marking moderation

This unit complies with moderation of assessments as described in the Assessment and Student Progression Manual.

Late assessment

Where the submission of a late assessment is permitted, late penalties will be consistently applied in this unit.

Where a late assessment **is** permitted for an assessment item or the entirety of the unit (refer to the Assessment Schedule table in this Unit Outline) and the student does not have an approved assessment extension:

1. For assessment items submitted within the first 24 hours after the due date/time, students will be penalised by a deduction of 5% of the total marks allocated for the assessment task;
2. For each additional 24 hour period commenced an additional penalty of 10% of the total marks allocated for the assessment item will be deducted; and
3. Assessment items submitted more than 168 hours late (7 calendar days) will receive a mark of zero.

Where late assessment **is NOT** permitted for an assessment item or the entirety of the unit (refer to the Assessment Schedule table in this Unit Outline) and the student does not have an approved assessment extension:

1. All assessment items submitted after the due date/time will receive a mark of zero.

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Assessment extension

Where an application for an assessment extension **is** permitted for an assessment item(s) within this unit (refer to the Assessment Schedule table in this Unit Outline):

1. A student who is unable to complete an assessment item by/on the due date/time as a result of exceptional circumstances beyond the student's control, may apply for an assessment extension on the Assessment Extension Application Form as prescribed by the Academic Registrar. The form is available on the Forms page at https://students.curtin.edu.au/essentials/forms-documents/forms/ and also within the student's OASIS (My Studies tab – Quick Forms) account.
2. The student will be expected to submit their application for an Assessment Extension with supporting documentation via the online form.
3. Timely submission of this information supports the assessment process. For applications that are declined, delayed submission may have significant ramifications on the possible marks awarded.
4. An application may be accepted up to five working days after the due date/time of the assessment item where the student is able to provide a verifiable explanation as to why they were not able to submit the application prior to the assessment due date/time

Where an application for an assessment extension **is NOT** permitted for an assessment item(s) within this unit (refer to the Assessment Schedule table in this Unit Outline):

1. All assessment items submitted after the due date/time will be subject to late penalties or receive a mark of zero depending on the unit permitting late assessment submissions.

Deferred assessments

If your results show that you have been granted a deferred assessment you should immediately check OASIS for details.

Further assessment

Further assessment is not available in this unit.

Reasonable adjustments for students with disabilities/health circumstances likely to impact on studies

A Curtin Access Plan (CAP) is a document that outlines the type and level of support required by a student with a disability or health condition to have equitable access to their studies at Curtin. Carers for people with disability may also be eligible for support. This support can include alternative exam or test arrangements, study materials in accessible formats, access to Curtin's facilities and services or other support as discussed with an advisor from AccessAbility Services.

Documentation is required from your treating Health Professional to confirm your health circumstances or carer responsibilities.

If you think you may be eligible for a CAP, please contact AccessAbility Services. If you already have a CAP please provide it to the Unit Coordinator in week 1 of each study period.

Referencing style

The referencing style for this unit is Chicago 17th B.

More information can be found on this style from the Library web site: https://libguides.library.curtin.edu.au/uniskills/referencing/chicago17.

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Privacy

As part of a learning or assessment activity, or class participation, your image or voice may be recorded or transmitted by equipment and systems operated by Curtin University. Transmission may be to other venues on campus or to others both in Australia and overseas.

Your image or voice may also be recorded by students on personal equipment for individual or group study or assessment purposes. Such recordings may not be reproduced or uploaded to a publicly accessible web environment. If you wish to make such recordings for study purposes as a courtesy you should always seek the permission of those who are impacted by the recording.

Recording of classes or course materials may not be exchanged or distributed for commercial purposes, for compensation, or for any other purpose other than personal study for the enrolled students in the unit. Breach of this may subject a student to disciplinary action under Statute No 10 – Student Disciplinary Statute.

If you wish to discuss this please talk to your Unit Coordinator.

Copyright

The course material for this unit is provided to you for your own research and study only. It is subject to copyright. It is a copyright infringement to make this material available on third party websites without the express written consent of Curtin University.

Academic Integrity (including plagiarism and cheating)
Academic Integrity

Curtin's Student Charter, Academic Integrity Program (AIP), and core Values guide expectations regarding student behaviour and responsibilities. Information on these topics can be found on the Academic Integrity Website.

Academic Integrity Warnings

An Academic Integrity Warning may be issued to a New-to-Curtin student in limited circumstances and only where misconduct is not involved.

Academic Misconduct

Staff members are required to report suspected misconduct. Academic Misconduct means conduct by a student that is dishonest or unfair in connection with any academic work. This includes all types of plagiarism, cheating, collusion, falsification or fabrication of content, and behaviours like falsifying medical certificates for extension. Contract cheating, the use of file sharing, translation services/apps, paraphrasing tools (text-spinners) and assignment help websites also may be considered academic misconduct. The longer term personal, social, and financial consequences of misconduct can be severe, so please ask for help if you are unsure.

If your work is the subject of an inquiry, you will be given an opportunity to respond and appropriate support will be provided. Academic work under inquiry will not be graded until the process has concluded. Penalties for misconduct may include a warning, a reduced or nil grade, a requirement to repeat the assessment, an annulled grade (ANN) or termination from the course. For more information refer to Statute No.10 Student Discipline and Academic Misconduct Rules.

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Information and Communications Technology (ICT) Expectations

Curtin students are expected to have reliable internet access in order to connect to OASIS email and learning systems such as Blackboard and Library Services.

You may also require a computer or mobile device for preparing and submitting your work.

For general ICT assistance, in the first instance please contact OASIS Student Support: oasisapps.curtin.edu.au/help/general/support.cfm

For specific assistance with any of the items listed below, please contact The Learning Centre: life.curtin.edu.au/learning-support/learning_centre.htm

- Using Blackboard, the I Drive and Back-Up files
- Introduction to PowerPoint, Word and Excel

Additional information
Enrolment

It is your responsibility to ensure that your enrolment is correct - you can check your enrolment through the eStudent option on OASIS, where you can also print an Enrolment Advice.

Student Rights and Responsibilities

It is the responsibility of every student to be aware of all relevant legislation, policies and procedures relating to their rights and responsibilities as a student. These include:

- the Student Charter
- Values and Signature Behaviours
- the University's policy and statements on plagiarism and academic integrity
- copyright principles and responsibilities
- the University's policies on appropriate use of software and computer facilities

Information on all of the above is available through the University's "Student Rights and Responsibilities" website at: students.curtin.edu.au/rights.

Note: In Australia and other jurisdictions, students are required to complete a screening check prior to undertaking any activities that include children (e.g. surveying children at a school as part of a project). If this applies to you, start by contacting your unit coordinator for advice.

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Student Equity

There are a number of factors that might disadvantage some students from participating in their studies or assessments to the best of their ability, under standard conditions. These factors may include a disability or medical condition (e.g. mental illness, chronic illness, physical or sensory disability, learning disability), significant caring responsibilities, pregnancy, religious practices, living in a remote location,or another reason. If you believe you may be unfairly disadvantaged on these or other grounds please contact the appropriate service below. It is important to note that the staff of the University may not be able to meet your needs if they are not informed of your individual circumstances, so please get in touch with the appropriate service if you require assistance.

To discuss your needs in relation to:

- Disability or medical conditions, contact AccessAbility Services: https://students.curtin.edu.au/personal-support/disability/
- Elite athletes, contact Elite Athlete Coordinator: https://stadium.curtin.edu.au/sport/academy/elite-athlete-program/
- All other grounds, contact the Student Wellbeing Advisory Service: https://students.curtin.edu.au/personal-support/counselling-guidance/wellbeing/

Recent unit changes

Students are encouraged to provide unit feedback through **eVALUate**, Curtin's online student feedback system. For more information about **eVALUate**, please refer to evaluate.curtin.edu.au/info/.

eVALUate NOW! Give feedback on the My Studies tab and you could win prizes eVALUate	To view previous student feedback about this unit, search for the Unit Summary Report at https://evaluate.curtin.edu.au/student/unit_search.cfm. See https://evaluate.curtin.edu.au/info/dates.cfm to find out when you can **eVALUate** this unit.

Recent changes to this unit include:

Final examination is removed.

Feb 2022:

Software tool is changed to Figma.

List of over 30 projects (including UN Sustainable Development Goals) is supplied to students for Assignment 1.

Include Indigenous content for digital cultural co-design.

Explore social and user-centric factors for design.

Marking based on group mark and peer review.

Design evaluation is now part of Assignment 1.

Assignment 2 may include some software development.

Introduction to industry and Curtin start-up community through guest speakers.

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Program calendar

Week	Begin Date	Lecture	Ch	Worksheet	Assessment Due
1.	28 February	Introduction to HCI	1	None	Assignment 1 announced Project List announced. Group members announced. Teams to nominate projects
2.	7 March	Interaction Design and Conceptualising	2,3	1	**Status update 1:** Project proposal User personas Design purpose
3.	14 March	Interfaces	7	2	**Status update 2:** Pain points and solutions Software lifecycle
4.	21 March	Design and Prototyping	12	3	**Status update 3:** Competitor analysis requirements Hierarchical Task Analysis
5.	28 March	Requirements	11	4	**Status update 4:** Low fidelity prototype
6.	4 April	Data	8,9	5	**Status update 5:** Design evaluations
7.	11 April	Cognitive	4	6	**Status update 6:** High fidelity prototype. **Assignment 2 and presentations announced**
8.	18 April	Tuition Free Week			**Due: Assignment 1**
9.	25 April	Human Issues	5,6	7	
10.	2 May	Evaluation	14	8	**Book in presentation timeslot**
11.	9 May	Evaluation Studies	15	9	**Book in presentation timeslot**
12.	16 May	Q&A		10	**Due: Assignment 2**
13.	23 May	Presentations		11	**Due: Presentations** **Curtin Ignition – opens 26 May**

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