



BUSINESS SCHOOL
Te Kura Pakihi

COURSE OUTLINE

Human-Computer Interaction and User Experience
INFO203

Semester One, 2020

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Paper Description and Aims

Interactive Systems Design concerns the analysis, design and implementation of systems where user requirements are considered equally with functional requirements.

INFO203 is taught in the manner of (1) “traditional” lectures introducing and explaining the underlying principles and theories in interactive systems design and (2) “Problem Based Learning” mainly in the lab sessions, where different tasks of problems are given. Concepts and practical work is towards the goal of solving a particular problem.

INFO203 intensively makes use of teaching material of a Stanford Coursera HCI course. The students are expected to watch video clips (according to the INFO203 course calendar or as announced in the lecture) before the lectures. It is expected that the students bring questions to the lectures where there will be room to discuss and for feedback.

The lab sessions are organised into four streams, and eventually split up to different project groups. They start with (1) individual work where the final delivery is an report on “usability” and “user experience”, (2) continue with group work in (heuristic) evaluations, although the final delivery is an individual report on the conducted heuristic evaluation and its’ findings and finally (3) the largest part: project work with a group outcome in form of a designed and evaluated interface in the realm of a mobile interface.

Therefore, the course is divided into three modules, each module concluded by a deliverable.

Learning Outcomes

Students will gain proficiency in the foundations of Human-Computer Interaction. At the end of the course an INFO203 student is expected to:

- Discuss why human-centred software development is important.
- Summarize the basic precepts of psychological and social interaction.
- Develop and use a conceptual vocabulary for analysing human interaction with software: affordance, conceptual model, feedback, and so forth.
- Define a user-centred design process that explicitly takes account of the fact that the user is not like the developer or their acquaintances.
- Create and conduct a simple heuristic evaluation for an existing software application.
- For an identified user group, undertake and document an analysis of their needs.
- Create a simple prototype, together with help and documentation, which supports a graphical user interface.
- Conduct a quantitative evaluation and discuss/report the results.

- Discuss at least one national or international user interface design standard.

Additionally, this course will expect that an INFO203 student is improving on important soft skills such as problem-solving and critical thinking, but also personal skills such as self-awareness and interpersonal skills.

Teaching Staff

Paper Coordinator and Lecturer

Name: Assoc. Prof. Tobias Langlotz

Office: OBS 7.13

Email: tobias.langlotz@otago.ac.nz

Lecturer

Name: Prof. Holger Regenbrecht

Lecturer

Name: Dr Alexander Plopski

Email: alexander.plopski@otago.ac.nz

Lecturer

Name: Jonathan Sutton

Email: jsutton546@gmail.com

You should contact Tobias Langlotz with any administrative enquiries about the paper or requests for late submission of assignments.

Course Delivery

We strongly recommend that all students should plan to attend all of the lectures and labs and be prepared for the lecture sessions by reading and watching the assigned material for that session.

Lectures

Lectures present the key conceptual material through discussion and interaction between teaching staff and students.

Labs/Tutorials

Labs/Tutorials are interactive, collaborative sessions in which students attempt to cement concepts presented at lectures by working on the project and sometimes smaller lab tasks. We will initially provide detailed information on how to work towards the project and lab tasks.

Students should continuously work on the project while having the opportunity to receive help from the lab staff. Note: Labs start on time and usually start with a discussion of topics relevant to the lab/project. It is therefore strongly recommended that students are not late.

Material covered in labs may go beyond that covered in lectures and is examinable.

There are two lectures each week:

Day	Time	Venue
Tuesday	10:00-10:50 am	St. David Seminar Room A G.02
Wednesday	10:00-10:50 am	Moot Court (Richardson Bldg.)

Each student will be streamed for a single one-hour laboratory/tutorial session to be held each week. The lab timetable is given below.

Day	Time	Venue
Tuesday	1:00- 1:50 pm	OBS3.27
Wednesday	2:00 - 2:50 pm	OBS3.27
Thursday	12:00 - 12:50 pm	OBS3.27
Thursday	1:00 - 1:50 pm	OBS3.27

Streaming information will be available from Blackboard. Students should come to their assigned stream. Note: The labs streams are close to capacity. Priority will be given to those students who are coming to their assigned stream. If the lab is full, and you are in a different stream then you may be asked to leave.

Blackboard Discussion

There will be various discussion threads on Blackboard. We encourage students to take part in these discussions by posting questions that they might have with regard to topics covered in the lectures, labs or the project. The posted questions may be answered by other students or staff. Staff will be monitoring the discussions. We encourage you to post answers to the questions posted on Blackboard. Teaching staff may tell you to post a question to the discussions boards if they feel that the question and answer will benefit the entire class rather than answer the question directly.

Anonymous posting to the discussion boards is allowed.

Course Overview and Assessment

Module 1 (3 weeks)

The problem is introduced.

The concepts of Human-Computer Interface (HCI design and Usability and why they are needed is introduced and discussed).

Deliverable: Each student will complete a report on usability and user experience by providing examples for both in the context of computing.

Feedback will be given and guidance provided for Module 2.

Module 2 (3 weeks)

This module concentrates on the analysis and design of user interfaces. Different methods used to establish an understanding of user interfaces are introduced.

Methods of measuring usability are introduced and practised.

Deliverables: Each student is to conduct an analysis of user interfaces. Each student writes his/her own report based on the empirical heuristic evaluation method (Nielsen).

Feedback will be given and guidance provided for Module 3.

Module 3 (7 weeks)

The final module introduces topics not already discussed.

Based on the analyses of Module 2 a new user interfaces is to be designed. Design features should be justified according to the usability evaluation (Module 2) and user requirements have to be identified.

Deliverables: The new design should be implemented. Documentation of each stage is to be kept. This documentation should include justifications of design decisions, justification for the implementation tool used and results of the evaluation conducted. Each team member should submit a report describing his/her contribution to the project work. The group submits a zip incorporating (1) all individual reports, (2) the project result (e.g. project files and other sources), (3) the team document on the project, (4) the usability evaluation of the project result and (5) a presentation describing the result (one customer-/business-centred and one end-user- centred).

Feedback on Module 3 and marks for all internal work will be awarded.

A mid-semester examination

The mid-semester exam will give students feedback on their progress and understanding of the subject matter. It is going to be marked by the course co-ordinators as soon as possible.

Assessment

All material presented is examinable (except where stated otherwise) by assignments and the final examination. All-important assessment information such as due dates and times, content, guidelines and so on will be discussed at lectures and, where appropriate, detailed on Blackboard. *Students are responsible for ensuring that they are aware of this information, keeping track of their own progress, and catching up on any missed classes.*

Note that, although you will likely be working in groups, *each group member will ultimately receive their own mark for the assignment*, which will reflect their contribution and understanding of the assignment. By default, this mark will be consistent throughout the group, although it may be altered on a student-by-student basis based upon observations from staff and other appropriate evidence.

The final mark for each student will be determined as follows (refer also to the course requirements section):

Assessment	% of final grade
Report #1 ((Human-Computer Interaction and Usability)	5
Mid-Semester Exam	10
Report #2 (Heuristic Evaluation)	5
Project work (group/individual)	30
Final examination	50

Grading System

The grading scheme used at Otago is:

A+	90-100	C+	60-64
A	85-89	C	55-59
A-	80-84	C-	50-54
B+	75-79	D	40-49
B	70-74	E	<40
B-	65-69		

Course Requirements (The Hurdle and Terms Requirements)

In order to pass this paper, in addition to obtaining a minimum grade of 50 out of 100, the sum of the marks for mid-term exam (10 marks) and the final exam (50 marks) must be greater than 40% of the total of 60 marks.

Additionally, INFO203 has a terms requirement: students must attend and sufficiently **participate in at least one lab session per week for at least seven weeks in the semester (excluding the last two weeks!)**. Students that fail to gain terms in INFO203 are precluded from sitting the final exam.

Requests for Extensions and Special Consideration

In cases of sickness or other special circumstances, we may offer individual students extensions to assignment deadlines or alternative forms of assessment to replace tests that have been missed. To be eligible for this, an affected student should inform the coordinator (Dr. Tobias Langlotz) as soon as possible and before the deadline has passed. We require a doctor's note to confirm a medical problem. Extensions to assignments can be granted but only with a penalty of 10% for delayed submissions submitted within the first 10h after the deadline and further 1% for every hour after that, unless there are exceptional circumstances. Note: Asking for an extension for the course project because you were sick for the last few days before the deadline is not considered to be an exceptional circumstance. You will have at least two weeks to work on each assignment deliverable, so plan ahead, and don't leave it until it is too late.

If there is any way in which we can help students with disabilities please let us know. We are happy to offer whatever assistance we can, but need to know in advance of any potential difficulties that might arise.

Academic Integrity and Academic Misconduct (Plagiarism)

Students should ensure that all submitted work is their own. Plagiarism is a form of academic misconduct (cheating). It is defined as copying or paraphrasing another's work and presenting it as one's own. Any student found responsible for academic misconduct in any piece of work submitted for assessment shall be subject to the University's dishonest practice regulations, which may result in serious penalties, including forfeiture of marks for the piece of work submitted, a zero grade for the paper, or in extreme cases, exclusion from the University. The University of Otago reserves the right to use plagiarism detection tools.

Students are advised to inform themselves about University policies concerning dishonest practice and take up opportunities to improve their academic and information literacy. If necessary, seek advice from academic staff, or the Student Learning Centre. The guideline for students is available at this link: <http://www.otago.ac.nz/study/academicintegrity/index.html>

Quality Assurance

At the Otago Business School we monitor the quality of student learning and your learning experience. Your assessed work may be used for assurance of learning processes, such as evaluating the level of achievement of learning outcomes, with the aim of improving the quality of our programmes. All material used for quality assurance purposes will be treated as confidential and the outcome will not affect your grades.

Expectations and Workload

The teaching team (see 'Staff') are committed to creating the best possible environment to facilitate student learning. However, learning is a joint activity that requires active participation from the learner. Students are therefore expected to attend and participate in all facets of the course. This includes activities such as revising material, completing assigned work, spending extra time researching difficult concepts, in addition to participating in lectures, labs, and assessments.

INFO 203 is worth 18 points, which equates to spending 12 hours per week on the course (in accordance with University guidelines). This calculation includes the mandatory contact hours of lectures and labs (see 'Course Schedule') totaling up to 3 hours per week. The remaining 9 hours should be used for reading (assigned and personal research), lab preparation and completion, the project work, and course revision including exam preparation.

Course Calendar

INFO203 – Human-Computer Interaction and User Experience Course Schedule

(as of 4th February 2020, subject to change)

Week of	Lecture	Lecture Topic	Video Material for lecture	Lecturer	Project milestones / deadlines
24 February	1	Course Introduction		TL	
	2	Introduction into Human-Computer Interaction	01-01, 01-02, 01-03, 01-04	TL	
2 March	3	Prototyping, Evaluation Methods, HCI History	02-01, 02-02	TL	
	4	Birth of HCI, Participant Observation and Interviews	02-03, 02-04	TL	
9 March	5	Diaries, Lead/Extreme Users, Personas & Scenarios	03-01, 03-02, 03-03, 03-04	TL	
	6	Personas & Scenarios		TL	<i>Submission of Report #1 (Usability and User Experience)</i>
16 March	7	Heuristic Evaluation		TL	
	8	Storyboards, Prototypes, Wizard of Oz, Video Prototyping	05-01, 05-02	TL	
23 March	9	Video Prototyping, Comparing Alternatives, Design Heuristics	04-01	AP	
	10	Design Heuristics	04-02, 04-03	AP	<i>Submission of Report #2 (Heuristic Evaluation)</i>
30 March	11	Project Introduction and Design Heuristics	05-03, 05-04, 05-05	TL	
	12	Direct Manipulation and Mental Models		TL	<i>Submission of Project Proposal Draft</i>
6 April	13	Direct Manipulation and Mental Models		TL	
	14	<i>Mid-Semester Examination</i>	06-01, 06-02	TL	

Mid-Semester Break: 13 - 17 April

Week of	Lecture	Lecture Topic	Video Material for lecture	Lecturer	Project milestones / deadlines
20 April	15	Representation Matters and Distribution Cognition	06-03, 06-04	TL	
	16	Visual Design and Typography		TL	
27 April	17	Grids, Grouping, and Alignment & Reading and Navigation	07-01	AP	
	18	Grids, Grouping, and Alignment & Reading and Navigation	07-02	AP	
4 May	19	Designing Studies	07-03	TL	
	20	Designing Studies 2	07-04a, 07- 04b, 07-04c, 07-05	TL	
11 May	21	Designing Studies 3		TL	
	22	Ethical Considerations		TL	
18 May	23	Designing Studies 4 and Analysing Experiments		TL	
	24	Current Research Trends in HCI		TL	<i>Submission of Project</i>
25 May	25	Current Research Trends in HCI		TL	<i>Project Presentations</i>
	26	Wrap up lecture and exam information		TL	

Mid-Year Examinations: 3 - 17 June

Course Learning Resources

Coursera HCI course Material

It is expected that the students watch all video material of Stanford's online HCI course according to the INFO203 course calendar (which is not in sync with the Stanford/USC course). Videos of lectures (and PowerPoint presentations) will be made available on Blackboard and during the lab session for self-study.

Recommended Readings

- Shneiderman, B. & Plaisant, C. (2005). Designing the User Interface (4th edition). Addison Wesley.
- Preece, J., Rogers, Y., & Sharp, H. (2002): Interaction Design: Beyond Human- Computer Interaction. John Wiley.
- Bowman, D., Kruijff, E., LaViola, J., & Poupyrev, I. (2005). 3D User Interfaces – Theory and Practice. Addison Wesley.
- Norman, D. (2002). The Design of Everyday Things. Basic Books.
- Norman, D. (2005). Emotional Design: Why We Love (or Hate) Everyday Things. Basic Books.

Blackboard

Blackboard <https://blackboard.otago.ac.nz/> provides you with access to course materials, class notices, and resources. Blackboard is used to email the whole class so it is important that you check your student email and *Blackboard* regularly.

Student Webmail

IMPORTANT - DO THIS NOW:

Forward your University email address to an email address that you use regularly as follows:

1. [Log into your StudentMail account](#) using your student username and password
2. Click **Cog button (top right corner) > Options**
3. Under **Account**, select the **Forward your email** shortcut under the **Short Cuts** menu on the right side of the screen.
4. Under the Forwarding heading, type in the email address you want your email to be forwarded to. You can also choose to have a copy of these emails kept on your StudentMail account, so please check the box if you would like this.
5. Click the **Start forwarding** button.

Student Learning Support and Information

Student Charter

<http://www.otago.ac.nz/about/otago0005275.html>

Guidelines for Learning at Otago

<http://hedc.otago.ac.nz/hedc/wp-content/uploads/2012/12/Guidelines-for-Learning.pdf>
<http://hedc.otago.ac.nz/hedc/learning/>

Student Learning Centre

The Student Learning Centre, which is part of the Higher Education Development Centre, provides learning support, free of charge, to ALL enrolled students. Their services include:

- a workshop programme designed to help students to improve their learning strategies and their generic skills;
- individual assistance with learning issues;
- on-line study skills advice;
- a student leadership programme
- a student-led peer support programme for students of all ages and backgrounds.
- conversational English groups for students from a non-English speaking background

The Centre also provides two very helpful study guides, "Guidelines for Writing and Editing" and "Writing University Assignments" and these are available on the SLC website.

<http://slc.otago.ac.nz/>

Library Support

The Library website <http://www.otago.ac.nz/library> provides access to resources and services, including group room bookings, library hours and locations, past exam papers, subject guides, article databases and more.

If you need assistance either check out the self-help guides <http://otago.libguides.com/selfhelp>, or ask Library staff at the ground floor service desks, or email ask.library@otago.ac.nz

Māori Student Support

Tēnā koutou katoa,

Ko Hikaroroa te māunga, ko Waikouaiti te awa, ko Takitimu te waka, ko Ngāi Tahu tōku iwi, nō Ōtepoti ahau.

Ko Rachel Sizemore tōku ignoa.

Kia ora, my name is Rachel Sizemore and I am the Kaiāwhina Māori in the Otago School of Business. My role is to help link Māori students with the various support networks throughout the university and the community. Kaua e whakamā, don't be shy - come in for a chat. Mauri ora mai.

Tel: +64 3 479 5342 **Email:** rachel.sizemore@otago.ac.nz or kaiarahi.obs@otago.ac.nz

Pacific Islands' Student Academic Advisor (Part-time)

Warm Pacific Greetings,

Talofa lava, my name is Esmay Eteuati, my role is to help connect and liaise with all the Academic Departments in the Business School and other student support services. I provide pastoral care, information regarding scholarships and can refer you on get some course advice with our Academic Manager or by the Departments.

As a point of contact Pacific students can see one of our Pacific Network Support People (academic staff member) in each department who will be available to assist and support students with their course of study. I also have a wide network of Pacific and non-Pacific contacts across the University should students wish to know more about other services.

Tel +64 3 479 4756 **Email:** esmay.eteuati@otago.ac.nz

Disability Information and Support

Students are encouraged to seek support if they are having difficulty with their studies due to disability, temporary or permanent impairment, injury or chronic illness. It is important to seek help early, through one of the contacts below:

Website: <http://www.otago.ac.nz/disabilities>

65 Albany St, West Lane, ISB, Student Services

Tel: +64 3 479 8235 **Email:** disabilities@otago.ac.nz

Student Feedback

We encourage your feedback. This can be in the form of contacting staff, participating in course evaluation surveys and communicating with class representatives. INFO 203 is a new paper for 2017, so some fine tuning of the course may be required. Continual improvements will be made to this course based in part on student feedback.

Class Representatives

The class (or student) representative system is an avenue for encouraging communication and consultation between staff and students. It provides you with a vehicle for communicating your views

on the teaching and delivery of the paper and provides staff with an opportunity to communicate information and gain constructive feedback from students. It contributes to the development of a sense of community within a department and it adds a further dimension to the range of support services offered to students.

Volunteers for the role of class representatives will be called early in the semester. The OUSA invites all class representatives to a training session, conducted by OUSA, about what it means to be a class representative and some of the possible procedures for dealing with issues that arise. They also provide information on the services that OUSA offers and the role OUSA can play in solving problems that may occur. The OUSA provides support to class representatives during the semester. Departmental staff will also meet with class representatives during the semester to discuss general issues or matters they wish to have considered.

Your class representative's name and contact details will be posted on Blackboard early in the semester.

Concerns about the Course

We hope you will feel comfortable coming to talk to us if you have a concern about the course. The Course Co-ordinator will be happy to discuss any concerns you may have. Alternatively, you can report your concerns to the Class Representative who will follow up with departmental staff. If, after making approaches via these channels, you do not feel that your concerns have been addressed, there are University channels that may aid resolution. For further advice or more information on these, contact the departmental administrator or head of department.

Disclaimer

While every effort is made to ensure that the information contained in this document is accurate, it is subject to change. Changes will be notified in class and via Blackboard. Students are encouraged to check Blackboard regularly. It is the student's responsibility to be informed.