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MEMORANDUM

ATTENTION Senate
FROM Wade Parkhouse, Chair of Senate
Graduate Studies Committee (SGSC)
RE: Faculty of Applied Sciences

DATE October 6, 2015
No. GS2015.34, GS2015.35

For information:

Acting under delegated authority at its meeting of October 5, 2015, SGSC approved the following program changes effective **Summer 2016**:

School of Computing Science

Program change: Master of Science in Big Data

School of Engineering Science

Program change: Master of Engineering

MEMORANDUM

Attention Dr. Wade Parkhouse Date September 18, 2015
 Dean, Graduate Studies

From Dr. Mirza Faisal Beg mfbeg@sfu.ca 
 Faculty of Applied Science, Graduate Studies Committee

Re: 1) CMPT Calendar Entry Change for Professional Master of Science in Big Data
 2) ENSC Calendar Entry Change for the M.Eng. Program

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The faculty of Applied Sciences Graduate Studies Committee has unanimously approved by electronic vote the two calendar entries:

- 1) The School of Computing Science wants to offer students enrolled in the Professional Master of Science Big Data Program the option of accepting either a 4 or 8 month Co-op placement, and,
- 2) The School of Engineering Science wants to increase flexibility of their M.Eng. program by expanding the list of elective courses and the number of credit units that may be taken through elective courses and simplifying the description of the program by clarifying that the M.Eng. project is an elective course.

Calendar entry change documents for the above two items are attached with this memo. Would you please place these two items on the agenda for the next SGSC meeting?

Cc: Dr. Greg Mori, Director, School of Computing Science
 Dr. Kamal Gupta, Director, School of Engineering Science
 Dr. Farid Golnaraghi, Director, School of Mechatronic Systems Engineering

CMPT Calendar Entry Change for Professional Master of Science in Big Data

Summary of change:

The School wants to offer students enrolled in the Professional Master of Science Big Data Program the option of accepting either a 4 or 8 month Co-op placement.

Rationale for change:

During the process of placing our first cohort of students we received requests asking that they be given the option to apply for and accept an 8 month co-op placement rather than only a 4 month placement. Upon investigation we found that there were far fewer employers willing to employ our students for only 4 months and after consultation with SFU/FAS Co-op it was confirmed that in fact 70-80% of employers require and prefer an 8 month co-op placement over a 4 month placement. Our goal is to provide flexibility so that students have a positive experience and as well, are successful in achieving their academic and future goals.

Effective term and year:

Summer

~~Spring~~ 2016 calendar

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

Yes. We have received special permission from the Dean of Graduate Studies allowing us to give students the choice of applying for and accepting a placement for 4 months (ending Summer 2015) or for 8 months (ending Fall 2015). If students choose the 8-month placement option, they will complete their program in the Spring 2016 and as per regulations will be required to take a minimum of one course during this term in order to graduate. They will also be required to pay the continuing per-term fee of \$2,805 (50% regular fees) in the Spring 2016 term and this will be presented to them to assist in their decision-making. The School will also ensure that curriculum requirements are met so that students can complete and graduate in either the Fall 2015 or the Spring 2016 semester depending on which co-op placement option they choose.

As set out in our current program documents, students also have the option of being appointed as Research Assistants working with School of Computing Science research faculty or they can seek special permission from the Big Data Program Director in order to take a course in place of the co-op option altogether.

FROM	TO
Program Requirements Students will complete 30 units of graduate work. These units are divided into three sections: 15 credits of graduate course work; 12 credits of specialized lab work; 3 credits for co-op. (...) Co-op	Program Requirements Students will complete a minimum of 30 units of graduate work. These units are divided into three sections: a minimum of 15 units of graduate course work; 12 units of specialized lab work; 3 to 6 units for co-op. (...) Co-op

A co-op internship is an integral part of this program. Students will register for one co-op ~~term~~. With assistance from the co-op coordinator for this program, students will be expected to find a suitable industry partner for the co-op ~~term~~. The student may instead choose to conduct research into Big Data at one of the various Computing Science research labs as a paid research assistant to satisfy their co-op requirement. In extenuating circumstances, a student may appeal to the program director to take an elective course from the list of electives for this program instead of a co-op. Students are required to enroll in at least one of the required courses in the ~~semester~~ following the co-op ~~term~~.

A co-op internship is an integral part of this program. Students will register for one **or two co-op terms**. With assistance from the co-op coordinator for this program, students will be expected to find a suitable industry partner for the co-op ~~term~~ **placement**. The student may instead choose to conduct research into Big Data at one of the various Computing Science research labs as a paid research assistant to satisfy their co-op requirement. In extenuating circumstances, a student may appeal to the program director to take an elective course from the list of electives for this program instead of a co-op. Students are required to enroll in at least one of the required courses in the **term** following the co-op **terms**. (s).

Calendar Entry Change for the M.Eng. Program in the School of Engineering Science

Summary of change:
Making the M.Eng. program more flexible by expanding the list of elective courses and the number of credit units that may be taken through elective courses. Also, simplifying the description of the program by clarifying that the M.Eng. project is an elective course.
Rationale for change:
M.Eng. students currently face challenges during the Summer term due to the low number of graduate courses offered by the School of Engineering Science in this term. The proposed changes will alleviate some of these problems by expanding both the list of elective courses that will count towards the M.Eng. degree as well as the number of credit units that may be taken through elective courses. The reason for simplifying the description of the program related to the project is that the current description implies that there are two M.Eng. programs offered in the School (“course-based” and “project-based”), which confuses students and potential applicants. In reality, the School only offers one M.Eng. program in which the M.Eng. project is an elective course. A revised description will clarify this point.
Effective term and year:
Summer 2016
Will this change impact current students? If yes, what is the plan for current students?
Current students may choose whether to follow previous regulations or the new ones. Since the previous regulations are a subset of the new ones, students who follow previous regulations will also automatically satisfy the new regulations.

FROM	TO
Engineering Science	Engineering Science
Master of Engineering	Master of Engineering
The school offers a Master of Engineering in Engineering Science (MEng) program with a project option (Project MEng) or with a course option (Course MEng). Students in the MEng program are ineligible for university financial support except for the TA. MEng students have lower TA priority than PhD and MASc students from the School of Engineering Science.	Admission Requirements The admission requirement is a bachelor's degree in electrical engineering, computer engineering, biomedical engineering, engineering science or a related area, with a 3.0 cumulative grade point average (CGPA) (B grade) from a recognized university, or equivalent. International applicants must meet the university's requirement on English proficiency.
Admission Requirements	
The admission requirement is a bachelor's	

degree in electrical engineering, computer engineering, engineering science or a related area, with a 3.0 cumulative grade point average (CGPA) (B grade) from a recognized university, or equivalent. International applicants should also meet the university's requirement on English proficiency.

Project MEng Requirements

~~Project MEng students complete a total of eight graduate courses (with a minimum of 24 units) and ENSC 897-6 MEng Project. The courses must include ENSC 820-3 Engineering Management for Development or an approved alternative and at least four additional regular ENSC graduate courses (not directed studies). Students who do not complete ENSC 897-6 in one term must register for ENSC 896-6 MEng Project (Completion) in all subsequent terms. The tuition of ENSC 897-6 is half of that of ENSC 896-6.~~

Course MEng Requirements

~~Course MEng students complete a total of ten graduate courses (with a minimum of 30 units) and ENSC 870-0 MEng Course Option Portfolio. The courses must include ENSC 820-3 Engineering Management for Development or an approved alternative and at least six additional regular ENSC graduate courses (not directed studies).~~

Elective Course Options

Beyond the ~~minimum~~ requirements for regular ENSC graduate courses ~~in each option~~ above, the following courses can be used towards the remaining requirements:

- ENSC 891 - Directed Studies I (3)
- ENSC 701 - Graduate Co-op Practicum I (3)
- ENSC 702 - Graduate Co-op Practicum II (3)

Program Requirements

Students complete a minimum of 30 units of coursework. The courses must include:

- ENSC 820-3 Engineering Management for Development or an approved alternative
- ENSC 870-0 MEng Course Option Portfolio or ENSC 897-6 MEng Project *
- Four ENSC graduate courses (not directed studies)

Elective Course Options

Beyond the core requirements for regular ENSC graduate courses listed above, the following courses can be used towards the remaining requirements:

- ENSC 891 - Directed Studies I (3)
- ENSC 892 - Directed Studies II (3)
- ENSC 701 - Graduate Co-op Practicum I (3)
- ENSC 702 - Graduate Co-op Practicum II (3)
- ENSC 897 - MEng Project (6) *
- Any ENSC graduate course
- Any regular graduate course from other departments in the Faculty of Applied Sciences or the Faculty of Science - up to three such courses may be taken towards MEng requirements

International MEng students with a Study Permit should register for at least six units each term to maintain full-time status.

Project

~~MEng project is an elective course. Students interested in doing a project should approach ENSC faculty members with matching interests. Availability of projects may depend on faculty member's interests and schedule, as well as student's prior academic performance. Students who find a~~

* ENSC 897 is an elective course that can be completed instead of ENSC 870, in which case it replaces ENSC 870 as part of the program requirements.

Up to two regular graduate courses from other academic units in the Faculty of Applied Sciences and Faculty of Sciences, subject to approval of the supervisor. International MEng students with a Study Permit should register for at least two courses each term with a total of six or more units to maintain full-time status. Supervisory Committee The Chair of the Graduate Program Committee is the default senior supervisor of all MEng students. When a faculty member agrees to supervise a MEng student for the student's ENSC 897-6 MEng Project course, the faculty member becomes the senior supervisor of the MEng student. Transfer from MEng to MASc Program Transfer from the MEng to the Master of Applied Science (MASc) program will be considered if the student meets all the admission requirements of the MASc program, and if the proposed senior supervisor can provide financial support that meets the school's minimum requirement for MASc students. Academic Requirements within the Graduate General Regulations All graduate students must satisfy the academic requirements that are specified in the graduate general regulations (residence, course work, academic progress, supervision, research competence requirement, completion time, and degree completion), as well as the specific requirements for the program in which they are enrolled, as shown above.	<u>faculty member willing to be their MEng project supervisor should register for the course ENSC 897-6 MEng Project. At the completion of the course, the student should submit a MEng project report and give an oral presentation to the supervisory committee. Students who do not complete ENSC 897-6 in one term must enroll in ENSC 896-6 (MEng Project Completion) in all subsequent terms until the project is complete, but only need to pay 50% of the tuition for the ENSC 896 credits.</u> Supervisory Committee The Chair of the Graduate Program Committee is the default senior supervisor of all MEng students. When a faculty member agrees to supervise a MEng student for the student's ENSC 897-6 MEng Project course, the faculty member becomes the senior supervisor of the MEng student. Transfer from MEng to MASc Program Transfer from the MEng to the Master of Applied Science (MASc) program will be considered if the student meets all the admission requirements of the MASc program, and if the proposed senior supervisor can provide financial support that meets the <u>S</u>chool's minimum requirement for MASc students. Academic Requirements within the Graduate General Regulations All graduate students must satisfy the academic requirements that are specified in the graduate general regulations (residence, course work, academic progress, supervision, research competence requirement, completion time, and degree completion), as well as the specific requirements for the program in which they are enrolled, as shown above.
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