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**MEMORANDUM**

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<b>ATTENTION</b>	Senate	<b>DATE</b>	February 6, 2015
<b>FROM</b>	Gordon Myers, Chair Senate Committee on Undergraduate Studies	<b>PAGES</b>	1/1
<b>RE:</b>	Faculty of Applied Sciences (SCUS 15-05)		

A handwritten signature in blue ink, appearing to read 'Gordon Myers', is written over the 'RE:' field of the memorandum.

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**For information:**

Acting under delegated authority at its meeting of February 5, 2015 SCUS approved the following curriculum revisions effective Fall 2015.

1. School of Computing Science (SCUS 15-05a)

(i) Description and prerequisite change to CMPT 225

2. School of Engineering Science (SCUS 15-05b)

(i) Requirement changes to the Engineering Science Major and Honours Programs

3. School of Mechatronic Engineering Systems (SCUS 15-05c)

(i) Prerequisite change to MSE 300



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MEMORANDUM

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ATTENTION Senate Committee on Undergraduate Studies      DATE January 22, 2015  
FROM Ed Park, Associate Dean      PAGES  
RE: Curriculum Changes

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The following changes have been approved by the FAS Undergraduate Curriculum Committee and are appended here for approval by SCUS and recommendation to Senate.

- 1.) School of Computing Science
  - a. Course Pre-requisite & Description Changes
    - CMPT 225
  
- 2.) School of Engineering Science
  - a. Calendar changes:
    - Revisions to WQB Requirement Modifications Text - all ENSC options
  
- 3.) School of Mechatronic Engineering Systems
  - a. Course Pre-requisite Change
    - MSE 300

Thank you,

A handwritten signature in black ink, appearing to read "Ed Park", written over a horizontal line.

Edward Park  
Associate Dean

(EP/mt)



**EXISTING COURSE, CHANGES RECOMMENDED**

Please check appropriate revision(s):

Course number    Credit    Title    Description    Prerequisite    Course deletion    Learning Outcomes

Indicate number of hours for: Lecture \_\_\_\_\_ Seminar \_\_\_\_\_ Tutorial \_\_\_\_\_ Lab \_\_\_\_\_

**FROM** \_\_\_\_\_ **TO** \_\_\_\_\_  
Course Subject/Number CMPT 225 Course Subject/Number CMPT 225

Credits \_\_\_\_\_ Credits \_\_\_\_\_

**TITLE**

(1) LONG title for calendar and schedule, no more than 100 characters including spaces and punctuation.

**FROM:** \_\_\_\_\_ **TO:** \_\_\_\_\_

(2) SHORT title for enrollment and transcript, no more than 30 characters including spaces and punctuation.

**FROM:** \_\_\_\_\_ **TO:** \_\_\_\_\_

**DESCRIPTION**

**FROM:**

Introduction to a variety of practical and important data structures and methods for implementation and for experimental and analytical evaluation. Topics include: stacks, queues and lists; search trees; hash tables and algorithms; efficient sorting; object-oriented programming; time and space efficiency analysis; and experimental evaluation. Students with credit for CMPT 201 may not take this course for further credit.

**DESCRIPTION**

**TO:**

Introduction to a variety of practical and important data structures and methods for implementation and for experimental and analytical evaluation. Topics include: stacks, queues and lists; search trees; hash tables and algorithms; efficient sorting; object-oriented programming; time and space efficiency analysis; and experimental evaluation.

**PREREQUISITE**

Does this course replicate the content of a previously approved course to such an extent that students should not receive credit for both courses? If so, this should be **noted in the prerequisite**.

**FROM:** Prerequisite: MACM 101 and one of CMPT 125, 126 or 128; or CMPT 128 and approval as a Biomedical Engineering Major.

**PREREQUISITE**

**TO:** Prerequisite: (MACM 101 and either (CMPT 125 and 127) or CMPT 135) or (ENSC 251 and ENSC 252)

**LEARNING OUTCOMES**

**RATIONALE**

Change in prerequisite related to the introduction of CMPT 135 (the second programming course in the Software Systems program), the introduction of CMPT 127 and changes to CMPT 128 and the introduction of ENSC 251 and ENSC 252.

CMPT 201 has been removed from the calendar and has not been offered since 2004.

Effective term and year  
Fall 2015

## Changes to all Engineering Science Majors and Honours Programs

The following text is being removed from each of the program's options. PHYS 120 and PHYS 121 meet the B-Sci requirements for our program. However, the way the current text reads, it implies that students must take PHYS 125 and PHYS126 to meet their B-Sci requirements. This confuses our students and causes them to enrol in the wrong physics courses. In addition, the text is being made option specific. For all options, except biomedical, the open parentheses << >> within the text below should be replaced with the specific option name ("computer engineering option", "electronics option", "systems option", "engineering physics option"). As students in the biomedical engineering option have different requirements than those in the other four options, the text for this option is listed separately in point 2 below.

1. The following text is for students in the *computer engineering, electronics engineering, systems engineering, and engineering physics options*:

### Current

#### WQB Requirement Modifications for Engineering Science Students

For engineering science students, these university requirements are modified as follows.

- ~~for students in the *computer engineering* option, the total number of Breadth-Social Sciences (B-Soc) and Breadth-Humanities (B-Hum) courses is reduced to three courses, with at least one course in each category~~
- ~~the B-Sci requirements are waived for engineering science students who complete PHYS 125 and 126 instead of PHYS 120 and 121~~

- In addition, the Canadian Engineering Accreditation Board (CEAB) requires that one complementary studies elective in the ENSC curriculum must be in the Central Issue, Methodology, and Thought Process category.

### Proposed

#### WQB Requirement Modifications for Engineering Science Students

For engineering science students, these university requirements are modified as follows.

- *for students in the <<option name>> option, the total number of Breadth-Social Sciences (B-Soc) and Breadth-Humanities (B-Hum) courses is reduced to three courses, with at least one course in each category.*

In addition, the Canadian Engineering Accreditation Board (CEAB) requires that one complementary studies elective in the ENSC curriculum must be in the Central Issue, Methodology, and Thought Process category.

2. The following text is for students in the biomedical engineering option only:

Current	Proposed
<p data-bbox="280 468 857 548"><b>WQB Requirement Modifications for Engineering Science Students</b></p> <p data-bbox="280 583 857 646">For engineering science students, these university requirements are modified as follows.</p> <ul data-bbox="329 682 857 1087" style="list-style-type: none"><li data-bbox="329 682 857 940">• <del>for students in the <i>computer engineering</i> option, the total number of Breadth-Social Sciences (B-Soc) and Breadth-Humanities (B-Hum) courses is reduced to three courses, with at least one course in each category</del></li><li data-bbox="329 940 857 1087">• <del>the <i>B-Sci</i> requirements are waived for engineering science students who complete <i>PHYS 125 and 126</i> instead of <i>PHYS 120 and 121</i></del></li></ul> <p data-bbox="329 1123 857 1346">- In addition, the Canadian Engineering Accreditation Board (CEAB) requires that one complementary studies elective in the ENSC curriculum must be in the Central Issue, Methodology, and Thought Process category.</p>	<p data-bbox="873 468 1450 548"><b>WQB Requirement Modifications for Engineering Science Students</b></p> <p data-bbox="873 583 1450 646">For engineering science students, these university requirements are modified as follows.</p> <ul data-bbox="922 682 1450 947" style="list-style-type: none"><li data-bbox="922 682 1450 947">• <i>for students in the <b>biomedical engineering</b> option, the total number of Breadth-Social Sciences (B-Soc) and Breadth-Humanities (B-Hum) courses is reduced to <b>two</b> courses, with at least one course in each category.</i></li></ul> <p data-bbox="922 982 1450 1205">In addition, the Canadian Engineering Accreditation Board (CEAB) requires that one complementary studies elective in the ENSC curriculum must be in the Central Issue, Methodology, and Thought Process category.</p>

COURSE SUBJECT  NUMBER  TITLE

**INSTRUCTIONS (OVERALL):**

1. Using Microsoft Word draft changes using the following guideline. Paste in box below.
2. Rationale must be included. If more space is needed than provided below, please use the provided text box on page 2 of this document.
3. Indicate term = Fall, Spring, Summer

**TYPE OF CHANGES RECOMMENDED**

Please check appropriate revision(s):

Course number  Credit  Title  Description  Prerequisite

**WORDING/DESCRIPTION EDITS**

4. Indicate deleted or changed text using strikethrough.
5. Indicate added or new text using underline.
6. Equivalent courses: preclusion statement should read:
  - a. Students with credit for x cannot take y for further credit.

Covers topics in decision theory and engineering economics including: gap analysis, multi-attribute utility theory, discounted cash flow fundamentals, inflation, depreciation, tax, financial analysis, uncertainty and optimization. Students with credit for ENSC 201, ~~or ENSC 311~~, ENSC 410, or ENSC 411 may not take MSE 300 for further credit. Prerequisite: ~~More than 75 units~~. More than 55 units. Recommended: completion of one co-op term.

**SAMPLE**

POL 223 ~~Canadian~~ American Political Economy (3)  
~~An introductory study of America's~~ Canada's political economy, stressing the interrelated nature of Canada's economic and political life. ~~The course~~ Focuses on current economic problems and policies, taking into account the geographical, historical and political environments. Topics include the resource and industrial structures, research and development, the public sector, fiscal and monetary policy, the role of the state, trade and foreign ownership, energy, regional disparity, corporate concentration and the political economy of federalism.

~~This course is identical to CNS 280 and students cannot take both courses for credit.~~

Students with credit for CNS 280 cannot take POL 223 for further credit.

~~Recommended~~ Pre-requisite: POL 100 or 101W.

Breadth – Social Sciences.

**RATIONALE**

If more space is needed, please use the provided text box on page 2 of this document

The original 75 units were in place to discourage students taking this course without considerable engineering knowledge or skills. It is found however this prerequisite limits brings too much rigidity to an already crowded curriculum. Bringing the units down to 55 will give students more flexibility in curriculum planning and also make two school-suggested 5-year curriculums feasible. ENSC 201 and ENSC 311 are phased out and the new course numbers become ENSC 410 and ENSC 411.

**EFFECTIVE TERM AND YEAR, FOR CHANGES**

Fall, Spring, Summer and year