Human Computer Interaction

Contents

- Course Details
- Course Summary
- Assumed Knowledge
- Student Learning Outcomes
- Teaching Strategies
- Teaching Rationale
- Student Conduct
- Assessment
- Course Schedule
- Resources for Students
- Course Evaluation and Development

Course Details

Course Code	COMP3511 / COMP9511
Course Title	Human Computer Interaction
Convenor	Gelareh Mohammadi (/users/z3524689)
Admin	Alexandra Vassar
Classes	**Lectures** : Monday 13:00-15:00, Tuesday 14:00-16:00 Timetable for all classes (/COMP3511/20T2/timetable)
Consultations	Individual consultation can be arranged by e-mail class email: cse.comp3511@unsw.edu.au (mailto:cse.comp3511@unsw.edu.au)
Units of Credit	6
Course Website	This course runs on Moodle: https://moodle.telt.unsw.edu.au/course/view.php?id=51285 (https://moodle.telt.unsw.edu.au/course/view.php?id=51285)
Handbook Entry	http://www.handbook.unsw.edu.au/undergraduate/courses/current/COMP3511.html (http://www.handbook.unsw.edu.au/undergraduate/courses/current/COMP3511.html)

Please note that the main website for this course is the Moodle page

Course Summary

This course provides an introduction to user-system interactions, both analysis and design. The approach is cognitive, focusing on matching user goals with computer technologies.

- The course includes topics relating to Requirements, Design, Prototyping and Evaluation within the User Centred Design process.
- You will also be given the skills to conduct a basic Usability Evaluation.
- Other topics covered within the course allow you to understand your users and their needs. This includes an overview of basic Cognitive capacities, Designing for Accessibility, Internationalisation, levels of Expertise, and Collaboration.
- You will also be looking at the differences between Scientific Data Gathering and User Studies, with a consideration for Human Ethics.
- Other topics include Visual Design principles and looking at different Input/Output devices and their potential impact on Design.

Lecture topics are summarised in the Course Schedule below.

Course Aims:

- to develop your skills in the area of user-centred design
- to provide background knowledge about how people think and process information
- to demonstrate techniques/heuristics necessary to evaluate systems for their usability
- to give you the capability of executing a user-centred design process
- to give you experience in using paper-based design techniques
- to give you experience in the formal evaluation of user interfaces
- to give you exposure to developing electronic prototypes of user interfaces
- to ensure that your design work includes user needs analysis
- to give you an awareness of user centred design tools, methods, and techniques
- above all, maintain a real-world perspective to applying this knowledge in industry

Assumed Knowledge

Pre-requisites

- 48 units of credit from any program (undergraduates)
- No pre-requisites for postgraduates

The assumed knowledge for this course is that you know how to write a report and/or essay for your assignments. Because students come from a variety of backgrounds, with different knowledge bases, the assumed knowledge is not extensive. The course does, however, involve extensive reading.

Student Learning Outcomes

After completing this course, students will be able:

1. to prepare a project plan that is based on user-centred design principles and then carry out activities to design, evaluate and refine user interaction based on iteration.
2. to develop the skills necessary to create a user interface evaluation report (written and oral) that critiques a user interface.

3. understand the strengths and limitations of human cognition and memory and apply these to the design of more usable interfaces that do not cognitively overload users.
4. to develop design skills, primarily using paper for rapid solutions but also using electronic tools, to consolidate individual designs in small groups in order to understand the importance of design decisions and the selection process.
5. prepare and carry out usability walkthroughs to evaluate both paper and electronic based designs for their usability, and then create structured reports that quantify the issues discovered from evaluation activities.
6. to ensure that your design work includes user needs analysis and is not just a reflection of what you believe your users need.
7. construct questionnaires/surveys to obtain pre- and post-test information from users, and to understand the importance of ethics and privacy in order be able to carry out appropriate user-centred design activities.
8. understand the relationship between the scientific method and the user-centred design approach and be aware of the scientific and research approaches used in user interface design research.
9. understand how user centred design processes should be inclusive of all users, including international audiences, those with special needs, such as disabilities, as well different levels of user experience, and use this knowledge to design interfaces appropriate to a particular group of users.
10. to develop an awareness of user-centred design tools, methods, and techniques and maintain a real-world perspective in order to be able to apply this knowledge in industry.

Teaching Strategies

Monday 1-3pm and Tuesday 2-4pm is a common lecture time slot that will include lecture materials and design diary exercises. You will be expected to have listened to the relevant lecture in advance of tutorials, completed any associated Design Diary activities, and to come prepared to the online class. Further exercises will take place in the tutorials.

Each week you will be required to participate in your timetabled tutorial/laboratory class. This will be held online using MsTeams and other collaborative learning tools. You will be using OneNote for Design diary activities and please remember to date each page. It will act as evidence of your original design and assignment work which is a compulsory component of this course.

Regular progress on assignment 2 group work is required and will be checked with weekly or fortnightly deliverables. This is designed to keep you working regularly on your assignments so that you don't leave things until the last minute. During some scheduled tutorial classes (see web site and assignment pages for dates) there will be assessable in-class activities and checkpoints (due at the beginning of the class) relating to assignment milestones. Late penalties may be applied if you have not adequately prepared for these activities or made contact with your tutor and group members if you cannot attend in real-time.

This will also be a time for you to ask questions of your tutor, and for your tutor to give you some feedback on your work.

The practical periods in the tutorial/laboratory are intended to facilitate group discussion and to give you the ability to work through practical examples. Due to COVID-19 restrictions, the tutorials will be online, but participation and attendance is still expected. If you are having internet connectivity issues, please ensure you still complete the associated work and exercises and submit them to the tutor to check.

Your design diary will be marked every few weeks for assessment and review. You are encouraged to find your own design examples of bad user interaction experiences, as you go about your daily routine. This may involve you taking a photograph, as an example, and uploading a copy of that photo into your diary and writing up your ideas as to why the interaction is poor and solutions to improve.

This course appears to some as being “easy”, but the reality is that it isn’t. (This comment comes from student feedback). Many unfortunately don’t make this realisation until the final weeks.

- There is a lot more reading than other courses
- Unlike code, you cannot hack out a solution the night before
- Design takes a lot more thinking and conceptualisation to explore the problem space
- The process is iterative and you must demonstrate improvements that evolve from iteration
- Your design work involves discussing issues with potential users
- Your design work involves discussing and working with others in your group

Lecture Recordings:

We will be using a combination of recorded lectures and livestream. Details and recordings will be available in Moodle.

Teaching Rationale

Failing to take into consideration the needs of your software user audience will lead to costly disaster. People will become frustrated because the application does not work the way that they expect. You know it yourself – you have encountered web sites that are difficult and non-intuitive to use. We aim to show you a design process that helps reduce such user interface difficulties before users are unleashed on your software. This design process starts with understanding people. The process involves an on-going working relationship with potential users during the entire design of a system; not just in the software-testing phase.

Engineers have created many software applications without consultation with the immediate user audience. They may have talked to the managers of the software (those that will pay the development cost bills) but have not talked to the end users. The end users have valuable insight into the workflow of organizations, and this is complimented with knowledge from other stakeholders.

The intention is not for lectures to reiterate the text material but to re-activate it, re-represent it, elaborate it, and demonstrate the application of it to design. This implies, and it will be assumed, that you have done the reading prior to lecture. If you have questions about the reading, the lectures, or the interrelation between the two, make sure that you ask in lectures or via the various consultation methods described below.

Student Conduct

The **Student Code of Conduct** (Information (https://student.unsw.edu.au/conduct) , Policy (https://www.gs.unsw.edu.au/policy/documents/studentcodepolicy.pdf)) sets out what the University expects from students as members of the UNSW community. As well as the learning, teaching and research environment, the University aims to provide an environment that enables students to achieve their full potential and to provide an experience consistent with the University's values and guiding principles. A condition of enrolment is that students *inform themselves* of the University's rules and policies affecting them, and conduct themselves accordingly.

In particular, students have the responsibility to observe standards of equity and respect in dealing with every member of the University community. This applies to all activities on UNSW premises and all external activities related to study and research. This includes behaviour in person as well as behaviour on social media, for example Facebook groups set up for the purpose of discussing UNSW courses or course work. Behaviour that is considered in breach of the Student Code Policy as discriminatory, sexually inappropriate, bullying, harassing, invading another's privacy or causing any person to fear for their personal safety is serious misconduct and can lead to severe penalties, including suspension or exclusion from UNSW.

If you have any concerns, you may raise them with your lecturer, or approach the School Ethics Officer (mailto:ethics-officer@cse.unsw.edu.au) , Grievance Officer (mailto:grievance-officer@cse.unsw.edu.au) , or one of the student representatives.

Plagiarism is defined as (https://student.unsw.edu.au/plagiarism) using the words or ideas of others and presenting them as your own. UNSW and CSE treat plagiarism as academic misconduct, which means that it carries penalties as severe as being excluded from further study at UNSW. There are several on-line sources to help you understand what plagiarism is and how it is dealt with at UNSW:

- Plagiarism and Academic Integrity (https://student.unsw.edu.au/plagiarism)
- UNSW Plagiarism Procedure (https://www.gs.unsw.edu.au/policy/documents/plagiarismprocedure.pdf)

Make sure that you read and understand these. Ignorance is not accepted as an excuse for plagiarism. In particular, you are also responsible that your assignment files are not accessible by anyone but you by setting the correct permissions in your CSE directory and code repository, if using. Note also that plagiarism includes paying or asking another person to do a piece of work for you and then submitting it as your own work.

UNSW has an ongoing commitment to fostering a culture of learning informed by academic integrity. All UNSW staff and students have a responsibility to adhere to this principle of academic integrity. Plagiarism undermines academic integrity and is not tolerated at UNSW. Plagiarism at UNSW is defined as using the words or ideas of others and passing them off as your own.

If you haven't done so yet, please take the time to read the full text of

- UNSW's policy regarding academic honesty and plagiarism (https://student.unsw.edu.au/plagiarism)

The pages below describe the policies and procedures in more detail:

- Student Code Policy (https://www.gs.unsw.edu.au/policy/documents/studentcodepolicy.pdf)
- Student Misconduct Procedure (https://www.gs.unsw.edu.au/policy/documents/studentmisconductprocedures.pdf)
- Plagiarism Policy Statement (https://www.gs.unsw.edu.au/policy/documents/plagiarismpolicy.pdf)
- Plagiarism Procedure (https://www.gs.unsw.edu.au/policy/documents/plagiarismprocedure.pdf)

You should also read the following page which describes your rights and responsibilities in the CSE context:

- Essential Advice for CSE Students (https://www.engineering.unsw.edu.au/computer-science-engineering/about-us/organisational-structure/student-services/policies/essential-advice-for-cse-students)

Assessment

Item	Topics	Due	Marks	Contributes to
Assignment 1 (User Interface Analysis)	user experience goals usability goals heuristics and design principles	Weeks 4	20%	1,2,3
Assignment 2 (Consolidated Group Design and Evaluation)	All topics	Week 4,5,7,8,9,10	40%	1,2,3,4,5,7,8
Design Diary	All topics	Week 2-10	15%	1-9

Final Exam	All topics	Exam period	25%	1-10

***You must attend at least 80% of all tutorials to pass the course, unless documented special consideration is in place.**

***Important Notes:**

- Late penalties for assignment work will be applied to submissions received after the due date. 10% of the total assignment mark will be deducted from the assigned mark per day late. Assignment more than 5 days late will not be marked as they will automatically fail.
- Late penalties for tutorial deliverables will be applied if they are not received or completed by the beginning of class.
- All electronic work submitted will be retained by the University of New South Wales and can be used for teaching, research and review purposes. We will acknowledge your contribution if you wish, or will withhold your name should you choose to remain anonymous.
- All submissions can be checked for plagiarism.
- Peer review software will be used for group projects, to assess relative contribution of each group member to the assignment. Marks will be scaled according to individual level of contribution. Details will be released with the assignment. It is to be noted that group assignment marks will not be released until ALL group members have completed a peer review. The peer review process requires student confidentiality to be effective, so please do NOT share the details or outcomes with your fellow group members. Failure to complete your peer review may result in penalties to your final assignment mark.
- you **must achieve at least a pass on the examination to pass the subject** .
- A harmonic mean may be applied to the final mark to ensure the mark reflects consistent performance across all areas of assessment. Peer review with scaling will be applied to group marks.

Course Schedule

(subject to minor changes and updates as needed which will be posted on Moodle page)

Week	Lecture	Tutorial	Assignment	Quiz
1	Part 1: • Course Introduction • Design Principles / Usability Goal (Part 1) Part 2: • Heuristic Evaluation / Usability Goals (Part 2) • Visual Thinking/Design Diary	No Tutorials	Assignment 1 released	-

2	Part 1: • Public holiday Part 2: • User-Centred Design Process • Scenario Samples and Writing • Ethics	Introduction Heuristics Stakeholders		-
3	Part 1: • Universal Access • Interviews, Questionnaires Part 2: • Requirements to Prototyping • Assignment 2 Overview	Personas / Scenarios Accessibility	Assignment 2 Released (Form Group)	-
4	Part 1: • Paper Prototyping / Electronic Prototyping • Web and App Design Part 2: • Visual Design • Evaluation	Surveys and Interviews Assignment 2 work	Assignment 1 Due Assignment 2 Checkpoint (Product Description Statement)	-
5	Part 1: • Memory Part 2: • Problem Solving • Cognitive Load Theory (Part 1)	Requirements Paper Prototype Memory	Assignment 2 Group Checkpoint (Consent Documents, Questionnaires)	-
6	Flexibility Week - No Classes	No Tutorials	-	-

7	Part 1: • Cognitive Load Theory and Heuristics Part 2: • Data Visualisation • Scientific Methodology	Problem Solving Assignment 2 work	Assignment 2 Group Checkpoint (Revised Product Description Statement, Context Scenarios, Requirements, Questionnaire Summary)	-
8	Part 1: • Social & Collaborative Computing Part 2: • Internalisation • Experts / Novices	Cognitive Load Theory	Assignment 2 Checkpoint (Electronic Prototype)	-
9	Part 1: • Guest Lecture from Industry Part 2: • Guest Lecture From Industry	In-class Usability Testing	Assignment 2 Checkpoint (Individual Reflection)	-
10	Part 1: • Input/Output Technology • Quantification Part 2: • Finale - Review and Exam Discussion	Group Presentations	Assignment 2 Group Presentations	-
Exam period	-	-	-	Final Exam

Resources for Students

Required Text Book (all students)

- Preece, Rogers & Sharp (2019), 5th ed. Interaction Design: Beyond Human Computer Interaction, John Wiley
- Links will be available on Moodle for any relevant readings.

References

- Buxton (2007), *Sketching User Experiences: Getting the Design Right and the Right Design* , Morgan Kaufmann.
- Cooper, A. (2004), The Inmates are Running the Asylum, Sams Publishing
- Cooper et al (2007), *About Face 3.0: The Essentials of Interaction Design* , John Wiley (COMP4511 Text)
- Goodwin (2009), *Designing for the Digital Age* , John Wiley
- Lazar, Feng & Hochheiser, (2010), *Research Methods in Human-Computer Interaction* , John Wiley
- Nielsen (1993), *Usability Engineering* , Morgan Kaufmann.
- Norman, D.A. (1998), *The Design of Everyday Things* (Paperback), MIT Press, London
- Rubin (1994 or 2008) *Handbook of Usability Testing* , John Wiley Publishing.
- Snyder C (2003), *Paper Prototyping* , Morgan Kaufmann

Other resources

Students seeking resources can also obtain assistance from the UNSW Library. One starting point for assistance is:

info.library.unsw.edu.au/web/services/services.html (info.library.unsw.edu.au/web/services/services.html)

Course Evaluation and Development

We will use both lab-based feedback and/or electronic survey tools to gather feedback about the course. This is used to assess the quality of the course in order to make on going improvements. We do take this feedback seriously and approach the design of this course using user centred design philosophies. Students are also encouraged to provide informal feedback during the session, and to let the lecturer in charge know of any problems, as soon as they arise. Suggestions will be listened to very openly, positively, constructively and thankfully, and every reasonable effort will be made to address them. The MyExperience evaluations from last year showed that students were very satisfied with most aspects of the course. In particular, students really enjoyed tutorials/labs and found they learned a lot. Students were also generally happy with the assignment load. Some CSE students requested a more technology based prototype focus and so will be including electronic prototypes as part of the 2 nd assignment.

Students valued the up to date lecture content and slides, which we will strive to maintain. Lecture recordings will be available online, with the onus on students to ensure they listen to each lecture before their tutorials so they can keep pace with the course and tutorial requirements.

Due to the online nature of the course, we will NOT have fortnightly in class quizzes. In lieu of class attendance, Design Diaries will be marked each week.

Student feedback indicated that guest lectures as well as the perspectives of different lecturers were valuable, and so we will continue to provide these.

A few students asked for shorter more concise lectures. However, other students really enjoyed the detailed examples which they indicated supported their learning and understanding. And yet other students asked for more examples. We thus aim to provide a balance between these competing demands in large student cohorts. A few students requested more concise assignment milestones. We provide reminders in many formats including the assignment specifications, lecture summary notes, and in tutorials. We will, however, endeavor to keep things more concise. The onus is still on individual students to track these on a weekly basis, otherwise it is easy to fall behind and miss deadlines. We note that HCI is an ill-defined domain, so assignment specifications will never be as clear-cut or concise as most other CSE subjects.

Resource created about a year ago (Tuesday 19 May 2020, 05:32:01 PM), last modified about a year ago (Wednesday 20 May 2020, 11:37:41 AM).

Comments

(/COMP3511/20T2/forums/search?forum_choice=resource/46538)

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There are no comments yet.