FOR APPROVAL **PUBLIC** **OPEN SESSION**

TO: UTSC Academic Affairs Committee

SPONSOR: Prof. William Gough, Vice-Principal Academic and Dean
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DATE: Wednesday, June 14, 2017

AGENDA ITEM: 2

ITEM IDENTIFICATION:

Minor Undergraduate Curricular Modifications (for approval)

JURISDICTIONAL INFORMATION:

University of Toronto Scarborough Academic Affairs Committee (AAC) "is concerned with matters affecting the teaching, learning and research functions of the Campus" (*AAC Terms of Reference, Section 4*). Under section 5.6 of its terms of reference, the Committee is responsible for approval of "Major and minor modifications to existing degree programs." The AAC has responsibility for the approval of Major and Minor modifications to existing programs as defined by the University of Toronto Quality Assurance Process (*UTQAP, Section 3.1*).

GOVERNANCE PATH:

1. **UTSC Academic Affairs Committee [For Approval] (June 14, 2017)**

PREVIOUS ACTION TAKEN:

No previous action in governance has been taken on this item.

HIGHLIGHTS:

This package includes new courses being proposed out-of-cycle, by the academic units identified below, so that they can be offered in the 2017-18 academic year:

- The Department of Computer and Mathematical Sciences
  - 1 new course
- The Department of Historical and Cultural Studies
  - 3 new courses
- The Department of Human Geography
  - 1 new course
- The Department of Psychology
  - 4 new courses
- The Centre for Teaching and Learning
  - 1 new course

FINANCIAL IMPLICATIONS:

There are no net financial implications to the campus's operating budget.

RECOMMENDATION:

Be It Resolved,

THAT the minor modifications to undergraduate programs, submitted by UTSC undergraduate academic units, as described in Undergraduate Minor Curriculum Modifications for Approval, Report 5, dated May 19, 2017, and recommended by the Vice-Principal Academic and Dean, Professor William Gough, be approved effective June 14, 2017 for the academic year 2017-18.

DOCUMENTATION PROVIDED:

1. 2017-18 Curriculum Cycle: Undergraduate Minor Curriculum Modifications for Approval Report 5, dated May 19, 2017.

2017-18 Curriculum Cycle
Undergraduate Minor Curriculum Modifications for Approval
Report 5
May 19, 2017

Department of Computer and Mathematical Sciences

New Courses

CSCD70H3 Compiler Optimization
The goal of this course is to examine the design and implementation of a compiler optimized for modern parallel architectures. Students will learn about common optimizations, intermediate representations (IRs), control-flow and dataflow analysis, dependence graphs, instruction scheduling, and register allocation. Advanced topics include static single assignment, memory hierarchy optimizations and parallelization, compiling for multicore machines, memory dependence analysis, automatic vectorization/thread extraction, and predicated/speculative execution.
Prerequisite: CSCB63H3 and CSCC69H3 and [CGPA 3.0 or enrolment in a CSC Subject POSt]
Exclusion: ECE540
Breadth Requirement: Quantitative Reasoning

Rationale:
This course will fill a significant gap in the spectrum of courses currently offered by CMS. It introduces students to a classical area of compiler optimization, but in the emerging area of modern parallel architectures (e.g., modern multi-core CPUs, SIMDs, GPUs, etc.). This area and the skills acquired in this course are in high demand in the job market, as the amount and complexity of existing hardware keeps increasing. Also, there is a resurgence of this area of research with the emergence of different architectures in modern computer systems.

This course does not overlap with any other courses offered by CMS, or at UTSC. There is sufficient overlap with ECE540, which is offered by FAS, to warrant it being identified as an exclusion. CSC488 and ECE489, also offered by FAS, are courses related to compilers, and are complimentary to CSCD70H3:
- CSC488 focuses on the frontend part of the compiler: context-free grammars, parsing, type and usage checking, while CSCD70H3 focuses on the optimization part and the backend. In CSC488, the goal is to build a very simple compiler from scratch, while in CSCD70H3 the focus is on using existing mature compiler (LLVM) that already has a proper frontend and use this compiler to perform different optimizations and analysis on the intermediate representation.
- The key difference between CSCD70H3 and ECE489 is that CSCD70 has (i) a strong focus on practical applicability of the material using a modern compiler, LLVM, and (ii) a strong focus on important optimizations for modern applications: parallelization, vectorization, and hardware acceleration. The major intersection between the classes are the topics related to key basic compiler data structures: control flow, data flow, and some common optimizations: loop and memory optimizations.

The course is being proposed out of cycle so that it can be offered in the Winter 2018 term.

Resources:
The course will be taught by a new faculty hire. It requires 65 hours of TA support; this will be covered by the unit's existing TA budget.

Consultation:
Within the academic unit. Approved by the Departmental Curriculum Committee. Reviewed by the Dean's Office.

Department of Historical and Cultural Studies

GASD30H3   Asians and Aliens: Techno-Orientalism and Global Asian Futurity
This course examines how popular culture projects its fantasies and fears about the future onto Asia through sexualized and racialized technology. Through the lens of techno-Orientalism this course explores questions of colonialism, imperialism and globalization in relation to cyborgs, digital industry, high-tech labor, and internet/media economics. Topics include the hyper-sexuality of Asian women, racialized and sexualized trauma and disability. This course requires student engagement and participation. Students are required to watch films in class and creative assignments such as filmmaking and digital projects are encouraged.
Same as WSTD30H3
Prerequisite: 1.0 credit at the B-level and 1.0 credit at the C-level in WST courses, or other Humanities and Social Sciences courses
Exclusion: WSTD30H3
Enrolment Limits: 15
Breadth Requirement: History, Philosophy & Cultural Studies
Note: Priority will be given to students enrolled in the Major and Minor programs Women's and Gender Studies, and the Specialist/Major and Minor programs in Global Asia Studies. Additional students will be admitted as space permits.

Rationale:
This course is designed to support the Women's and Gender Studies and Global Asia Studies programs. It provides students innovative perspectives and methods to examine power and domination in forms of technology advancement. It deepens student's understanding of Asia and its changing role in global economic and geopolitical landscape. It provides students critical tools to analyze popular cultural production and allows them to remake culture in order to disrupt cultural norms.

This course builds on courses in both WST and GAS programs, such as GASB05, GASC41H3, GASC20 as well as newly proposed course WSTC25H3, but will provide a new perspective to approach global inequality, racism, sexism, heteronormativity and capitalism through the lens of technology. It also provides students opportunities to learn hands-on skills to create their own digital projects and to empower themselves and the larger communities they are located in.

The proposed course will not make any existing courses redundant.

The course is being proposed out of cycle so that it can be offered in Winter 2018.

Resources:
The course will be taught by a new faculty hire. It will not require TA support.

Consultation:
Within the academic unit. Approved by the Departmental Curriculum Committee. Reviewed by the Dean's Office.

WSTC25H3   Sex, Power, and the Globalized World
This course examines how sexuality and gender are shaped and redefined by cultural, economic, and political globalization. We will examine concepts of identity, sexual practices and queerness, as well as sexuality/gender inequality in relation to formulations of the local-global, nations, the transnational, family, homeland, diaspora, community, borders, margins, and urban-rural.
Prerequisite: 1.0 credit at the A-level and 1.0 credit at the B-level in WST courses, or other Humanities and Social Sciences courses
Breadth Requirement: History, Philosophy & Cultural Studies
Note: Priority will be given to students enrolled in the Major and Minor programs in Women's and Gender Studies. Additional students will be admitted as space permits.

Rationale:
The WST program has placed an emphasis on sexuality as a core new area and this course provides a unique lens to examine sexuality in the context of the transnational. It is a upper-level course that encourages students to apply feminist theories on sexuality to analyze power, privilege, oppression and inequality in globalized everyday life. It teaches students to critically examine sexual practices in the global context as well as power relations embedded in such practices. It is geared towards WST students, but as an interdisciplinary course, it also opens itself to students in other Humanities and Social Sciences programs.

Similar courses at UTSC: POLC94H3 Globalization, Gender and Development; WSTB10H3 Women, Power and Protest; GASC20H3 Gendering Global Asia; WSTC14H3 Women, Community and Policy Change; WSTC10H3 Women and Development. There is not sufficient overlap to warrant these courses being identified as exclusions.

Rather than merely studying various experiences of gender and sexuality in global cultures, this course guides students to critically reflect on how knowledge of sexuality and gender produced through globalization is mediated by geopolitical struggles and asymmetrical global power structures.

The proposed course does not make any existing courses redundant.

The course is proposed out-of-cycle so that it can be offered in Fall 2017.

Resources:
The course will be taught by a new faculty hire. The course will require TA support if enrolments exceeds 45 students; this will be covered by the unit's existing TA budget.

Consultation:
Within the academic unit. Approved by the Departmental Curriculum Committee. Reviewed by the Dean's Office.

WSTD30H3   Asians and Aliens: Techno-Orientalism and Global Asian Futurity
This course examines how popular culture projects its fantasies and fears about the future onto Asia through sexualized and racialized technology. Through the lens of techno-Orientalism this course explores questions of colonialism, imperialism and globalization in relation to cyborgs, digital industry, high-tech labor, and internet/media economics. Topics include the hyper-sexuality of Asian women, racialized and sexualized trauma and disability. This course requires student engagement and participation. Students are required to watch films in class and creative assignments such as filmmaking and digital projects are encouraged.
Same as GASD30H3
Prerequisite: 1.0 credit at the B-level and 1.0 credit at the C-level in WST courses, or other Humanities and Social Sciences courses
Exclusion: GASD30H3
Enrolment Limits: 15
Breadth Requirement: History, Philosophy & Cultural Studies
Note: Priority will be given to students enrolled in the Major and Minor programs Women's and Gender Studies, and the Specialist/Major and Minor programs in Global Asia Studies. Additional students will be admitted as space permits.

Rationale:
This course is designed to support the Women's and Gender Studies and Global Asia Studies programs. It provides students innovative perspectives and methods to examine power and domination in forms of technology advancement. It deepens student's understanding of Asia and its changing role in global economic and geopolitical landscape. It provides students critical tools to analyze popular cultural production and allows them to remake culture in order to disrupt cultural norms.

This course builds on courses in both WST and GAS programs, such as GASB05, GASC41H3, GASC20 as well as newly proposed course WSTC25H3, but will provide a new perspective to approach global inequality, racism, sexism, heteronormativity and capitalism through the lens of technology. It also provides students opportunities to learn hands-on skills to create their own digital projects and to empower themselves and the larger communities they are located in.

The proposed course will not make any existing courses redundant.

The course is being proposed out of cycle so that it can be offered in Winter 2018.

Resources:
The course will be taught by a new faculty hire. It will not require TA support.

Consultation:
Within the academic unit. Approved by the Departmental Curriculum Committee. Reviewed by the Dean's Office.

Department of Human Geography

GGRC28H3   Indigenous Environmental Knowledges
Examines Indigenous knowledge, world-views, theory, philosophies and values, and their relationship to environmental practice. Students will be introduced to Indigenous knowledge as it pertains to the environment through exposure to Indigenous scholarship and innovative governance practices.

Prerequisite: Any 8.0 credits
Recommended Preparation: GGRB13H3
Exclusion: ABS402H
Breadth Requirement: Social & Behavioural Sciences

Rationale:
There is currently no course on Indigenous Environmental Knowledges at UTSC. This course responds to the commitment of the University of Toronto to act on the recommendations of the Truth and Reconciliation Commission, specifically by including indigenous content in U of T curriculum.

This course will be an optional course for students registered in the Department's Specialist, Major and Minor programs in Human Geography. It is similar to ABS402H, taught at St. George. The proposed course does not make any existing courses redundant.

It is being proposed out-of-cycle so that it can be offered in the Winter 2018 session.

Resources:
The course will be taught on stipend; this will be covered by the unit's existing stipend budget. The course will require TA support if enrolments exceed 30 students; this will be covered by the unit's existing TA budget.

Consultation:
Within the academic unit. Approved by the Departmental Curriculum Committee. Reviewed by the Dean's Office.

Department of Psychology

NROC60H3   Cellular Neuroscience Laboratory
This course involves a theoretical and a hands-on cellular neuroscience laboratory component. Advanced systems, cellular and molecular neuroscience techniques will be covered within the context of understanding how the brain processes complex behaviour. Practical experience on brain slicing, immunohistochemistry and cell counting will feature in the completion of a lab project examining the cellular mechanisms underlying schizophrenia-like behavioural deficits. These experiments do not involve contact with animals.
Prerequisite: NROC36H3 or NROC61H3 or NROC69H3
Corequisite: PSYC08H3
Exclusion: PSY399H
Enrolment Limits: 20
Breadth requirement: Natural Sciences

Rationale:
NROC63H3 (Neuroscience Laboratory) and NROD63H3 (Advanced Neuroscience Laboratory), which support the Specialist/Specialist Co-op programs in Neuroscience, were conceived to offer unique, hands-on research experience in the fields of behavioural (C63) and cellular (D63) neuroscience, to students who will likely go on to post-graduate study in a neuroscience related field. In addition, NROD63 was designed to provide laboratory experience to students who did not wish to work with live animals. Falling enrolment numbers for D63 in recent years, coupled with feedback from students that the course is not explicitly recognized as a non-animal alternative laboratory course to C63, are the

primary impetuses behind a re-examination of the pedagogical purpose of D63 within the Neuroscience program.

A new hire (Dr Maithe Arruda-Carvalho) with research expertise in the area of molecular and cellular neuroscience, has brought forth the exciting possibility of replacing NROD63 with a more cutting edge research techniques course. NROC60H3 will fill this need. A task force was established to review and revamp the Neuroscience program, and a strategic decision was made to strengthen the relationship and synergy between NROC63 and the proposed course (NROC60) in two ways: first, the rapport between the courses will be made clear in the course descriptions. Second, the course instructors will design a novel, integrated research project to span both courses. With this integrated approach, a single research question will be examined at the behavioural (NROC63) and cellular (NROC60) levels, with students being able to choose in which part of the project they'd like to be involved. Students in NROC63 will examine the behavioural effects of a drug treatment relevant to mental health. Students in NROC60 will then use the brains of those same animals to investigate the cellular mechanisms responsible for the behavioural findings reported by C63 students. This continuity will grant students a deeper connection with the research, which will likely be reflected in increased motivation and overall understanding of research practices.

The course is being proposed out-of-cycle so that it can be offered in the Fall 2017 session.

Resources:
The course will be taught by a new faculty hire. The course will require 160 hours of TA support; this will come from the unit's existing TA budget.

Consultation:
Within the academic unit. Approved by the Departmental Curriculum Committee. Reviewed by the Dean's Office.

PSYB55H3   Introduction to Cognitive Neuroscience
The course explores how the brain gives rise to the mind. It examines the role of neuroimaging tools and brain-injured patients in helping to uncover cognitive networks. Select topics include attention, memory, language, motor control, decision-making, emotion, and executive functions.
Prerequisite: PSYA01H3 and PSYA02H3
Exclusion: PSYC55H3, PSY493H
Enrolment Limits: 300
Breadth requirement: Natural Sciences

Rationale:
PSYB55H3 is designed for students who are interested in understanding more about how we reduce the operations of the mind down to the functions of the brain. It will provide students with a working knowledge of cognitive neuroscience early in their program of study, thus better equipping them to engage in more specialized C-level courses in the field earlier than they are currently able to do (e.g., PSYC51, PSYC52, PSYC57, PSYC59). This is consistent with the long term goals of the Department to introduce an undergraduate stream that specializes in brain imaging and computation in psychology and neuroscience.

The course will also allow the Department to more closely coordinate the material covered in complementary introductory courses: PSYB51 (Introduction to Sensation and Perception) and PSYB57 (Introduction to Memory and Cognition). It will replace PSYB65 as preparation for neuroscience

students, and is meant to nicely complement the neuroanatomy content those students acquire in PSYB64. Students in PSYB55 will receive training to read primary research in cognitive neuroscience, offering an important transferable skill to students earlier than they might typically receive it.

Finally, PSYB55 will make PSYC55H3 redundant; PSYC55 will no longer be offered as of Fall 2017, and will be retired in the 2018-19 curriculum cycle.

The course is being proposed out-of-cycle so that it can be offered in the Fall 2017 session.

Resources:
The course will be taught by a new faculty hire. The course will require 100 hours of TA support; this will be covered by the unit's existing TA budget.

Consultation:
Within the academic unit. Approved by the Departmental Curriculum Committee. Reviewed by the Dean's Office.

PSYC10H3   Judgment and Decision Making
This course examines the psychology of judgment and decision making, incorporating perspectives from social psychology, cognitive psychology, and behavioral economics. Understanding these topics will allow students to identify errors and systematic biases in their own decisions, and improve their ability to predict and influence the behavior of others.
Prerequisite: [PSYB07H3 or STAB22H3 or STAB23H3] and [PSYB01H3 or PSYB04H3] and [PSYB10H3 or PSYB57H3 or PSYC57H3]
Enrolment Limits: 100
Breadth Requirement: Social & Behavioural Sciences
NOTE: Priority will be given to students in the Specialist/Specialist Co-op and Major programs in Psychology and Mental Health Studies. Students in the Minor in Psychology will be admitted if space permits.

Rationale:
PSYC10H3 will complement an existing course – PSYC57H3 Cognitive Neuroscience of Decision Making. PSYC57 focuses on neural and computational models of decision making, whereas PSYC10 will focus on behavioral models of decision making from decision analysis, psychology, and economics. This course will expose students to a number of classic and contemporary theories and empirical findings in the discipline of judgment and decision-making. The topics covered in this course represent a broad selection of major themes in the discipline and each topic will provide students with the opportunity to develop their understanding of judgment and decision-making as well as learn how psychologists and behavioral economists think about this topic. The profile of the course is similar to other C-level courses offered in social psychology. Like other C-level classes, this class will be lecture-based, but also include a writing element. Unlike other classes, however, this class will offer a deep-dive into the psychology of judgment and decision making, including perspectives from social and cognitive psychology, behavioral economics, decision analysis, and other fields. Students will gain an understanding of the classic theories and findings in the discipline and will learn to apply them to real-world decision problems.

The course is being proposed out-of-cycle so that it can be offered in the Fall 2017 session.

Resources:

The course will be taught by existing faculty. The course will require 150 hours of TA support. This support, which is additional to the unit's existing TA budget, has been approved by the VP Academic and Dean.

Consultation:
Within the academic unit. Approved by the Departmental Curriculum Committee. Reviewed by the Dean's Office.

PSYD13H3   The Psychology of Emotion Regulation
This seminar offers an in depth introduction to the recent scientific literature on how humans manage and control their emotions (emotion regulation). We will explore why, and how, people regulate emotions, how emotion regulation differs across individuals and cultures, and the influence that emotion regulation has upon mental, physical, and social well-being.
Prerequisite: PSYB10H3 and [PSYC13H3 or PSYC18H3 or PSYC19H3]
Exclusion: PSYD15H3 (if taken in Winter 2017)
Enrolment Limits: 24
Breadth Requirement: Social & Behavioural Sciences

Rationale:
PSYD13H3 is designed for students in the Specialist Co-op, Specialist or Major Programs in Psychology at UTSC. Students taking this course will have the requisite introduction to social psychology. The course will contribute to the Department's D-level course offerings and will fill a need for additional higher-level courses focusing on social psychology. The course is structured as a senior level seminar, leading to the enrolment limit of 24 students. Students are asked to read original empirical articles and engage in active class discussions to help foster critical analysis and engagement with the material. They also prepare and present oral presentations and write a research proposal. This course will not make any other course redundant.

The course is being proposed out-of-cycle so it can be offered in the Winter 2018 session.

Resources:
The course will be taught by a new faculty hire. It will not require TA support.

Consultation:
Within the academic unit. Approved by the Departmental Curriculum Committee. Reviewed by the Dean's Office.

Centre for Teaching and Learning

CTLA10H3 Personal Health and Optimal Learning
Students in this course develop foundational academic skills while critically exploring current research on cognitive, academic and mental health benefits of exercise and healthy nutrition. Lectures are complemented by activities at Toronto Pan Am Sports Centre to foster students' application of course materials to both their learning and their health.
Enrolment Limits: 50
Breadth Requirement: Social & Behavioural Sciences

Rationale:

This course fits the mission of the Centre for Teaching and Learning (CTL) to promote student learning. It has a combined focus on foundational academic skills (critical reading, research, quantitative reasoning and writing) and on experiential learning at the Toronto Pan Am Sports Centre (TPASC). Hence, it is an example of re-inventing an undergraduate foundational academic skills course to incorporate the actual physical bodies of students into the learning experience—in effect, to reimagine the relation between body and mind in an academic context.

The goal is to transform students' cognitive, affective and embodied understanding of the relationship between healthy living and optimal learning, so the students are able to leverage their full capacity. By the end of the course, students will have critically examined current research on both health and learning, ranging from generalist syntheses to empirical studies. They will have learned to find and evaluate scientific and social science articles from U of T databases. In addition, they will be able to make connections to campus resources that will support their learning, well being and resilience during their undergraduate studies at UTSC.

The need for a course linking personal health to optimal learning can be glimpsed through selected results from the 2016 NCHA (National College Health Assessment) survey:
- Over the past 7 days 70% of students are not doing any moderate-intensity or aerobic exercise for a least 30 minutes, at least 3 times a week
- 83% are not doing any strength training at least 3 times a week
- Less than 30% of students are having at least 3 servings of fruits and vegetables per day
- Less than 50% of students are getting enough sleep to feel rested
- 68% of students strongly agree/agree that they have easy access to places on campus where they can be physically active
- 66% of students would strongly agree/agree that regular physical activity helps them manage stress
- 65% felt overwhelmed by all they had to do within the last 30 days

Moreover, mental health and stress-related issues among undergraduates are a significant concern at UTSC, as tracked and reported by the Health and Wellness Centre. The role of physical activity, exercise and healthy eating in reducing stress is well established in research that would be included in this course.

The course addresses these combined physical and mental health concerns through its innovative linking of academic research on personal health with physical activity and wellness programming at UTSC. Resources include not only TPASC staff, facilities and programming, but also integrated support from CTL services: the Writing Centre, the English Language Development Centre, the Math and Statistics Learning Centre, and the CTL Librarian. Weekly 2-hour lectures will incorporate the best practices of student-engaged, active learning. In addition, weekly 1-hour practicals will enable students to apply, reflect on and synthesize academic material through experiential learning and instructional activities in the world-renowned Toronto Pan American Sport Centre, along with campus hiking trails and playing fields. The course will thus support a rich array of fitness activities, with emphasis on accessibility to all students. Students with physical disabilities and other limitations will be accommodated in the classroom and fitness centre. Accessibility to all students is fundamental to the mission of TPASC, as well as CTL.

No similar course currently exists at U of T. (A somewhat similar course, Healthy Active Living, was offered at St George in the Faculty of Arts & Science for over a decade, ending in 2009.)

There are no known redundancies with existing UTSC courses.

There is an enrolment limit of 50 students for two reasons: (1) this would be a suitable number of students for a mid-sized lecture with ample opportunities for group work and active learning activities in class, and (2) 50 students (divided into smaller groups) would be a feasible number that TPASC staff could support effectively during weekly practicals.

The course is being proposed out of cycle so that it can be offered in Fall 2017.

Resources:
The course will be taught by existing faculty on overload, or on stipend; this will be covered by the Principal's Office Healthy Campus Initiative. The course will require 140 hours of TA support; this will be covered by the Principal's Office Healthy Campus Initiative.

Consultation:
Within the academic unit. Approved by the Departmental Curriculum Committee. Reviewed by the Dean's Office.