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MEMORANDUM

ATTENTION:	Senate
FROM:	Elizabeth Elle, Vice-Chair, Senate Committee on Undergraduate Studies
RE:	New Course Proposals
DATE:	April 7, 2023

For information:

Acting under delegated authority at its meeting of April 6, 2023 SCUS approved the following curriculum revisions effective Fall 2023.

a. Faculty of Applied Sciences *(SCUS 23-47)*

1. School of Computing Science

(i) New Course Proposal: CMPT 263-3, Introduction to Human-Centered Computing

Senators wishing to consult a more detailed report of curriculum revisions may do so on the Senate Docushare repository at https://docushare.sfu.ca/dsweb/View/Collection-12682.

SFU SENATE COMMITTEE ON UNDERGRADUATE STUDIES

NEW COURSE PROPOSAL

COURSE SUBJECT CMPT **NUMBER** 263

COURSE TITLE LONG — for Calendar/schedule, no more than 100 characters including spaces and punctuation

Introduction to Human-Centered Computing

COURSE TITLE SHORT — for enrollment/transcript, no more than 30 characters including spaces and punctuation

Intro. to Human-Centered Comp.

CAMPUS where course will be normally taught: ☑ Burnaby ☑ Surrey ☐ Vancouver ☐ Great Northern Way ☐ Off campus

COURSE DESCRIPTION — 50 words max. Attach a course outline. Don't include WQB or prerequisites info in this description box.

Surveys contemporary Human-Computer Interaction (HCI) topics on designing, implementing, and evaluating interactive computer systems from a human-centered perspective. Students will learn important concepts including understanding users, incorporating accountability and responsibility in design, creating accessible and inclusive systems, and evaluating system interfaces with well-established methodologies.

REPEAT FOR CREDIT ☐ YES ☑ NO Total completions allowed ☐ Within a term? ☐ YES ☐ NO

LIBRARY RESOURCES

NOTE: Senate has approved (S.93-11) that no new course should be approved by Senate until funding has been committed for necessary library materials. Each new course proposal must be accompanied by the email that serves as proof of assessment. For more information, please visit www.lib.sfu.ca/about/overview/collections/course-assessments.

RATIONALE FOR INTRODUCTION OF THIS COURSE

Currently there is only one undergraduate course in CS (CMPT 363) directly related to HCI even though other CS departments across Canada and the US are now offering streams of HCI courses and concentrations. Carnegie Mellon University recently started a BSc in HCI within in the School of Computer Science to keep up with the growing demand for HCI grads in industry. At SFU CS, CMPT 363 is one of the most in-demand courses in CS, with over 500 enrolled students per year. However, since CMPT 363 is a hands-on team-based and project-based course, it is difficult to scale. Moreover, HCI is an extensive subject which will be better taught in multiple courses of increasing levels of specialization (from general to system-specific).

Inspired by other offerings in N. America, CMPT 263 is designed as a survey course to meet this growing demand while opening up to a broader audience. In the short-term CMPT 263 will become the course where interested students are introduced to the fundamental concepts of HCI and prepared for the more advanced and specialized topics in CMPT 363 and beyond. In contrast to other design courses offered at SFU, such as SIAT's IAT 201, CMPT 263 will provide content in a more technical aspect tailored to the needs of computer scientists. In the long-term it will become the starting point of a series of HCI courses, thus reflecting the increasing presence of the HCI faculty members of the School, and prepare our students to have a more user-centered and ethical perspective in computing science which many positions in industry are now requiring.

Within the introduction of CMPT 263, some technical content from CMPT 363 (e.g., user identification, evaluation techniques, sketching/prototyping) will be introduced in CMPT 263 (revisited and reinforced in 363 through projects), leaving more room for CMPT 363 students to explore project ideas and form their own project topics within the context of HCI. This change will make CMPT 363 more similar to the advanced HCI courses offered in other universities such as University of Toronto (CSC 428), University of Waterloo (CS 449), and Stanford University (CS 247).

Offering this course as a lower-division course (2xx series) will both make it accessible to more students and prepare them early for the more advanced HCI courses, as well as other CS-related courses that require designing and creating any form of computing systems for human users. This approach aligns with other pre-requisite courses like CMPT 225 and 272, and also on par with other N. American universities where intro. to HCI is offered as lower-division courses (e.g., CS 147 in Stanford U and CS 160 in UC Berkeley).

SCHEDULING AND ENROLLMENT INFORMATION

Effective term and year (e.g. FALL 2016) FALL 2023

Term in which course will typically be offered ☑ Spring ☑ Summer ☑ Fall

Other *(describe)*

Will this be a required or elective course in the curriculum? ☐ Required ☑ Elective

What is the probable enrollment when offered? Estimate: 200

UNITS

Indicate number of units: 3

Indicate no. of contact hours: 26 Lecture Seminar 13 Tutorial Lab Other; explain below

OTHER

FACULTY

Which of your present CFL faculty have the expertise to offer this course?

Parmit Chilana, Lawrence Kim, Xingdong Yang (CFL faculty)
Victor Cheung (Limit-Term Lecturer, has expertise in HCI, regularly teaches CMPT 363)

WQB DESIGNATION

(attach approval from Curriculum Office)

PREREQUISITE AND / OR COREQUISITE

Pre-requisite: CMPT 125 or CMPT 135

EQUIVALENT COURSES [For more information on equivalency, see Equivalency Statements under Information about Specific Course components.]

1. SEQUENTIAL COURSE [is not hard coded in the student information management system (SIMS).]

Students who have taken (*place relevant course(s) in the blank below (ex: STAT 100)*) **first** may not then take this course for further credit.

2. ONE-WAY EQUIVALENCY [is not hard coded in SIMS.]

(*Place relevant course(s) in the blank below (ex: STAT 100)*) will be accepted in lieu of this course.

3. TWO-WAY EQUIVALENCY [is hard coded and enforced by SIMS.]

Students with credit for (*place relevant course(s) in the blank below (ex: STAT 100)*) may not take this course for further credit.

IAT 201 (TBC)

Does the partner academic unit agree that this is a two-way equivalency? ☐ YES ☐ NO

Please also have the partner academic unit submit a course change form to update the course equivalency for their course(s).

4. SPECIAL TOPICS PRECLUSION STATEMENT [is not hard coded in SIMS.]

FEES

Are there any proposed student fees associated with this course other than tuition fees? ☐ YES ☐ NO

COURSE – LEVEL EDUCATIONAL GOALS (OPTIONAL)

The main objective of this course is to provide students with general knowledge about HCI and practical application of its concepts in creating interactive computer systems. Its content forms the foundation for students to continue in CMPT 363, which in contrast, focuses on designing user interfaces and tackling design challenges through hands-on/project-oriented assignments.

By the end of this course students should be able to:
-identify and describe representative users of any given interactive computer system
-understand the physical and cognitive characteristics of human users and how these inform design
-engage in intelligent discussion on impacts and ethical concerns of design
-consider factors beyond system functionalities that impact design decisions (e.g., compliance, standards)
-recognize diversity of users and best practices in design for accessibility and inclusivity
-design and evaluate interactive computer systems using different techniques (e.g., prototyping, studies)
-articulate and perform all steps in the interaction design process (i.e., discover user needs, design solutions, create and evaluate prototypes)

RESOURCES

List any outstanding resource issues to be addressed prior to implementation: space, laboratory equipment, etc:

Lab space is required for tutorial/workshops to provide technical training in designing interactions as well as interactions with computer systems. Class size is expected to be up to 200 so multiple sessions would be required.

OTHER IMPLICATIONS

Final exam required ☑ YES ☐ NO

Criminal Record Check required ☐ YES ☑ NO

OVERLAP CHECK

Checking for overlap is the responsiblity of the Associate Dean.

Each new course proposal must have confirmation of an overlap check completed prior to submission to the Faculty Curriculum Committee.

Name of Originator

Victor Cheung