a place of mind
THE UNIVERSITY OF BRITISH COLUMBIA

COSC 341/541 Human Computer Interaction

Instructor: Bowen Hui (SCI 257), bowen.hui@ubc.ca
Duration: Winter 2017 term 1, 3 credits
Lectures: 3 hours/week, T/R 11:00am – 12:30pm in ART 114
Laboratory: 2 hours/week. Schedule and Location: see university calendar
Course website: https://people.ok.ubc.ca/bowenhui/341/

Academic Calendar Entry

COSC 341 (3) Advanced Human Computer Interaction
Principles of design and interaction, novel interfaces and platforms, prototyping, evaluation methodology, quantitative analysis.

Course Format

The course will be delivered via in-class lectures complemented by out-of-class readings, assignments, and course project. Course content will be posted online. Midterm break and other calendar dates can be found at http://okanagan.students.ubc.ca/calendar/

Course Overview, Content and Objectives

The course will introduce students to principles of design and interaction of software. Specifically, the topics may include various interfaces and platforms (e.g., educational games, mobile interfaces, wearable computing, very large displays), multidimensional data visualization techniques (e.g., treemaps, word clouds, networks), interaction techniques (e.g., direct manipulation, gestures, multitouch screens, natural language), intelligent user interfaces (e.g., customizable interfaces, adaptive systems, and user modeling). The course will also introduce modeling techniques (e.g., Fitts Law, KLM-GOMS model) and evaluation methods (e.g., think-aloud, heuristic evaluation, empirical research and analysis). The objective of this course is to initiate students to popular research and industry relevant areas within HCI.

Learning Outcomes

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

- Appreciate design issues in software development
- Gain a deeper understanding of key design and evaluation methodologies
- Apply quantitative models in evaluating interfaces and interaction techniques
- Design and conduct controlled experiments involving real users in a pilot study

Additional learning outcomes for students enrolled in COSC 541:

- Become familiar with recent research techniques in an area of HCI
- Engage in research activities in an area of HCI

Evaluation Criteria for COSC 341:

Assignments	40%
In-Class Design Activities	25%
Midterm Exams	35%

Evaluation Criteria for COSC 541:

Assignments	32%
In-Class Design Activities	20%
Midterm Exams	28%
Research Project	20%

Graduate research projects must be approved by the instructor by the beginning of Week 4. Students enrolled in COSC 541 are expected to meet with the instructor individually in Week 3 with at least three project ideas.

Late Policy

Assignments and project can be submitted up to 3 calendar days late. Thereafter, your work will receive a mark of 0. For each day that is late, you will receive a penalty of -5% of the assignment mark. For example, if A1 is one day late, you will get at most 95/100% for it.

There is no late tolerance for presentations. Presentations not done at the scheduled day and time will receive a mark of 0.

Missed Midterm Policy

No make-up midterms will be given. If a student misses a midterm without a medical note, the mark received will be 0. If a medical note is provided to the instructor, then the midterm portion of the grade will be combined with the other exam marks, so that all the exams are still worth 35% of the total grade. If both midterms are missed, a make-up exam will be given for the second midterm only.

Passing Criteria

In order to pass the course:

- Students MUST achieve a passing grade in the assignments component.
- Students MUST achieve a passing grade in the in-class design activities component.
- Students MUST achieve a passing grade in the exams component.

Failure to satisfy ***all*** of the above clauses will result in a maximum of 45% for the course.

Expectations

- Attend **all** classes and prepare before attending class.
- Read the assigned readings **before** the lecture.
- Learn the material in the course and undertake sufficient effort to produce all the programming assignments and quality projects.
- Enjoy attending class and feel free to participate according to your personality. Feel free to ask questions by raising your hand or speaking out at appropriate times.
- Please actively participate in class discussions, questions, and problem solving exercises.
- **I want all students to pass the course, receive a good grade, produce their own mobile apps, and feel the course was beneficial.**
- For this course, it is expected that you will spend ***at least six hours per week*** on out-of-class preparation.

Suggested Readings

- Human-Computer Interaction: An Empirical Research Perspective, 2013, Morgan Kaufmann; I. Scott MacKenzie; ISBN-13: 978-0124058651
  - Chapters 1,2,4,5,6,7
- User-Centered Website Development, D. McCracken & R. Wolfe, 2004.
  - Chapters 1,2,3,6,7,12,13,14

Tentative Course Schedule

See updated schedule on the course website.

Week	Topics	Readings	Labs
1	Introduction & History User Centered Design	MacKenzie Ch1 McCracken & Wolfe Ch2 MacKenzie Ch2	
2	Usability Principles Task Analysis	McCracken & Wolfe Ch1, Ch3	Card sorting
3	Formal models of interaction	MacKenzie Ch7	Fitts experiment
4	User Scenarios Prototyping	McCracken & Wolfe Ch6-7	Balsamiq

5	Review Midterm		
6	Collecting user information	MacKenzie Ch4, Ch5	Consent forms
7	Evaluation methods	MacKenzie Ch5	Questionnaire design
8	HCI Statistics	MacKenzie Ch6	Hypothesis testing
9	Accessibility Globalization	McCracken & Wolfe Ch12-14	Peer data collection
10	Review Midterm		Peer data collection
11	Intelligent user interfaces	Selected readings from suggested list above	
12	Future of HCI		Project Presentation

Plagiarism and Collaboration

The "default" assumption is that students will work on assignments independently. Students who complete assignments with the aid of collaborators or other sources (e.g. other textbooks) must:

(i) acknowledge this fact (including the name(s) of other sources) at the start of their homework submission (see above),
(ii) produce an independent write-up (copied submissions are not permitted),
(iii) be prepared to explain their solutions in further detail, if asked, and
(iv) be prepared to have the assignment grade adjusted accordingly.

Collaborating in groups of size greater than four is not permitted.

Plagiarism (the submission of work of another person as your own) and other anti-intellectual behaviour will not be tolerated. Your attention is directed to the "Student Discipline" section of the University Calendar as well as the UBC-V computer science Department Policy on "Plagiarism and Collaboration", available through the Undergraduate Web Page at http://www.cs.ubc.ca/our-department/administration/policies/collaboration. In particular, note that **it is not acceptable to make a solution available as an aid to others**.

Cooperation vs. Cheating

Working with others on assignments is a good way to learn the material and we encourage it. However, there are limits to the degree of cooperation that we will permit. Any level of cooperation beyond what is permitted is considered cheating.

When working on programming assignments, you must work only with others whose understanding of the material is approximately equal to yours. In this situation, working together to find a good approach for solving a programming problem is cooperation; listening while someone dictates a solution is cheating. You must limit collaboration to a high-level discussion of solution strategies, and stop short of actually writing down a group answer. Anything that you hand in, whether it is a written problem or a computer program, must be written by you, from scratch, in your own words. If you base your solution on any other written solution, you are cheating.

There will be random audit of assignment solutions through internet-based source code search engine: Any assignment found to be significantly similar to a publicly available source code without the proper acknowledgment will trigger an investigation for academic dishonesty in addition to any copyright violation.

If you have any doubt that an action you are considering might be construed, by anyone, as cheating, DON'T DO IT. Ask for permission first.

Grievances and Complaints Procedures

A student who has a complaint related to this course should follow the procedures summarized below:

- The student should attempt to resolve the matter with the instructor first. Students may talk first to someone other than the instructor if they do not feel, for whatever reason, that they can directly approach the instructor.

- If the complaint is not resolved to the student's satisfaction, the student should go to the departmental chair John Braun at SCI 388, 807-8032.

Academic Integrity

The academic enterprise is founded on honesty, civility, and integrity. As members of this enterprise, all students are expected to know, understand, and follow the codes of conduct regarding academic integrity. At the most basic level, this means submitting only original work done by you and acknowledging all sources of information or ideas and attributing them to others as required. This also means you should not cheat, copy, or mislead others about what is your work. Violations of academic integrity (i.e., misconduct) lead to the breakdown of the academic enterprise, and therefore serious consequences arise and harsh sanctions are imposed. For example, incidences of plagiarism or cheating may result in a mark of zero on the assignment or exam and more serious consequences may apply if the matter is referred to the President's Advisory Committee on Student Discipline. Careful records are kept in order to monitor and prevent recurrences.

A more detailed description of academic integrity, including the University's policies and procedures, may be found in the Academic Calendar at
http://okanagan.students.ubc.ca/calendar/index.cfm?tree=3,54,111,0.

UBC Okanagan Disability Resource Centre

The Disability Resource Centre ensures educational equity for students with disabilities, injuries or illness. If you are disabled, have an injury or illness and require academic accommodations to meet the course objectives, please contact Earllene Roberts, the Diversity Advisor for the Disability Resource Centre located in Commons Corner in the University Centre building (UNC 227).

UNC 227A 250.807.9263

email *earllene.roberts@ubc.ca*

Web: www.ubc.ca/okanagan/students/drc

UBC Okanagan Ombuds Office

The Ombuds Office offers independent, impartial, and confidential support to students in navigating UBC policies, processes, and resources, as well as guidance in resolving concerns related to fairness.
UNC 227B 250.807.9818

email: *ombuds.office.ok@ubc.ca*

Web: http://ombudsoffice.ubc.ca/ubc-okanagan-2/

UBC Okanagan Equity and Inclusion Office

UBC Okanagan is a place where every student, staff and faculty member should be able to study and work in an environment that is free from discrimination and harassment. UBC prohibits discrimination and harassment on the basis of the following grounds: age, ancestry, colour, family status, marital status, physical or mental disability, place of origin, political belief, race, religion, sex, sexual orientation or unrelated criminal conviction. If you require assistance related to an issue of equity, discrimination or harassment, please contact the Equity and Inclusion Office.

UNC 227C 250.807.9291

email: *equity.ubco@ubc.ca*

Web: www.ubc.ca/okanagan/equity

Safewalk

Don't want to walk alone at night? Not too sure how to get somewhere on campus? Call Safewalk at ***250-807-8076. For more information, see: http://www.ubc.ca/okanagan/students/campuslife/safewalk.html***