ICT203 HUMAN COMPUTER INTERACTION T326 BRIEF

All information in the Subject Outline is correct at the time of approval. KOI reserves the right to make changes to the Subject Outline if they become necessary. Any changes require the approval of the KOI Academic Board and will be formally advised to those students who may be affected by email and via Moodle.
Information contained within this Subject Outline applies to students enrolled in the trimester as indicated

1. General Information

1.1 Administrative Details

Associated HE Award(s)	Duration	Level	Subject Coordinator
Bachelor of Information Technology (BIT)	Trimester 1	Level 2	Najamul Khan najamul.khan@koi.edu.au P: +61 (2) 9283 3583 L: Level 7-11 York St. Consultation: via Moodle or by appointment.

1.2 Core / Elective

Core subject for BIT

1.3 Subject Weighting

Indicated below is the weighting of this subject and the total course points.

Subject Credit Points	Total Course Credit Points
4	BIT (96 Credit Points)

1.4 Student Workload

Indicated below is the expected student workload per week for this subject

No. Timetabled Hours/Week*	No. Personal Study Hours/Week**	Total Workload Hours/Week***
4 hours/week (2 hour Lecture + 2 hour Tutorial)	6 hours/week	10 hours/week

* Total time spent per week at lectures and tutorials
** Total time students are expected to spend per week in studying, completing assignments, etc.
*** Combination of timetable hours and personal study.

1.5 Mode of Delivery Classes will be face-to-face or hybrid. Certain classes will be online (e.g., special arrangements).

1.6 Pre-requisites 6 subjects completed

1.7 General Study and Resource Requirements

- Dedicated computer laboratories are available for student use. Normally, tutorial classes are conducted in the computer laboratories.
- Students are expected to attend classes with the requisite textbook and must read specific chapters prior to each tutorial. This will allow them to actively take part in discussions. Students should have elementary

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skills in both word processing and electronic spreadsheet software, such as Office 365 or MS Word and MS Excel.
- Computers and WIFI facilities are extensively available for student use throughout KOI. Students are encouraged to make use of the campus Library for reference materials.
- Students will require access to the internet and email. Where students use their own computers, they should have internet access. KOI will provide access to required software.

Resource requirements specific to this subject: MS Imagine, MS Azure, HTML, CSS, RJ TextEd, NetBeans IDE 8.1, Sublime Text, Notepad++.

1.8 Academic Advising

Academic advising is available to students throughout teaching periods including the exam weeks. As well as requesting help during scheduled class times, students have the following options:
- Consultation times: A list of consultation hours is provided on the homepage of Moodle where appointments can be booked.
- Subject coordinator: Subject coordinators are available for contact via email. The email address of the subject coordinator is provided at the top of this subject outline.
- Academic staff: Lecturers and Tutors provide their contact details in Moodle for the specific subject. In most cases, this will be via email. Some subjects may also provide a discussion forum where questions can be raised.
- Head of Program: The Head of Program is available to all students in the program if they need advice about their studies and KOI procedures.
- Vice President (Academic): The Vice President (Academic) will assist students to resolve complex issues (but may refer students to the relevant lecturers for detailed academic advice).

2 Academic Details

2.1 Overview of the Subject

Human Computer Interaction (HCI) is the study of the design, implementation and evaluation of computer-based applications, focusing particularly on the interfaces between people (users) and computers. In this subject, students learn about the novel ways in which humans interact with computers and design interfaces. This includes the designing of easy-to-use Web-based applications and development phases, both physical and psychological, usability testing, accessibility and analytics. Students will learn to use web-authoring tools to turn design of computer-based applications into working examples. These tools include HTML5 and CSS3.

2.2 Graduate Attributes for Undergraduate Courses

Graduates of Bachelor courses from King's Own Institute (KOI) will achieve the graduate attributes expected under the Australian Qualifications Framework (2nd edition, January 2013). Graduates at this level will be able to apply a broad and coherent body of knowledge from their major area of study in a range of contexts for professional practice or scholarship and as a pathway for further learning.

King's Own Institute's generic graduate attributes for a bachelor's level degree are summarised below:

	KOI Bachelor Degree Graduate Attributes	**Detailed Description**
	Knowledge	Current, comprehensive, and coherent and connected knowledge
	Critical Thinking	Critical thinking and creative skills to analyse and synthesise information and evaluate new problems
	Communication	Communication skills for effective reading, writing, listening and presenting in varied modes and contexts and for transferring knowledge and skills to a variety of audiences

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	Information Literacy	Information and technological skills for accessing, evaluating, managing and using information professionally
	Problem Solving Skills	Skills to apply logical and creative thinking to solve problems and evaluate solutions
	Ethical and Cultural Sensitivity	Appreciation of ethical principles, cultural sensitivity and social responsibility, both personally and professionally
	Teamwork	Leadership and teamwork skills to collaborate, inspire colleagues and manage responsibly with positive results
	Professional Skills	Professional skills to exercise judgement in planning, problem solving and decision making

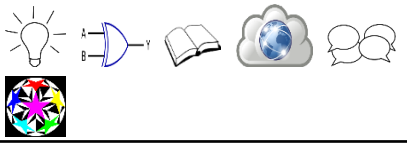
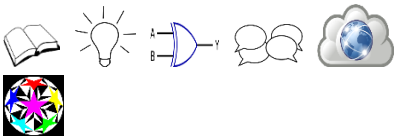
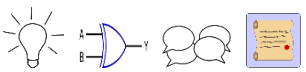
Across the course, these skills are developed progressively at three levels:

- **Level 1 Foundation** – Students learn the basic skills, theories and techniques of the subject and apply them in basic, standalone contexts
- **Level 2 Intermediate** – Students further develop the skills, theories and techniques of the subject and apply them in more complex contexts, and begin to integrate this application with other subjects.
- **Level 3 Advanced** – Students demonstrate an ability to plan, research and apply the skills, theories and techniques of the subject in complex situations, integrating the subject content with a range of other subject disciplines within the context of the course.

2.3 Subject Learning Outcomes

This is a Level 2 subject.

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

Subject Learning Outcomes	Contribution to Graduate Attributes
a) Apply the theory and frameworks of human-computer interaction	
b) Evaluate the design and functionality of an interactive web- based computer interface.	
c) Design and implement an interactive web-based application using HTML and CSS3	
d) Analyse the issues involved in human-computer interaction, including user differences, user experience and collaboration	

2.4 Subject Content and Structure

Below are details of the subject content and how it is structured, including specific topics covered in lectures and tutorials. Reading refers to the text unless otherwise indicated.

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Weekly Planner:

Week (beginning)	Topic covered in each week's lecture	Reading(s)	Expected work as listed in Moodle
Week 1 26 October	Usability of interactive systems, guidelines principles and theories	Chs.1, 3	Discuss review questions in the tutorial. Formative not graded.
Week 2 02 November	Universal Usability Design Case Studies	Chs.2,6	Discuss review questions in the tutorial. Formative not graded **Reflective Journal, Formative assessment 0%**
Week 3 09 November	The Timely user experience Design Case Studies	Chs.6, 13	Discuss review questions in the tutorial. Formative not graded
Week 4 16 November	Direct manipulations and Immersive environments	Ch.7	Discuss review questions in the tutorial, work on HTML. Formative not graded. **Reflective Journal, Summative assessment 7%**
Week 5 23 November	Fluid Navigation	Ch.8	Discuss review questions in the tutorial, work on HTML. Formative not graded.
Week 6 30 November	Command and natural languages	Ch.9	Discuss review questions in the tutorial, work on HTML. Formative not graded. **Reflective Journal, Formative assessment 0%**
Week 7 07 December	Interaction devices	Ch. 10	Discuss review questions in the tutorial, work on HTML/CSS. Formative not graded **Assessment 2 due, Summative worth 30%**
Week 8 14 December	Communication and collaboration	Ch.11	Discuss review questions in the tutorial, work on HTML/CSS. Formative not graded. **Reflective Journal, Summative assessment 8%**
Week 9 04 January	Evaluation and the user experience	Ch.5	Discuss review questions in the tutorial, work on HTML /CSS. Formative not graded.
Week 10 11 January	Design	Ch.4	Discuss review questions in the tutorial, work on HTML/CSS Formative not graded. **Assessment 3: Invigilated In-Class Quiz (20%)**
Week 11 18 January	Advancing the user experience Documentation and user support	Chs. 12, 14	Discuss review questions in the tutorial, work on HTML/CSS. Formative not graded.

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Week (beginning)	Topic covered in each week's lecture	Reading(s)	Expected work as listed in Moodle
Week 12 25 January	Information search Data visualization + Practice Test	Chs.15, 16	**Assessment 4: Invigilated In-Class Test (35%)**
Week 13 01 February	Study review week and Final Exam Week		
Week 14 08 February	- Final Exam Week - Continuing students - enrolments for T127 open		Please see the exam timetable for the exam date, time and location
Week 15 15 February	- Student Vacation begins - New students - enrolments for T127 open		
Week 16 22 February	• Results Released • Review of Grade Day for T326 – see Sections 2.6 and 3.2 below for relevant information. • Certification of Grades NOTE: More information about the dates will be provided at a later date through Moodle/KOI email.		
T127 01 March 2027			
Week 1 01 March	Week 1 of classes for T127		

2.5 Teaching Methods/Strategies

Briefly described below are the teaching methods/strategies used in this subject:

- Lectures (2 hours/week) are conducted in seminar style and address the subject content, provide motivation and context and draw on the students' experience and preparatory reading.
- Tutorials (2 hours/week) include class discussion of case studies and research papers, practice sets and problem-solving and syndicate work on group projects. Tutorials often include group exercises and so contribute to the development of teamwork skills and cultural understanding. Tutorial participation is an essential component of the subject and contributes to the development of many of the graduate attributes (see section 2.2 above). Tutorial participation contributes towards the assessment in many subjects (see details in Section 3.1 for this subject). Supplementary tutorial material such as case studies, recommended readings, review questions etc. will be made available each week in Moodle.
- Online teaching resources include class materials, readings, model answers to assignments and exercises and discussion boards. All online materials for this subject as provided by KOI will be found in the Moodle page for this subject. Students should access Moodle regularly as material may be updated at any time during the trimester
- Other contact - academic staff may also contact students either via Moodle messaging, or via email to the email address provided to KOI on enrolment.

2.6 Student Assessment

Assessment is designed to encourage effective student learning and enable students to develop and demonstrate the skills and knowledge identified in the subject learning outcomes. Assessment tasks during the first half of the study period are usually intended to maximise the developmental function of assessment (formative assessment). These assessment tasks include weekly tutorial exercises (as

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indicated in the weekly planner) and low stakes graded assessment (as shown in the graded assessment table). The major assessment tasks where students demonstrate their knowledge and skills (summative assessment) generally occur later in the study period. These are the major graded assessment items shown in the graded assessment table.

Final grades are awarded by the Board of Examiners in accordance with KOI's Assessment and Assessment Appeals Policy. The definitions and guidelines for the awarding of final grades within the BIT degree are:

- HD High distinction (85-100%) an outstanding level of achievement in relation to the assessment process.
- DI Distinction (75-84%) a high level of achievement in relation to the assessment process.
- CR Credit (65-74%) a better than satisfactory level of achievement in relation to the assessment process.
- P Pass (50-64%) a satisfactory level of achievement in relation to the assessment process.
- F Fail (0-49%) an unsatisfactory level of achievement in relation to the assessment process.

Provided below is a schedule of formal assessment tasks and major examinations for the subject.

Assessment Type	When assessed	Weighting	Learning Outcomes Assessed
Assessment 1: Reflective journal (750 words)	Week 2 Week 4 Week 6 Week 8	0% 7% 0% 8% Total: 15%	a, b, c, d
Assessment 2: Critical analysis of a nominated website	Week 7	30%	a, b
Assessment 3: In-class Quiz (20%)	Week 10	20%	a, b
Assessment 4: In-Class Test	Week 12	35%	a, b, c, d

Requirements to Pass the Subject:

To gain a pass or better in this subject, students must gain a *minimum of 50%* of the total available subject marks.

2.7 Prescribed and Recommended Readings

Provided below, in formal reference format, is a list of the prescribed and recommended readings.

Prescribed Text:

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Shneiderman, B., Plaisant, C., Cohen, M., Jacobs, S., Elmqvist, N., and Diakopoulos, N., 2018, *Designing the User Interface: Strategies for Effective Human-Computer Interaction*, 6th Global Edition, Pearson Education Limited, Harlow, United Kingdom. ISBN: 9781292153919.

Recommended Readings:

Adams, A., Miller-Lewis, L., and Tieman, J., 2023, Learning Designers as Expert Evaluators of Usability: Understanding Their Potential Contribution to Improving the Universality of Interface Design for Health Resources, *International Journal of Environmental Research and Public Health*, vol. 20, no. 5, p. 4608. DOI: 10.3390/ijerph20054608.

Ariffin, SA., Fathil, NS., Yatim, MHM and Samsuri, MZ., 2022, Review on Cultural Design Elements for Mobile Applications User Interface, *International Journal of Interactive Mobile Technologies*, vol. 16, no. 15, pp. 78-92. DOI:10.3991/ijim.v16i15.30851.

Becker, R., 2020, *Learn Human-Computer Interaction*, Packt Publishing, Birmingham, UK. ISBN: 9781838820329.

Norman, K., and Kirakowski, J., 2018, *The Wiley Handbook of Human Computer Interaction Set*, John Wiley and Sons, Inc., Newark. ISBN: 9781118976135.

Rogers, Y., Sharp, H. and Preece, J., 2023, *Interaction Design: Beyond Human-Computer Interaction*, 6th ed., John Wiley & Sons. ISBN: 9781119901099.

Tidwell, J., Brewer, C., and Valencia, A., 2020, *Designing Interfaces*, 3rd ed., O'Reilly Media, Inc., Sebastopol, CA. ISBN: 9781492051961.

Articles from electronic journals:

Hertzum, M., 2023, Frustration: Still a Common User Experience, *ACM Transactions on Computer-Human Interaction*, vol. 30, no. 3, pp. 1-26. DOI: 10.1145/3582432.

Kheder, HA., 2023, Human-Computer Interaction: Enhanced User Experience in Interactive Systems, *Kufa Journal of Engineering*, vol. 14, no. 4, pp. 23-41. DOI: 10.30572/2018/KJE/140403.

Lycett, M and Radwan, O., 2019, Developing a Quality of Experience (QoE) model for web applications, *Information Systems Journal*, vol. 29, no. 1, pp. 175-199. DOI: 10.1111/isj.12192.

Dhanapal, A., and Nithyanandam, P., 2019, The Slow Http Ddos Attacks: Detection, Mitigation and Prevention in the Cloud Environment, *Scalable Computing: Practice and Experience*, vol. 20, no. 4, pp. 669-685. DOI: 10.12694/scpe.v20i4.1569.

Saleem, TJ., and Chishti, MA., 2019, Data Analytics in the Internet of Things: A Survey, *Scalable Computing: Practice and Experience*, vol. 20, no. 4, pp. 607-629. DOI: 10.12694/scpe.v20i4.1562.

References available from EBSCOhost research databases:

- ACM Transactions on Computer-Human Interaction (TOCHI)
- Advances in Human-Computer Interaction
- Information Systems Journal
- Journal of Information Systems Education
- Web Intelligence

Recommended web resources:

AISWorld Net - Association for Information Systems. An entry point to resources related to information systems technology for information systems academics and practitioners. https://aisnet.org/

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https://www.intechopen.com/books/subject/human-computer-interaction

https://twofold-studios.com/blog/8-qualities-of-a-good-website

https://www.interaction-design.org/literature/article/shneiderman-s-eight-golden-rules-will-help-you-design-better-interfaces

https://blog.hubspot.com/website/ui-design

https://www.spiceworks.com/tech/artificial-intelligence/articles/what-is-hci/

https://www.educative.io/answers/what-are-normans-design-principles

https://capian.co/shneiderman-eight-golden-rules-interface-design

https://www.nngroup.com/articles/ten-usability-heuristics/

https://ux247.com/usability-principles/

https://www.heurio.co/nielsens-10-usability-heuristics

https://tilda.education/en/web-design-principles

Conference/ Journal Articles:

Students are encouraged to read peer reviewed journal articles and conference papers. Google Scholar provides a simple way to broadly search for scholarly literature. From one place, you can search across many disciplines and sources: articles, theses, books, abstracts and court opinions, from academic publishers, professional societies, online repositories, universities and other web sites.

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