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| Course Code: | 1805ICT |
| Course Name: | Human Computer Interaction |
| Semester: | Trimester 3, 2017 |
| Program: | Diploma of Information Technology |
| Credit Points: | 10 |
| Course Coordinator: | Dr Rob Baltrusch |
| Document modified: | 5th September 2017 |

Teaching Team

Your lecturer/tutor can be contacted via the email system on the portal.

Dr Rob Baltrusch rob.baltrusch@staff.griffithcollege.edu.au

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Staff Consultation

Your lecturer/tutor is available each week for consultation outside of normal class times. Times that your lecturer/tutor will be available for consultation will be given in the first week of lectures. A list of times and rooms will be published on the Griffith College Portal under the “myTimetable” link.

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Prerequisites

There are no prerequisites for this course

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Brief Course Description

Human Computer Interaction (HCI), is a first year course which provides an introduction to the principles and practices of effective Human Computer Interaction. We will explore the origins of HCI and the theories and frameworks that form the fundamentals of the discipline. We'll then look at the practical tools and techniques that you can use to develop technology that embodies best practice in HCI - a positive user experience, and a high level of usability within your technology. You will have the opportunity to apply HCI practices to a 'real world' problem and develop a design brief for a client. You will also learn how to apply these practices to different problem situations and various technology contexts, including emerging technologies.

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Rationale

A key component to the discipline of Information Technology is the understanding and the advocacy of the user in the development of IT applications and systems. IT graduates must develop a mind-set that recognizes the importance of users and organisational contexts and employ user-centred methodologies in the development, evaluation, and deployment of IT applications and systems. This requires graduates to develop knowledge of HCI including user and task analysis, human factors, ergonomics, application domains, user interface development tools and Graphical User Interface (GUI) frameworks, accessibility standards, and cognitive psychology.

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Aims

The extent to which people will interact with a digital system depends not only on the usefulness of the system but also on experience of the person’s interaction with the system. Now more than ever before people are interacting with digital systems for reasons ranging from entertainment to ‘mission critical’ activities. This course thus aims to equip students with the foundational theoretical knowledge, practical skills and experiences of process required to create and evaluate human interaction with computing systems.

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Learning Outcomes

Upon successful completion of this course students will be able to:

**1** Understand the relationship between HCI models, theories, and frameworks, and their application to digital interaction, interfaces and products;
**2** Understand the differences in designing and developing technology for different application environments and digital media, including desktop and mobile, and emerging technologies such as wearable, and virtual reality systems.
**3** Perform usability evaluations for existing technology applications by using the appropriate performance and preference metrics; Analyse usability testing results and recommend changes.
**4** Apply HCI models, theories and processes to design an interactive application for an industry context.

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Texts and Supporting Materials

Details of your Recommended Learning & Required Learning Resources are available from the course site.

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Organisation and Teaching Strategies

This course consists of weekly lectures, tutorials, and workshops. Lectures will be used to coordinate the course content. Tutorials will focus more on reinforcing theoretical concepts, and workshops will focus on practical skills.

*Class Contact Summary*

**Attendance**

Your attendance in class will be marked twice during a four hour class. To receive full attendance, you must be present in the classroom on both occasions. Therefore, you are encouraged to attend and participate in all classes throughout the semester.

**Participation in Class**

You are expected to actively participate in classes each week.

**Consultant Times**

Attendance during consultation times is optional but you are encouraged to use this extra help to improve your learning outcomes.

**Course Materials**

Lecture notes will be made available to you on the Learning@Griffith College site on the student portal and you are advised to print these out before each class to help guide you in your study program. You are expected to bring these lecture notes with you to each class so that extra notes can be added. You are also expected to bring your text book and calculator to each class.

**Independent Learning**

You are expected to reinforce your learning from class time by undertaking sufficient independent study {approximately 6 hours per week outside of class time} so that you can achieve the learning outcomes of the course.

You are expected to spend 1 hour per credit point per week on course related activities which include attending lectures, tutorials, workshops, reading the recommended texts / lecture notes, research and revision.

**Program Progression**

You are reminded that satisfactory Program Progression requires that attendance in classes is maintained at equal to or greater than 80%, and that GPA is maintained at equal to or greater than 3.5 [please see Griffith College Policy Library - Program Progression Policy - for more information].

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Content Schedule

*Weekly Teaching Schedule*

| Week | Topic | Activity | Readings |
|---|---|---|---|
| | **Introduction (Workshop):** In this workshop we will discuss the assessment for the semester, and have a practical exercise based on the ePortfolio. | Workshop | See course site |
| | **Introduction (Lecture):** This lecture will introduce you to the HCI course, and provide an overview of the history of HCI | Lecture | See course site |
| 2 | **Human Factors (Workshop):** We will discuss human factors, and conduct an exercise applying these to a real world example. | Workshop | See course site |
| | **Cognitive Principles (part 1) (Workshop):** We will discuss the first set of principles, and conduct an exercise applying these to a real world example. | Workshop | See course site |
| | **Cognitive Principles (part 1) (Lecture):** HCI is built on a range of | Lecture | See course site |

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| | cognitive principles, and during weeks 3 and 4 we will look at the theoretical constructs that underlie HCI. | | |
| | **Cognitive Principles (part 2) (Workshop):** We will discuss the second set of principles, and conduct an exercise applying these to a real world example. | Workshop | See course site |
| | **Cognitive Principles (part 2) (Lecture):** This continues the discussion from week 4, looking at HCI theories in detail | Lecture | See course site |
| | **Design Principles (Workshop):** We will discuss design principles, and conduct an exercise applying these to a real world example. | Workshop | See course site |
| | **Design Principles (Lecture):** An outline of a set of principles and guidelines for designing effective HCI | Lecture | See course site |
| | **Design Tools (Workshop):** We will discuss Design Tools, and conduct an exercise applying these to a real world example. | Workshop | See course site |
| | **Design Tools (Lecture):** Building on Design Principles, we'll now look at some specific design tools | Lecture | See course site |
| | **Design Process - User Centred Design (Workshop):** We will discuss UCD and conduct an exercise applying it to a real world example. | Workshop | See course site |
| | **Design Process - User Centred Design (Lecture):** Core to the approach we're taking in this course is User Centred Design (UCD) - design of technology that focuses on the user, and involves the user throughout the design and development process. | Lecture | See course site |

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| 8 | **Usability (Workshop):** We will discuss usability, and conduct an exercise analysing usability in a real world example. | Workshop | See course site |
| | **Usability (Lecture):** What is 'usability', and what does it mean for the design and development of technology? | Lecture | See course site |
| | **Usability Evaluation and Testing (Workshop):** We will discuss evaluation and testing, and conduct an evaluation session using a real world example. | Workshop | See course site |
| | **Usability Evaluation and Testing (Lecture):** Evaluation and testing means confirming that your technology works as you intended and that it meets the needs and expectations of the people who will need to use it. | Lecture | See course site |
| | **Accessibility (Workshop):** We will discuss what accessibility means, and conduct an accessibility evaluation. | Workshop | See course site |
| | **Accessibility (Lecture):** We are looking at the needs of a specific set of people who will use the technology that you design, and how you must design and develop with their needs in mind. | Lecture | See course site |
| | **Domains (Workshop):** We will discuss the different domains and their relationship with HCI. We will complete a practical exercise exploring different domains | Workshop | See course site |
| | **Domains (Lecture):** HCI applies to a range of different situations and technologies. What interactive environments exist, and what does this mean for us? | Lecture | See course site |
| | **Emerging Technology (Lecture):** What do you do when you need to design and develop with new and emerging technologies? | Workshop | See course site |

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| | **Putting it all together (Lecture):** In this session we will conduct a recap, and revise the key elements of HCI | Lecture | See course site |

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Assessment

This section sets out the assessment requirements for this course.

*Summary of Assessment*

| Item | Assessment Task | Weighting | Relevant Learning Outcomes | Due Date |
|---|---|---|---|---|
| 1 | *Portfolio - evidence*<br>ePortfolio | 30% | 1, 2, 3, 4 | Weeks 1 - 11 |
| 2 | *Assignment - Written Assignment*<br>Design Brief | 55% | 3, 4 | Weeks 5 - 11 |
| 3 | *Exam - practical/laboratory/clinical*<br>Design Challenge | 15% | 1, 2, 3, 4 | Week 12 |

*Assessment Details*

**Assessment 1:**
**Title:** ePortfolio
**Type:** Portfolio - evidence
**Learning Outcomes Assessed:** 1, 2, 3, 4
**Due Date:** Weeks 1 - 12
**Weight:** 30%
**Marked out of:** 100
**Task Description:**
This semester you will need to develop an ePortfolio of your work in Human Computer Interaction.
The ePortfolio is worth 30% of your total mark. Your ePortfolio will include electronic evidence of your work and your professional progress. It will show your application of Human Computer Interaction concepts through the inclusion of your design work for a real world project and your personal reflections on your own progress. Your ePortfolio will showcase your skills, not just to the teaching team, but also to potential employers.

**Criteria & Marking:**
Portfolio evidence will consist of:

- answers for the workshops
- design work
- timesheets
- reviews of individual contribution to group assessment

Marks will be allocated for accuracy, level of detail, and for the portfolio being up-to-date
Your submission of your ePortfolio is weighted as follows:
Week 5 – 5% (in class)
Week 9 – 5% (in class)
Week 12 – 20% (formal online submission)
You will receive feedback on your ePortfolio after your first two submissions, and you will need to revise based on this feedback. Your work in each submission will also support the marking of the design brief.
Detailed marking criteria for your ePortfolio will be provided through the Course Site.

**This assessment item:**

- is a school based activity
- is an individual activity
- includes a self assessment activity

**Assessment 2:**
**Title:** Design Brief
**Type:** Assignment - Written Assignment
**Learning Outcomes Assessed:** 3, 4
**Due Date:** Weeks 5 - 11
**Weight:** 55%
**Marked out of:** 100
**Task Description:**
This semester you will work in teams to develop a Design Brief addressing a particular design scenario from an industry client. The Brief is worth 55% of your mark: a 5% audit, and two 25% stages. Your Brief will document your progress analysing the design scenario and the people who will need to interact with your design, and the development of the designs themselves. In the future, this will help you demonstrate your HCI understanding and skills, not just to the teaching team, but also to potential employers.
The Design Brief is a business document that details your work and findings as you address the design scenario and design a solution for the client. A template for the Brief will be provided for you.
The template is a combination of the kinds of information and design work that you would include in an industry document, together with additional material that we need to see as instructors to understand why you have made your choices in your design.
You need to work on the Brief as a team in order to ensure that your material is coherent and consistent.
**Criteria & Marking:**
Full marking criteria and guides are provided on the course site.
An in-class audit of your Design Brief will be assessed in week 5, for 5% of your mark. This audit will check that you have made appropriate progress and are on track for completion.
Stage one of the Design Brief will be submitted through the course site in week 7, for 25% of your mark. Stage one will assess your user research and design work.

Your finished Design Brief will be submitted through the course site in week 11, for 25% of your mark. This final stage will assess your ability to evaluate and test your design, and then revise your design work based on your findings.
**Submission:** Submitted online through the course site

**This assessment item:**

- is a school based activity
- is a group activity
- includes a self assessment activity

**Assessment 3:**
**Title:** Design Challenge
**Type:** Exam - practical/laboratory/clinical
**Learning Outcomes Assessed:** 1, 2, 3, 4
**Due Date:** Week 12
**Weight:** 15%
**Marked out of:** 100
**Duration:** 120 minutes
**Format:** Open Book
**Task Description:**

This task is a team exercise that requires you to apply knowledge from your work over the semester to address a design challenge. The design challenge will take place in the workshop during week 12.

**Criteria & Marking:**

Full criteria will be provided on the course.

The Design challenge is a workshop exercise. You will be provided with an industry scenario, and you will need to apply the material covered throughout the semester to address the scenario and produce a design for a piece of technology that would solve the scenario.

The challenge will be conducted in teams.

**This assessment item:**

- is a school based activity
- is an individual activity
- does not include a self assessment activity

*Submission and Return of Assessment Items*

Normally you will be able to collect your assignments in class within fourteen [14] days of the due date for submission of the assignment.

## Retention of Originals

You must be able to produce a copy of all work submitted if so requested. Copies should be retained until after the release of final results for the course.

*Extensions*

To apply for an extension of time for an assignment, you must submit an Application for Extension of Assignment form to your teacher at least 24 hours before the date the assignment is due. Grounds for extensions are usually: serious illness, accident, disability, bereavement or other compassionate circumstances and must be able to be substantiated with relevant documentation [e.g. Griffith College Medical Certificate]. Please refer to the Griffith College website - Policy Library - for guidelines regarding extensions and deferred assessment.

*Assessment Feedback*

Marks awarded for assessment items will also be available on the on-line grades system on the Student Website within fourteen [14] days of the due date.

Feedback on lab milestones will be given in class when the milestone is being marked.

Feedback on the mid-semester quiz will be provided with a breakdown on which multiple choice questions were answered correctly within 2 weeks of the assessment date. When the results are available the correct answers will be given in the lecture.

Feedback on assignments 1 and 2 will be provided electronically as a mark breakdown and comments within 2 weeks of the submission due date.

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Generic Skills

Griffith College aims to develop graduates who have an open and critical approach to learning and a capacity for lifelong learning. Through engagement in their studies, students are provided with opportunities to begin the development of these and other generic skills.

Studies in this course will give you opportunities to begin to develop the following skills:

| Generic Skills | Taught | Practised | Assessed |
|---|---|---|---|
| Written Communication | | Yes | Yes |
| Oral Communication | | Yes | |
| Information Literacy | | Yes | Yes |

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| Secondary Research | | Yes | Yes |
| Critical and Innovative Thinking | Yes | Yes | Yes |
| Academic Integrity | Yes | Yes | |
| Self Directed Learning | | Yes | |
| Team Work | | Yes | Yes |
| Cultural Intelligence | | Yes | |
| English Language Proficiency | | Yes | |

*Additional Course Generic Skills*

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Additional Course Information

All course material is available on the course website located at griffith.tech

**Teacher and Course Evaluations**

Your feedback is respected and valued by your lecturers and tutors. You are encouraged to provide your thoughts on the course and teaching, both positive and critical, directly to your lecturer and tutor or by completing course and lecturer evaluations via Griffith College's online evaluation tool whenever these are available.

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Academic Integrity

Griffith College is committed to maintaining high academic standards to protect the value of its qualifications. Academic integrity means acting with the values of honesty, trust, fairness, respect and responsibility in learning, teaching and research. It is important for students, teachers, researchers and all staff to act in an honest way, be responsible for their actions, and show fairness in every part of their work. Academic integrity is important for an individual's and the College's reputation.

All staff and students of the College are responsible for academic integrity. As a student, you are expected to conduct your studies honestly, ethically and in accordance with accepted standards of academic conduct. Any form of academic conduct that is contrary to these standards is considered a breach of academic integrity and is unacceptable.

Some students deliberately breach academic integrity standards with intent to deceive. This conscious, pre-meditated form of cheating is considered to be one of the most serious forms of fraudulent academic behaviour, for which the College has zero tolerance and for which

penalties, including exclusion from the College, will be applied.

However, Griffith College also recognises many students breach academic integrity standards without intent to deceive. In these cases, students may be required to undertake additional educational activities to remediate their behaviour and may also be provided appropriate advice by academic staff.

As you undertake your studies at Griffith College, your lecturers, tutors and academic advisors will provide you with guidance to understand and maintain academic integrity; however, it is also your responsibility to seek out guidance if and when you are unsure about appropriate academic conduct.

In the case of any allegation of academic misconduct made against a student he or she may request the guidance and support of a Griffith College Student Learning Advisor or Student Counsellor.

Please ensure that you are familiar with the Griffith College Academic Integrity Policy; this policy provides an overview of some of the behaviours that are considered breaches of academic integrity, as well as the penalties and processes involved when a breach is identified.

For further information please refer to the Academic Integrity Policy on the Griffith College website – Policy Library.

*Risk Assessment Statement*

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Note: For all Diploma level programs, Griffith College acknowledges content derived from Griffith University.