S.19-126



Simon Fraser University Maggie Benston Centre 1100 8888 University Drive Burnaby, BC V5A 1S6 TEL 778.782.3042 FAX 778.782.3080 gradstudies@sfu.ca www.sfu.ca/grad

-

MEMORANDUM ·

ATTENTION	Senate	DATE	November 14, 2019	An
	Jeff Derksen, Chair of Senate Graduate Studies			400 2
RE:	Committee (SGSC) Program Changes			U

For information:

Acting under delegated authority at its meeting of November 5, 2019, SGSC approved the following program changes, effective **Summer 2020**:

Faculty of Arts and Social Sciences

School of Public Policy

1) Program change: Public Policy MPP

Faculty of Applied Sciences

School of Computing Science

2) Program change: Computer Science MSc

School of Engineering Science

3) Program change: Engineering Science MEng, MASc, and PhD

Faculty of Communications, Art and Technology

School of Interactive Arts and Technology

4) Program change: Accelerated Master's for Interactive Arts and Technology MA and MSc

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



FACULTY OF ARTS AND SOCIAL SCIENCES

Dear Jeff.

MEMO

Room 6164

V5A 186

Office of the Dean

STREET ADDRESS Academic Quadrangle

MAILING ADDRESS 8888 University Drive Burnaby BC Canada

ATTENTION:	Jeff Derksen, Dean Graduate & Postdoctoral Studies
FROM :	Sean Zwagerman, Chair Faculty of Arts and Social Sciences
RE:	Course changes
DATE:	November 13, 2019

778-782-4967 (Tel)

sean_zwagerman@sfu.ca www.sfu.ca/fass The Faculty of Arts and Social Sciences has approved the following course changes effective for Summer 2020. Please include these items on the agenda for the next SGSC meeting.

 Department of Economics a) Course changes: ECON 750, ECON 751, ECON 752.

2. <u>Department of Gerontelogy</u> a) Course changes: GERO 850

8. Department of Political Sciencea) Course changes: POL 829

4. School of Public Policy

a) Calendar revisions: Public Policy MPP

-b) Course changes: PLCY 850

5. <u>Department of Urban Studies</u> (a) Course changes: URB 701, URB 702

•Course changes: LDRL 750, LBRL 751, LBRL 752

Sincerely,

Sean Zwagerman Associate Dean, Faculty of Arts and Social Sciences



SIMON FRASER UNIVERSITY ENGADING THE WORLD

School of Public Policy 515 West Hastings Street Vancouver, British Columbia Canada V6B 5K3 Tel: (778) 782-5289 Fax: (778) 782-5288 E-mail: mpp@sfu.ca http://www.sfu.ca/mpp/

To: Associate Dean, Faculty of Arts and Social Sciences From: Nancy Olewiler, Program Director Re: Calendar revision and course change Date: November 6, 2019

The School of Public Policy is submitting the following calendar revision and course change for approval. These curriculum items should be effective for Summer 2020.

Calendar revision: School of Public Policy Course changes: PLCY 850

Sincerely,

Program Director

Calendar Entry Change for Master of Public Policy

Summary of change:

To reflect PLCY 850 course title change.

Rationale for change:

PLCY 850 course title change.

Effective term and year: Summer 2020

Will this change impact current students? If yes, what is the plan for current students? No

FROM	ТО
Program Requirements	Program Requirements
This program consists of course work, an internship, and a project for a minimum of 70 units. The research project is examined as a thesis and must be submitted to the library.	This program consists of course work, an internship, and a project for a minimum of 70 units. The research project is examined as a thesis and must be submitted to the library.
Students must complete all of	Students must complete all of
PLCY 800 - Introduction to Policy Issues and Analysis I (5) PLCY 801 - Economic Foundations of Policy Analysis I (5) PLCY 802 - Economic Foundations of Policy Analysis II (5) PLCY 803 - Political Foundations of Policy Analysis I (5) PLCY 804 - Political Foundations of Policy Analysis II (5) PLCY 805 - Research Techniques and Quantitative Methods I (5) PLCY 806 - Research Techniques and Quantitative Methods II (5) PLCY 807 - Introduction to Policy Analysis and Issues II (5)	PLCY 800 - Introduction to Policy Issues and Analysis I (5) PLCY 801 - Economic Foundations of Policy Analysis I (5) PLCY 802 - Economic Foundations of Policy Analysis II (5) PLCY 803 - Political Foundations of Policy Analysis I (5) PLCY 804 - Political Foundations of Policy Analysis II (5) PLCY 805 - Research Techniques and Quantitative Methods I (5) PLCY 806 - Research Techniques and Quantitative Methods II (5) PLCY 807 - Introduction to Policy Analysis and Issues II (5)
and an internship	and a Co-op
PLCY 850 – Internship (0)	РLСҮ 850 Со-ор (0)
[]	[]

OFFICE OF THE DEAN Faculty of Applied Sciences Simon Fraser University

MEMORANDUM

Attention	Dr. Jeff Derksen	
	Dean, Graduate Studies	

Date Oct 15, 2019

From Dr. Parvaneh Saeedi <u>psaeedi@sfu.ca</u> Faculty of Applied Science, Graduate Studies Committee

Re: FAS-CMPT and ENSC

Approved by the Faculty of Applied Sciences and sent to Senate Graduate Studies Committee for review and approval, effective Summer 2020:

School of Computing Science

1. Calendar change (Cybersecurity specialization): Computer Science, MSc -2. New course: CMPT 729

School of Engineering Science

1. Calendar Entry Change: Engineering Science MEng, MASc, and PhD

-2. Course changes: ENSC-701, ENSC 702, ENSC 703-

Regards, Parvaneh Saeedi



COMPUTING SCIENCE

MEMO

BURNABY 9971 Applied Sciences Building 8888 University Drive Burnaby BC V5A 1S6 Canada

SURREY 250-13450 102 Avenue Surrey, BC V3T 0A3 Canada

Tel: 778-782-4277 Fax: 778-782-3045 Web: www.cs.sfu.ca

ATTENTION	Parvaneh Saeedi, Associate Dean
FROM	Ghassan Hamarneh, Graduate Director
RE	Calendar changes and new course proposals, Professional Master of Science in Computer Science Program
DATE	September 17, 2019

Please find attached the calendar changes and new course proposals that have been approved by the School's Graduate Program Committee and presented for comment by all members of the School to be effective as of Summer 2020.

Summary and Rational for the new specialization:

The existing Master of Science in Computer Science Program currently offers two specializations: Big Data and Visual Computing. The scope of this program is expanded by adding Cybersecurity as a third specialization. In addition to two new lab courses for students in the cybersecurity specialization, Cybersecurity Lab 1 and Cybersecurity Lab 2, seven new courses focusing on core aspects of cybersecurity will be introduced. All of these seven courses are available to students regardless of their specialization; vice versa, students in the cybersecurity specialization can take any of the already existing courses as electives, except for the lab courses in Big Data and Visual Computing. Mandatory courses for the cybersecurity specialization are Machine Learning, Cybersecurity Lab 1 & 2 and Applied Cryptography. Certain courses are recommended for students in each specialization as a guideline.

Cybersecurity is an interdisciplinary field of study and research, partly building on classical information security, risk management, situation analysis, data analytics, cyber forensics and several other areas. While the broader scope is interdisciplinary, the core is fundamentally a computing-based discipline involving technology, people, information, and processes to enable assured operations in the context of adversaries. Responding to the dramatic shortage of cybersecurity professionals projected by the Information Security Branch -



COMPUTING SCIENCE

Government of BC, the Communications Security Establishment - Government of Canada, Deloitte, Gartner and other trusted sources, there is a strong motivation for the School of Computing Science to expand their existing Master of Science in Computer Science Program by offering a

specialization in cybersecurity. Expected enrollment numbers for the Cybersecurity specialization are comparable to what has been seen for Big Data.

Additional changes clarify the CGPA requirement to remain in the program and the co-op requirements and options.

NEW COURSE PROPOSALS - effective Summer 2020

CMPT 780 Computer Security and Ethics

-CMPT 782 - Cybersecurity Lab 1

-CMPT 783 - Cybersecurity Lab 2-

CMPT-784 Cyber Risk Assessment and Management

-CMPT 785 - Secure Software Design -

-CMPT 786 - Cloud and Network Security-

-CMPT 787 Ethical Hacking

-CMPT 788 - Information Privacy-

-CMPT 789 - Applied Cryptography.

If you have any questions or concerns, please let me know.

feed

Ghassan Hamarneh Graduate Chair, School of Computing Science



FACULTY OF ARTS AND SOCIAL SCIENCES SCHOOL OF CRIMINOLOGY

OFFICE OF THE DIRECTOR DR. BRYAN KINNEY <u>http://www.sfu.ca/criminology</u> TEL +1 778 782 4837 / bkinney@sfu.ca

ATTENTION Professor Uwe Glässer, Computing Science	TEL
FROM Bryan Kinney, Acting Director, School of Criminology	
RE Professional Master of Science in Computer Science program	m
L	1
DATE September16, 2019	

Dear Prof. Glässer UWE

This memo summarizes our discussions from our person meeting (Sept 5, 2019). At that time, we discussed the possibility of overlap with the School of Criminology re: Computing Science's proposed additions to an existing Professional Master of Science in Computer Science program, namely a specialisation in cyber security. Present at that meeting was Associate Professor Richard Frank, the School's primary connection between our schools, and our specialist in cyber and computer-related crime.

In short, we concluded that there was no overlap of services/content, etc. and further, the School of Criminology supports the addition of a Cyber Security specialisation housed in Computing Science. We also discussed the value added to each of our schools, and the potential for Criminology faculty to participate in this new specialisation.

We in Criminology see substantial opportunity for joint work, not only in the classroom, but for co-support in graduate theses supervision, 'internal' external examiners roles for faculty, and research partnerships for students in both programmes. There are, as you know, a range of excellent research collaboration opportunities that also fall from such a relationship, including an expansion of our already productive work in the Institute for Canadian Urban Research Studies (ICURS) where I serve as Director.

Please advise if there is anything I can add; I understand the tight timelines for materials submissions, etc. and remain available moving forward on this exciting opportunity.

Respectfully Yours,

Bryan Kinney

Master of Science in Computer Science

Summary of change: The existing Master of Science in Professional Computer Science program currently offers two specializations: Big Data and Visual Computing. The scope of this program is expanded by adding Cybersecurity as a third specialization. In addition to two new lab courses for students in the cybersecurity specialization, Cybersecurity Lab 1 and Cybersecurity Lab 2, seven new courses focusing on core aspects of cybersecurity will be introduced. All of these seven courses are available to students regardless of their specialization; vice versa, students in the cybersecurity specialization can take any of the already existing courses as electives, except for the lab courses in Big Data and Visual Computing.

Summary of additional changes: (1) Reminder that a 3.0 CGPA is required in order to remain in the program. (2) Remove CMPT 894 from the allowed curriculum. (3) Add the information that co-op is competitive and a student may not be able to secure a co-op. (4) Students, who do not secure a co-op after their second attempt must complete additional course work and a graduate project.

Rationale for change: Cybersecurity is an interdisciplinary field of study and research, partly building on classical information security, risk management, situation analysis, data analytics, cyber forensics and several other areas. While the broader scope is interdisciplinary, the core is fundamentally a computing-based discipline involving technology, people, information, and processes to enable assured operations in the context of adversaries. Responding to the dramatic shortage of cybersecurity professionals projected by the Information Security Branch - Government of BC, the Communications Security Establishment - Government of Canada, Deloitte, Gartner and other trusted sources, there is a strong motivation for the School of Computing Science to expand their existing Professional Computer Science program by offering a specialization in cybersecurity. Expected enrollment numbers for the cybersecurity specialization are comparable to what has been seen for Big Data.

Rationale for additional changes: For our Fall 2018 intake of students, we had a number of students who did not secure a co-op. We are now formalizing this process so that there is clarity for students and administrators; as well, we are indicating that students will be given a second attempt at a co-op for their 2nd Fall semester before being required to complete a graduate project.

Effective term and year: Summer 2020

Will this change impact current students? If yes, what is the plan for current students? The additional changes will affect the Fall 2019 new students as students will be able to elect into the new requirements.

FROM MASTER OF SCIENCE

The Professional Master's program in Computer Science engages students in developing deep knowledge and practical skills in specialized areas of computer science. The program trains computational specialists who can construct models, develop algorithms, and write software using state-of-the-art graduate-level knowledge and techniques. Students take instructional and lab courses, in a cohort, and complete work placement through SFU's co-op program, allowing them to tackle real-world scientific, engineering, and social-economical problems and gain valuable project management experiences while expanding their network of industrial contacts. This full-time Master's program/specializations are suitable for students with a strong aptitude in computer science, or other quantitative fields, such as engineering and mathematics.

Admission Requirements

[...]

For further information on conditional or qualifying admission requirements, please contact <u>Visual Computing</u>

Specialization or Big Data Specialization.

Program Requirements

This program consists of core courses, coop, and a choice of specialization in big data or visual computing for minimum of 30 units.

TO MASTER OF SCIENCE

The Master of Science in Professional **Computer Science Program** engages students in developing deep knowledge and practical skills in specialized areas of computer science. The program trains computational specialists who can construct models, develop algorithms, and write software using state-of-the-art graduate-level knowledge and techniques. Students take instructional and lab courses, in a cohort, and complete a **co-op** through SFU's co-op program, allowing them to tackle real-world scientific, engineering, and socioeconomic problems and gain valuable project management experiences while expanding their network of industrial contacts. This full-time master's program/specializations are suitable for students with a strong aptitude **for** computer science, or other quantitative fields, such as engineering and mathematics.

Admission Requirements

[...]

For further information on conditional or qualifying admission requirements, please contact **the Program Coordinator**.

Program Requirements

This program consists of course **work**, coop, **or graduate project**, and a choice of specialization for **a** minimum of 30 units.

Students complete all of	The program requires students to maintain a minimum 3.0 CGPA
CMPT 726 - Machine Learning (3)	throughout their graduate career.
and one of	Students complete
CMPT 705 - Design and Analysis of Algorithms (3)	CMPT 726 - Machine Learning (3)
CMPT 706 - Design and Analysis of Algorithms for Big Data (3) *	and one of
CMPT 757 - Frontiers of Visual	CMPT 705 - Design and Analysis of
Computing (3) **	Algorithms (3)
CMPT 813 - Computational Geometry (3)	CMPT 706 - Design and Analysis of Algorithms for Big Data (3) *
and at least two of	CMPT 757 - Frontiers of Visual Computing (3) **
CMPT 741 - Data Mining (3) *	CMPT 813 - Computational Geometry (3)
CMPT 756 - Systems For Big Data (3) *	CMPT 780 - Computer Security and Ethics (3)
CMPT 764 - Geometric Modelling in	***
Computer Graphics (3) **	and at least two of
CMPT 767 - Visualization (3) CMPT 820 - Multimedia Systems (3)	and at least two of
CMPT 822 - Computational Vision (3) **	CMPT 741 - Data Mining (3) *
CMPT 825 - Natural Language	CMPT 756 - Systems For Big Data (3) *
Processing (3)	CMPT 764 - Geometric Modelling in
STAT 852 - Modern Methods in Applied Statistics (4)	Computer Graphics (3) ** CMPT 767 - Visualization (3)
IAT 814 - Visualization and Visual	CMPT 820 - Multimedia Systems (3)
Analytics (3)	CMPT 822 - Computational Vision (3) **
	CMPT 825 - Natural Language
and one of	Processing (3)
CMNS 815 - Social Construction of	STAT 852 - Modern Methods in Applied Statistics (4)
Communication Technologies (5)	IAT 814 - Visualization and Visual
CMPT 829 - Special Topics in	Analytics (3)
Bioinformatics (3)	CMPT 784 - Cyber Risk Assessment and
CMPT 886 - Special Topics in Operating	Management (3) ***
Systems (3) CMPT 889 - Special Topics in	CMPT 785 - Secure Software Design (3) *** CMPT 786 - Cloud and Network Security (3)
Interdisciplinary Computing (3)	***
CMPT 894 – Directed Reading (3)	CMPT 787 - Ethical Hacking (3) ***
CMPT 980 - Special Topics in Computing	CMPT 788 - Information Privacy (3) ***
Science (3)	CMPT 789 - Applied Cryptography (3) ***
CMPT 981 - Special Topics in Theoretical Computing Science (3)	
	and one of

CMPT 982 - Special Topics in Networks and	· · ·
Systems (3)	CMNS 815 - Social Construction of
CMPT 983 - Special Topics in Artificial	Communication Technologies (5)
Intelligence (3)	CMPT 829 - Special Topics in
CMPT 984 - Special Topics in Databases,	Bioinformatics (3)
Data Mining, Computational Biology (3)	CMPT 886 - Special Topics in Operating
CMPT 985 - Special Topics in Graphics, HCI,	Systems (3)
Visualization, Vision, Multimedia (3) **	CMPT 889 - Special Topics in
·	Interdisciplinary Computing (3)
and a minimum of one co-op term	CMPT 980 - Special Topics in Computing
	Science (3)
CMPT 626 - Graduate Co-op Practicum I (3)	CMPT 981 - Special Topics in Theoretical
	Computing Science (3)
BIG DATA SPECIALIZATION	CMPT 982 - Special Topics in Networks and
	Systems (3)
Students complete all of the above	CMPT 983 - Special Topics in Artificial
requirements and both of	Intelligence (3)
^	CMPT 984 - Special Topics in Databases,
CMPT 732 - Programming for Big Data	Data Mining, Computational Biology (3)
1 (6)	CMPT 985 - Special Topics in Graphics, HCI,
CMPT 733 - Programming for Big Data	Visualization, Vision, Multimedia (3) **
2 (6)	
	and a minimum of one co-op or graduate
	municat
or	project
or	
or VISUAL COMPUTING SPECIALIZATION	CMPT 626 - Graduate Co-op I (3)
VISUAL COMPUTING SPECIALIZATION Students complete all of the above	CMPT 626 - Graduate Co-op I (3)
VISUAL COMPUTING SPECIALIZATION	CMPT 626 - Graduate Co-op I (3)
VISUAL COMPUTING SPECIALIZATION Students complete all of the above	CMPT 626 - Graduate Co-op I (3)
VISUAL COMPUTING SPECIALIZATION Students complete all of the above	CMPT 626 - Graduate Co-op I (3) CMPT 629 - Graduate Project (3) BIG DATA SPECIALIZATION
VISUAL COMPUTING SPECIALIZATION Students complete all of the above requirements and both of CMPT ⁻ 742 - Practices in Visual Computing I (6)	CMPT 626 - Graduate Co-op I (3) CMPT 629 - Graduate Project (3) BIG DATA SPECIALIZATION Students complete all of the above
VISUAL COMPUTING SPECIALIZATION Students complete all of the above requirements and both of CMPT ⁷ 742 - Practices in Visual Computing	CMPT 626 - Graduate Co-op I (3) CMPT 629 - Graduate Project (3) BIG DATA SPECIALIZATION
VISUAL COMPUTING SPECIALIZATION Students complete all of the above requirements and both of CMPT ⁻ 742 - Practices in Visual Computing I (6)	CMPT 626 - Graduate Co-op I (3) CMPT 629 - Graduate Project (3) BIG DATA SPECIALIZATION Students complete all of the above requirements and both of
VISUAL COMPUTING SPECIALIZATION Students complete all of the above requirements and both of CMPT ⁷ 742 - Practices in Visual Computing I (6) CMPT 743 - Practices in Visual Computing II (6)	CMPT 626 - Graduate Co-op I (3) CMPT 629 - Graduate Project (3) BIG DATA SPECIALIZATION Students complete all of the above requirements and both of CMPT 732 - Programming for Big Data
VISUAL COMPUTING SPECIALIZATION Students complete all of the above requirements and both of CMPT ⁷ 742 - Practices in Visual Computing I (6) CMPT 743 - Practices in Visual Computing II (6) * Recommended for students in the Big	CMPT 626 - Graduate Co-op I (3) CMPT 629 - Graduate Project (3) BIG DATA SPECIALIZATION Students complete all of the above requirements and both of CMPT 732 - Programming for Big Data 1 (6)
VISUAL COMPUTING SPECIALIZATION Students complete all of the above requirements and both of CMPT ⁷ 742 - Practices in Visual Computing I (6) CMPT 743 - Practices in Visual Computing II (6)	CMPT 626 - Graduate Co-op I (3) CMPT 629 - Graduate Project (3) BIG DATA SPECIALIZATION Students complete all of the above requirements and both of CMPT 732 - Programming for Big Data 1 (6) CMPT 733 - Programming for Big Data
VISUAL COMPUTING SPECIALIZATION Students complete all of the above requirements and both of CMPT ⁷ 742 - Practices in Visual Computing I (6) CMPT 743 - Practices in Visual Computing II (6) * Recommended for students in the Big Data Specialization	CMPT 626 - Graduate Co-op I (3) CMPT 629 - Graduate Project (3) BIG DATA SPECIALIZATION Students complete all of the above requirements and both of CMPT 732 - Programming for Big Data 1 (6)
VISUAL COMPUTING SPECIALIZATION Students complete all of the above requirements and both of CMPT ⁷ 742 - Practices in Visual Computing I (6) CMPT 743 - Practices in Visual Computing II (6) * Recommended for students in the Big	CMPT 626 - Graduate Co-op I (3) CMPT 629 - Graduate Project (3) BIG DATA SPECIALIZATION Students complete all of the above requirements and both of CMPT 732 - Programming for Big Data 1 (6) CMPT 733 - Programming for Big Data
VISUAL COMPUTING SPECIALIZATION Students complete all of the above requirements and both of CMPT ⁷ 742 - Practices in Visual Computing I (6) CMPT 743 - Practices in Visual Computing II (6) * Recommended for students in the Big Data Specialization	CMPT 626 - Graduate Co-op I (3) CMPT 629 - Graduate Project (3) BIG DATA SPECIALIZATION Students complete all of the above requirements and both of CMPT 732 - Programming for Big Data 1 (6) CMPT 733 - Programming for Big Data
 VISUAL COMPUTING SPECIALIZATION Students complete all of the above requirements and both of CMPT'742 - Practices in Visual Computing I (6) CMPT 743 - Practices in Visual Computing II (6) * Recommended for students in the Big Data Specialization ** Recommended for students in the Visual 	CMPT 626 - Graduate Co-op I (3) CMPT 629 - Graduate Project (3) BIG DATA SPECIALIZATION Students complete all of the above requirements and both of CMPT 732 - Programming for Big Data 1 (6) CMPT 733 - Programming for Big Data 2 (6) or
 VISUAL COMPUTING SPECIALIZATION Students complete all of the above requirements and both of CMPT'742 - Practices in Visual Computing I (6) CMPT 743 - Practices in Visual Computing II (6) * Recommended for students in the Big Data Specialization ** Recommended for students in the Visual 	CMPT 626 - Graduate Co-op I (3) CMPT 629 - Graduate Project (3) BIG DATA SPECIALIZATION Students complete all of the above requirements and both of CMPT 732 - Programming for Big Data 1 (6) CMPT 733 - Programming for Big Data 2 (6)
 VISUAL COMPUTING SPECIALIZATION Students complete all of the above requirements and both of CMPT'742 - Practices in Visual Computing I (6) CMPT 743 - Practices in Visual Computing II (6) * Recommended for students in the Big Data Specialization ** Recommended for students in the Visual 	CMPT 626 - Graduate Co-op I (3) CMPT 629 - Graduate Project (3) BIG DATA SPECIALIZATION Students complete all of the above requirements and both of CMPT 732 - Programming for Big Data 1 (6) CMPT 733 - Programming for Big Data 2 (6) or VISUAL COMPUTING SPECIALIZATION
 VISUAL COMPUTING SPECIALIZATION Students complete all of the above requirements and both of CMPT'742 - Practices in Visual Computing I (6) CMPT 743 - Practices in Visual Computing II (6) * Recommended for students in the Big Data Specialization ** Recommended for students in the Visual 	CMPT 626 - Graduate Co-op I (3) CMPT 629 - Graduate Project (3) BIG DATA SPECIALIZATION Students complete all of the above requirements and both of CMPT 732 - Programming for Big Data 1 (6) CMPT 733 - Programming for Big Data 2 (6) or VISUAL COMPUTING SPECIALIZATION Students complete all of the above
 VISUAL COMPUTING SPECIALIZATION Students complete all of the above requirements and both of CMPT'742 - Practices in Visual Computing I (6) CMPT 743 - Practices in Visual Computing II (6) * Recommended for students in the Big Data Specialization ** Recommended for students in the Visual 	CMPT 626 - Graduate Co-op I (3) CMPT 629 - Graduate Project (3) BIG DATA SPECIALIZATION Students complete all of the above requirements and both of CMPT 732 - Programming for Big Data 1 (6) CMPT 733 - Programming for Big Data 2 (6) or VISUAL COMPUTING SPECIALIZATION

	CMPT 742 - Practices in Visual Computing I (6) CMPT 743 - Practices in Visual Computing II (6)
	or
	CYBERSECURITY SPECIALIZATION
	Students complete all of the above requirements and both of
	CMPT 782 – Cybersecurity Lab 1 (6) CMPT 783 – Cybersecurity Lab 2 (6)
о-ор	* Recommended for students in the Big Data Specialization
co-op internship is an integral part of this ogram . Students will register for one or o co-op terms. The latter option is in	** Recommended for students in the Visual Computing Specialization
ice to satisfy requests from our lustrial partners. Some industrial rtners prefer two co-op terms for better	***Recommended for students in the Cybersecurity Specialization
ntinuity since one term may not offer fficient time to carry out a large-scale	Со-ор
eject. With assistance from the co-op ordinator for this program, students will expected to find a suitable industry rtner for the co-op placement. The ident may instead choose to conduct search into big data at one of the various search labs in the School of Computing ience as a paid research assistant to tisfy their co-op requirement. In tenuating circumstances, a student may peal to the program director to take an extive course from the list of electives for is program instead of a co-op term.	All students are required to apply for a co- op. With assistance from the co-op coordinator for this program, students will be expected to find a suitable industry partner. Students may complete one or two terms of co-op. The latter option is in place to satisfy requests from our industrial partners for continuity and to carry out a large-scale project. Students are required to enroll in at least one of the program courses in the term following their co-op. A co-op is an integral part of this program, however, it is offered on a competitive basis.
lowing the co-op term(s).	In the event that a student is unable to secure a co-op during the summer term, they will be required to go on academic break since no courses will be offered. The

Аc pro ŧw pla ind pai coi suf pre coc be pai stu res res Sci sat ext ap ele thi

Stu on fol

	student will be able to apply for a co-op in the subsequent term or, if unsuccessful, will be required to undertake additional course work. In consultation with the program director, the student may complete a graduate project in their final term to fulfill program requirements.
--	--

.

.

.



SCHOOL OF ENGINEERING SCIENCE

School of Engineering Science Simon Fraser University

October 24, 2019

8888 University Drive Burnaby BC V5A 1S6 Canada Graduate and Postdoctoral Studies SFU

Re: Calendar Entry Changes For ENSC PhD and MASc Programs

Dear GPS,

Due to recent changes to our graduate co-op program and the relevant courses, we need to modify the calendar entry descriptions of our PhD and MASc programs to reflect the fact that the previous co-op courses ENSC-701, 702, and 703 are replaced by the new course ENSC-704 Industrial Internship.

Best regards,

Jie Liang Professor, PhD, Peng Graduate Program Chair School of Engineering Science, Simon Fraser University 8888 University Drive, Burnaby, BC, V5A 1S6, Canada Phone: 778-782-5484, Fax: 778-782-4951 Email: jiel@sfu.ca, URL: www.sfu.ca/~jiel

Calendar Entry Change for Master of Engineering

FROM	ТО
[]	[]
Program Requirements	Program Requirements
This program consists of required courses and elective courses for a minimum of 30 units.	This program consists of required courses and elective courses for a minimum of 30 units.
Students complete the following	Students complete the following
<u>ENSC 820 -</u> Engineering Management for Development Projects (3)	<u>ENSC 820 -</u> Engineering Management for Development Projects (3)
and 12 units of ENSC graduate courses (excluding ENSC 701, ENSC 702, ENSC 703 , ENSC 803, ENSC 820, ENSC 891, ENSC 892, ENSC 896, ENSC 897, ENSC	and 12 units of ENSC graduate courses (excluding ENSC 704 , ENSC 803, ENSC 820, ENSC 891, ENSC 892, ENSC 896, ENSC 897, ENSC 898, ENSC 899)
898, ENSC 899) and 15 units of additional graduate courses (any graduate courses from ENSC or up to 9 units from other departments in the Faculty of Applied Sciences or the Faculty of Science; <u>ENSC 703 cannot be</u> used towards this requirement).	and 15 units of additional graduate courses (any graduate courses from ENSC or up to 9 units from other departments in the Faculty of Applied Sciences or the Faculty of Science; ENSC 704 can be taken twice and counted towards this requirement). The following courses can be used towards
The following courses can be used towards the 15 units of graduate courses:	the 15 units of graduate courses:
<u>ENSC 701–</u> Graduate Co-op Practicum I (3) <u>ENSC 702–</u> Graduate Co-op Practicum II (3)	ENSC 704 - Industrial Internship (3) <u>ENSC 891 -</u> Directed Studies I (3) <u>ENSC 892 -</u> Directed Studies II (3) <u>ENSC 897 -</u> MEng Project (6)
<u>ENSC 891 -</u> Directed Studies I (3) <u>ENSC 892 -</u> Directed Studies II (3) <u>ENSC 897 -</u> MEng Project (6)	[]
[]	

[...]

Other Information

International Students

International MEng students with a study permit should register in at least two courses each term with a total of six or more units to maintain full-time status.

[...]

[...]

Other Information

International Students

International MEng students with a study permit should register in at least two courses each term with a total of six or more units to maintain full-time status.

Industrial Internship

The industrial internship is considered a course and will be charged at the per unit rate for the program. Approval of supervisor and a GPC representative is required prior to applying for, and accepting an internship.

[...]

Calendar Entry Change for [Engineering Science (Master of Applied Science)]

Summary of change: We must update the program description to substitute the co-op with the Industrial Internship.

Rationale for change: The calendar description must be updated so it would be in line with the exact program currently offered.

Effective term and year:

Summer 2020

Will this change impact current students? If yes, what is the plan for current students?

Yes. We have been communicating with the students to let them know about the changes.

FROM	ТО
[]	[]
Program Requirements	Program Requirements
This program consists of course work and a thesis for a minimum of 30 units. The courses will normally be selected in consultation with the senior supervisor. ENSC 820 may not be used towards the MASc course requirements. Additional courses may be required to correct deficiencies in the student's background. If the subject matter of a required course has been previously completed for credit, the course may not be completed again for credit.	This program consists of course work and a thesis for a minimum of 30 units. The courses will normally be selected in consultation with the senior supervisor. ENSC 820 may not be used towards the MASc course requirements. Additional courses may be required to correct deficiencies in the student's background. If the subject matter of a required course has been previously completed for credit, the course may not be completed again for credit.
Students must complete	Students must complete
a minimum of six units of ENSC graduate courses (excluding ENSC 701, ENSC 702, ENSC 703, ENSC 803, ENSC 820, ENSC 891, ENSC 892, ENSC 896, ENSC 897, ENSC 898, ENSC 899)	a minimum of six units of ENSC graduate courses (excluding ENSC 704 , ENSC 803, ENSC 820, ENSC 891, ENSC 892, ENSC 896, ENSC 897, ENSC 898, ENSC 899)

a minimum of six units of additional graduate courses (at most three units may be directed studies or graduate co-	a minimum of six units of additional graduate courses (at most three units may be directed studies or Industrial Internship)
op)	
	and a thesis
and a thesis	
	<u>ENSC 898 - MASc Thesis (18)</u>
<u>ENSC 898 - </u> MASc Thesis (18)	
<u></u>	NOTE: SFU students enrolled in the
NOTE: SFU students enrolled in the	Accelerated Master's program within School
	of Engineering Science, Faculty of Applied
Accelerated Master's program within	
School of Engineering Science, Faculty of	Science, may apply a maximum of 10
Applied Science, may apply a maximum	graduate course units, taken while
of 10 graduate course units, taken while	completing the bachelor's degree, towards
completing the bachelor's degree,	the upper division undergraduate electives
towards the upper division	of the bachelor's program and the
undergraduate electives of the bachelor's	requirements of the master's degree. For
	more information, please contact the
program and the requirements of the	
master's degree. For more information,	Engineering Science Graduate Program
please contact the Engineering Science	Committee Chair.
Graduate Program Committee Chair.	
	[]
[]	

.

. .

,

Calendar Entry Change for [Engineering Science /DOCTOR OF PHILOSOPHY]

Summary of change:

We must update the program description to substitute the co-op with the Industrial Internship.

Rationale for change: The calendar description must be updated so it would be in line with the exact program currently offered.

Effective term and year:

Summer 2020

Will this change impact current students? If yes, what is the plan for current students?

Yes. We have been communicating with the students to let them know about the changes.

FROM	ТО
[]	
[]	
Program Requirements	Program Requirements
This program consists of 18 units of course work, a qualifying examination, and a thesis. Additional courses may be required to correct deficiencies in the student's background. If the subject matter of a listed course has been previously completed with graduate credit, the course may not be completed again for credit.	This program consists of 18 units of course work, a qualifying examination, and a thesis. Additional courses may be required to correct deficiencies in the student's background. If the subject matter of a listed course has been previously completed with graduate credit, the course may not be completed again for credit.
Students must complete a minimum of 18 units of coursework beyond the MASc degree, including	Students must complete a minimum of 18 units of coursework beyond the MASc degree, including
six units of ENSC graduate courses (excluding ENSC 701, ENSC 702, ENSC 703, ENSC 803, ENSC 820, ENSC 891, ENSC 892, ENSC 896, ENSC 897, ENSC 898, ENSC 899)	six units of ENSC graduate courses (excluding ENSC 704 , ENSC 803, ENSC 820, ENSC 891, ENSC 892, ENSC 896, ENSC 897, ENSC 898, ENSC 899)
and 12 units of additional courses subject to the following rules	and 12 units of additional courses subject to the following rules

At most six of these units can be for a senior	At most six of these units can be for a
ENSC undergraduate courses not previously	senior ENSC undergraduate courses not
taken for credit	previously taken for credit
At most six units can be for directed studies	At most six units can be for directed
ENSC 701 - Graduate Co-op Practicum I (3)	studies
can be used towards the degree requirement,	ENSC 704 Industrial Internship (3) can
in which case at most three units of directed	be used towards the degree requirement,
studies can be taken	in which case at most three units of
ENSC 803 cannot be used towards the degree	directed studies can be taken
requirement	ENSC 803 cannot be used towards the
	degree requirement
and a qualifying exam	
	and a qualifying exam
and a thesis	
	and a thesis
<u>ENSC 899 -</u> PhD Thesis (6)	
[]	<u>ENSC 899 - PhD</u> Thesis (6)
	[]

.



FACULTY OF COMMUNICATION, ART AND TECHNOLOGY TEL +1 778 782 8790 FAX +1 778 782 8789 sfu.ca/fcat

Simon Fraser University TASC II Burnaby BC Canada V5A 186

MEMORANDUM

ATTENTION:	Chair – Senate Graduate Studies Committee	
FROM:	Philippe Pasquier, Chair Graduate Studies Committee Faculty of Communication, Art & Technology	
RE:	FCAT GSC Documents Ready for Consideration at S	
DATE:	September 19 th , 2019	

On September 19th, 2019, the Faculty of Communication, Art & Technology Graduate Studies Committee approved the following curricular revisions:

SCA:

-Graduate Course Change: CA 827 Course description and grading.

SIAT:

Proposal: Accelerated Master's program

Philippe Pasquier Associate Dean, Academic, Faculty of Communication, Art & Technology

cc: FCAT Dean's Office

Me/PP



FACULTY OF COMMUNICATION, ART AND TECHNOLOGY School of Interactive Arts and Technology

	13450 102 Avenue, Surrey BC	TEL 778.782.7499	siatgrad@sfu.ca
	Canada V3T 0A3	FAX 778.782.9422	www.sfu.ca/siat
MEMORAND ATTENTION FROM RE:	UM Stuart Poyntz, Bernhard Riekce, SIAT Graduate Program Chair SIAT Accelerated Masters Proposal	DATE June 20, 2019 PAGES 7	

The School of Interactive Arts and Technology has recently developed a plan for an accelerated Master's Program. This plan for an accelerated Master's program was passed by the School of Interactive Arts and Technology on June 18th, 2019.

Berhard Rinch

Bernhard Riecke Associate Professor and Graduate Chair, School of Interactive Arts and Technology, Simon Fraser University

Proposal for an Accelerated Master's Program

General admission requirements and guidelines for accelerated master's can be found here: https://www.sfu.ca/dean-gradstudies/future/academicprograms/AcceleratedMasters.html

1. Faculty/Department/School

School of Interactive Arts and Technology

2. Degree programs (undergraduate and graduate)

BA, BSC, BA Honours, BSc Honours BA/BSc Joint Major with Communication, BA/BSc Joint Major with Business MSc MA

3. Proposed date of implementation

Summer 2020

4. Rationale

SIAT wishes to better connect our undergraduate and graduate programs to further the integration of research into undergraduate degrees, and accelerate the rate at which SFU undergraduates can complete a Master's degree. This reflects student demands for additional education after an undergraduate degree in an accelerated time format.

5. Projected enrolment/Student Demand

Initially there will likely be a small number of students, e.g., 1-5. As information and knowledge about the program spreads, we expect between 5 and 10 students each year.

6. Advising structure for students

Students can gain advising support from FCAT's two undergraduate student advisors and one graduate student advisor.

 Capacity to provide financial and supervisory support to students, once their bachelor's degree is complete, based on the estimate number of students being concurrently admitted to an accelerated master's programs.

We anticipate that the number of students enrolled in the Accelerated Master's program will not increase beyond our normal number of graduate students admitted in a given year. Therefore, SIAT can support graduate students with existing financial and supervisory support structures. This typically includes ~\$5000-7000 per term from a combination of TAships, RAships, and fellowships.

Students eligible for funding and graduate scholarships or awards administered from SFU sources once

they complete their bachelor's degree.

8. Admission requirements in addition to the minimum SFU requirements

Students must have completed at least 24 credits of upper division IAT coursework (300-400 level).

9. Specific time-lines (e.g. when undergraduates may apply; when each of the milestones must be accomplished; expected completion)

Undergraduate students must apply before January 15 of the calendar year for admission into the Accelerated Master's program starting in September. E.g., Applicants for a September 2020 start must have submitted materials prior to January 15, 2020. Exceptions may be made to this deadline based on approval by the SIAT Graduate Admissions Committee.

Students enter the Master's program once they have completed their undergraduate degree.

Students are normally expected to complete a non-thesis master's degree within 12 months of completing the bachelor's degree, and a thesis master's degree within 18 months, although there may be exceptions.

10. Description of any proposed changes to existing programs (e.g. undergraduate courses that cannot be substituted by graduate courses; graduate courses that cannot be used towards the undergraduate program)

Students admitted into the Accelerated Master's program may take up to 9 units of graduate courses that may be counted towards both the Bachelor's degree and the Master's degree. Students must take at least two of the three required foundation courses for the IAT graduate program - IAT 803, 804, and 806 - as they offer an introduction to research within Interactive Arts and Technology.

Students are not allowed to take IAT 805 Research Colloquium as part of the Accelerated Master's program. Students may audit IAT 805 if they are interested.

Appendix A: Proposed Calendar Text

The following calendar text will be added at the end of the upper division program requirements for the undergraduate program, and after the program requirements for the graduate program.

Calendar Text:

SFU students enrolled in the Accelerated Master's degree program within the School of Interactive Arts and Technology may apply a maximum of 9 graduate course units, taken while completing the bachelor's degree, towards the upper division undergraduate electives of the bachelor's program and the requirements of the master's degree. At least 6 of the 9 graduate course units must come from IAT 803, 804, or 806. For more information go to:

https://www.sfu.ca/deangradstudies/future/academicprograms/AcceleratedMasters.html

Appendix B: Accelerated Master's programs at other institutions

Provide information on other concurrent degree programs within same academic area at other institutions.

1. University of Waterloo, David R. Cheriton School of Computer Science.

https://uwaterloo.ca/graduate-studies-academic-calendar/mathematics/david-r-cheriton-school-computer-science/accelerated-masters-program-computer-science

The program information below is valid for the spring 2019 term (May 1, 2019 - August 31, 2019).

The Graduate Studies Academic Calendar is updated 3 times per year, at the start of each academic term (January 1, May 1, September 1). Graduate Studies Academic Calendars from previous terms can be found in the <u>archives</u>.

The Accelerated Master's Program in Computer Science is intended to shorten the time required to obtain a Master's when compared to the usual route for graduate studies. The accelerated admission streamlines the process by allowing a student in a University of Waterloo Bachelor of Mathematics (BMath) program to complete two graduate courses during their 4A/4B terms that will count towards the Master of Mathematics (MMath) degree. This is particularly useful for those students who have taken extra courses during their first three years of study, either during their school or work terms.

There are two groups of BMath students that are targeted for accelerated admission - students who have extra room in their fourth year of study for graduate courses and students who already have a good idea of a research project for a master's degree. The first category includes students who have accumulated extra course credits during their program. The second category includes those students who have done some research already - either during their done work terms at a research and development lab or with Undergraduate Research Awards (URA) or other research involvement at universities.

Eligibility for this program requires an overall average of at least 80%.

Students are encouraged to apply for the accelerated Master's program during their 3B academic term. Applications will also be considered during the 3A term or, in exceptional circumstances, at the start of the 4A term. In addition to three letters of reference, the student will need to submit a plan of study to the School's Graduate Office that includes:

- a preferred supervisor
- the two graduate courses to be taken in 4A/4B
- an outline of proposed research topic

Students may choose to work at a Research and Development lab for one term after completing their 4B academic term. Such work should be related to the student's MMath research, even though they will not be registered as a student during this term.

Calendar Entry Change for SIAT MA Programs

FROM	то	
This program consists of courses, two terms of a research colloquium and a thesis. Students complete a minimum of 30 units, consisting of 15 units of course work, of which 12 must normally be SIAT graduate course units.	This program consists of courses, two terms of a research colloquium and a thesis. Students complete a minimum of 30 units, consisting of 15 units of course work, of which 12 must normally be SIAT graduate course units.	
Students must complete	Students must complete	
IAT 803 - Science, Technology & Culture (3) IAT 804 - Foundations of Research Design for Human-Centred Design of Interactive Technologies (3) IAT 806 - Interdisciplinary Design Approaches to Computing (3)	IAT 803 - Science, Technology & Culture (3) IAT 804 - Foundations of Research Design for Human- Centred Design of Interactive Technologies (3) IAT 806 - Interdisciplinary Design Approaches to Computing (3)	
	and six graduate units from SIAT graduate courses*	
and six graduate units from SIAT graduate courses*	and two academic terms of research colloquium	
and two academic terms of research colloquium	IAT 805 - Research Colloquium (0)	
IAT 805 - Research Colloquium (0)	and a thesis	
and a thesis	IAT 897 - MA Thesis (15) * Subject to supervisory committee approval and graduate program committee approval, students may	
IAT 897 - MA Thesis (15)	fulfill this requirement through other appropriate graduate courses at Simon Fraser University or	
* Subject to supervisory committee approval and graduate program committee approval, students may fulfill this requirement through	elsewhere (the latter subject to Simon Fraser Univers rules on external courses). Only one directed reading can be counted towards the program requirements.	
other appropriate graduate courses at Simon Fraser University or elsewhere (the latter subject to Simon Fraser University rules on external courses). Only one directed reading can be counted towards the program requirements.	NOTE: SFU students enrolled in the Accelerated Master's degree program within the School of Interactive Arts and Technology may apply a maximu of 9 graduate course units, taken while completing t bachelor's degree, towards the upper division undergraduate electives of the bachelor's program a the requirements of the master's degree. At least 6 of the 9 graduate course units must come from IAT 803 804, or 806. For more information go to: https://www.sfu.ca/deangradstudies/future/academ ograms/AcceleratedMasters.html	

.

Calendar Entry Change for SIAT MSc Programs

Calendar Entry Change for SIAT MSc Programs	ТО
FROM	то
This program consists of courses, two terms of a research colloquium and a thesis. Students complete a minimum of 30 units, consisting of 15 units of course work, of which 12 must normally be SIAT graduate course units.	This program consists of courses, two terms of a research colloquium and a thesis. Students complete a minimum of 30 units, consisting of 15 units of course work, of which 12 must normally be SIAT graduate course units.
Students must complete	Students must complete
IAT 803 - Science, Technology & Culture (3) IAT 804 - Foundations of Research Design for Human-Centred Design of Interactive Technologies (3) IAT 806 - Interdisciplinary Design Approaches to Computing (3)	IAT 803 - Science, Technology & Culture (3) IAT 804 - Foundations of Research Design for Human- Centred Design of Interactive Technologies (3) IAT 806 - Interdisciplinary Design Approaches to Computing (3)
	and six graduate units from SIAT graduate courses*
and six graduate units from SIAT graduate courses*	and two academic terms of research colloquium
and two academic terms of research colloquium	IAT 805 - Research Colloquium (0)
	and a thesis
IAT 805 - Research Colloquium (0)	
and a thesis	IAT 898 - MSc Thesis (15) * Subject to supervisory committee approval and graduate program committee approval, students may
IAT 898 - MSc Thesis (15)	fulfill this requirement through other appropriate graduate courses at Simon Fraser University or
* Subject to supervisory committee approval	elsewhere (the latter subject to Simon Fraser University
and graduate program committee approval,	rules on external courses). Only one directed reading
students may fulfill this requirement through	can be counted towards the program requirements.
other appropriate graduate courses at Simon	
Fraser University or elsewhere (the latter	NOTE: SFU students enrolled in the Accelerated
subject to Simon Fraser University rules on	Master's degree program within the School of Interactive Arts and Technology may apply a maximum
external courses). Only one directed reading can be counted towards the program	of 9 graduate course units, taken while completing the
requirements.	bachelor's degree, towards the upper division
	undergraduate electives of the bachelor's program and
	the requirements of the master's degree. At least 6 of
	the 9 graduate course units must come from IAT 803,
	804, or 806. For more information go to: https://www.sfu.ca/deangradstudies/future/academicpr
	ograms/AcceleratedMasters.html