

Carleton University, Ottawa, Canada
Master of Human-Computer Interaction
Course Outline 2024

Course number and title:

HCIN 5200 (0.5 credit): Software and User Interface Development

Instructor:

Robert Biddle

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Office Location: HP 5169 (or Lab: HCI2110)

Office Phone: 520-2600 extension 6317 (but please email instead)

Office Hours: Drop-in or by email arrangement

Primary method of contact: Email.

Meetings:

Term: Fall, 2024

Times: 14:35–17:25 Thursday, September 5 – December 5; But not Oct 24 (Fall Break)

Most meetings will be held in person in Patterson Hall Room 129 — some may be online. There will also be technical workshops in the lab on practical topics, to be scheduled at times convenient to everyone.

IMPORTANT: Please stay home if you feel sick, and email the instructor to allow class and workshop participation online via Zoom if possible.

Zoom access details are provided on brightspace.carleton.ca

Online Resources:

All course papers and other resources will be available online via Brightspace:

<https://brightspace.carleton.ca>

The Brightspace course site also includes a forum for announcements and for discussion.

Overall Course Objective:

Students completing this course should have a deep understanding of major UI interaction frameworks, their rationale, and their use. Main topics will include major areas such as: UI Styles; Xerox Star legacy; Hypertext, World Wide Web; Mobile and Immersive UI Design; Post-GUI Interaction (e.g. multi-touch or sensor-based); Software System Architecture; Software Development Processes.

Instructor's Statement:

This course is intended both as a review and an introduction to the essentials of user interaction technology and development, and a advanced consideration of future directions. The major styles will be examined and discussed, and exercises will be provided involving creation of sample software using open-source cross-platform tools. The practical context of UI development will also be examined, including software architecture and software development process, especially Agile development.

Learning Outcomes:

1. Understand, compare, and apply the major computer interface style frameworks, their rationale, advantages and disadvantages.
2. Understand, compare, and apply the programming implementation paradigms for the major computer interface styles.
3. Understand software development process and architecture, and its implications for user interaction design and development
4. Understand, present and discuss papers on novel interaction from the HCI literature, identifying the key ideas, their justification and implications.

Assessment:

Project 1: UI design exploration project: 35% (Due Oct 27th)

Project 2: Literature analysis project: 35% (Due Dec 15th)

Paper presentation (15%), discussion (10%), and workshop participation (5%): =30%

Assessment of Outcome #1 will be based on Project 1, requiring students to design several interfaces using different styles for the same domain functionality, discuss the impact of the styles, compare the implications of the styles on likely user interaction, and suggest deeper issues involved.

Assessment of Outcome #2 will be based on participation in Workshops to apply programming and web development frameworks to implement sample software applications.

Assessment of Outcome #3 will be based on Project 2 requiring students to analyse and compare aspects of interaction design and implementation topics from the papers discussed in class.

Assessment of Outcome #4 will be based on students presenting papers from the assigned readings from the literature, and contributions to discussion. Students are expected to read all papers, and to volunteer taking turns to present papers and lead discussions.

There will be no formal examination for this course.

Textbooks:

There will be no set textbook. Instead, papers from the literature and online resources will be made available as appropriate.

Graduate Academic Advisors:

The Graduate Advisors for the HCI programme are in the School of Computer Science, and are available in Room 5302 HP; or by email at grad.scs@carleton.ca. The graduate advisors can assist with understanding your academic audit and the remaining courses required to meet graduation requirements.

Automated Assistance and Academic Integrity

Unless it is explicitly stated otherwise, the submission of work for assessment generated by any AI system will be considered academic misconduct. This includes, but is not limited to, chatbots or code generators (e.g., ChatGPT, Google Gemini, Microsoft Copilot), research assistants (e.g., Elicit), and image generators (e.g., Stable Diffusion, Dall-E), etc. An exception to the above rule is made for automated grammar and punctuation checking tools (such as Grammarly or LangTool).

University Policies:

Academic Accommodations: Carleton is committed to providing academic accessibility for all individuals. Please review the academic accommodation available to students here: <https://students.carleton.ca/course-outline/>

Academic Integrity: Student Academic Integrity Policy. Every student should be familiar with the Carleton University Student Academic Integrity policy. A student found in violation of academic integrity standards may be sanctioned with penalties which range from a reprimand to receiving a grade of F in the course, or even being suspended or expelled from the University. Examples of punishable offences include plagiarism and unauthorized collaboration. Any such reported offences will be reviewed by the office of the Dean of Science. More information on this policy may be found on the ODS Academic Integrity page: <https://carleton.ca/registrar/academic-integrity/>

Plagiarism: As defined by Senate, “plagiarism is presenting, whether intentional or not, the ideas, expression of ideas or work of others as one’s own”. Such reported offences will be reviewed by the office of the Dean of Science. More information and standard sanction guidelines can be found here: <https://science.carleton.ca/students/academic-integrity/>

Unauthorized Collaboration: Senate policy states that “to ensure fairness and equity in assessment of term work, students shall not co-operate or collaborate in the completion of an academic assignment, in whole or in part, when the instructor has indicated that the assignment is to be completed on an individual basis”.