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MEMORANDUM

ATTENTION	Senate	**DATE**	September 16, 2016
FROM	Wade Parkhouse, Acting Chair	**PAGES**	1/1
	Senate Committee on		
	Undergraduate Studies		
RE:	Faculty of Applied Sciences (SCUS 16-30)		

For information:

Acting under delegated authority at its meeting of September 15, 2016 SCUS approved the following curriculum revisions effective Summer 2017.

1. <u>School of Computing Science (SCUS 16-30a)</u>

   (i) Upper Division Requirement changes to the Computing Science Second Degree Program

2. <u>School of Mechatronic Systems Engineering (SCUS 16-30b)</u>

   (i) Requirement changes to the MSE Major, MSE/BUS Double Degree and MSE Honours programs
   (ii) Prerequisite change for MSE 250 *and 481
   (iii) Deletion of MSE 350 and 351

* effective Fall 2017 SN

SFU FACULTY OF APPLIED SCIENCES

OFFICE OF THE DEAN
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MEMORANDUM

ATTENTION	Senate Committee on Undergraduate Studies	**DATE**	August 2, 2016
FROM	Ed Park, Associate Dean	**PAGES**	
RE:	Curriculum Changes		

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.   Calendar Changes
     - CMPT 2nd Degree Program

2.) School of Mechatronic Systems Engineering
   a.   Calendar Changes- MSE Major, Honours and MSE/BUS Double Degree
     - Removal of MACM 316/replacement with MSE 211

   b.   Course Pre-Requisite Changes
     - MSE 250
     - MSE 481

   c.   Course Deletions
     - MSE 350
     - MSE 351

Thank you,

Edward Park
Associate Dean

(EP/mt)

Revision to Computing Science Second Degree Program

John Edgar

July 2016

Description and Rationale

Remove reference to number of CMPT units required to (a) move description in line with the wording used in the Computing Science Major program and (b) correct a reference to "42 units of ... Computing Science courses" as the correct number is now 39 subsequent to a recent change in the program.

Program Requirements

~~Students complete at least 45 upper division units, as specified below and 42 of these units must be Computing Science courses. The remaining three units can be taken in another discipline.~~

Students must consult an Applied Sciences Advisor before commencing the program.

Lower Division Requirements

Students will need to apply for course waivers for the lower division prerequisites prior to starting the program. If lower division prerequisites have not been met, required courses may be taken at Simon Fraser University.

Upper Division Requirements

In accord with University regulations, this second degree program consists of the upper division requirements of the program as described below.

<u>Students complete at least 45 upper division units including</u>
~~Students must complete~~

CMPT 376W - Technical Writing and Group Dynamics (3)

1. Calendar change request: Removal of MACM 316 from MSE Major program

Rationale: MSE has introduced a new course MSE211 that replaces MACM 316. As such, MACM 316 is to be removed from MSE Major program.

Please refer to the following web link:

https://www.sfu.ca/students/calendar/2016/spring/programs/mechatronic-systems-engineering/major/bachelor-of-applied-science.html

Program Requirements

Students complete all of

CMPT 130 - Introduction to Computer Programming I (3)

~~MACM 316 - Numerical Analysis I (3)~~

MATH 152 - Calculus II (3)

MATH 251 - Calculus III (3)

MATH 232 - Applied Linear Algebra (3)

MATH 310 - Introduction to Ordinary Differential Equations (3)

MSE 100 - Engineering Graphics and Design (3)

MSE 101W - Process, Form, and Convention in Professional Genres (3)

MSE 102 - Applied Science, Technology and Society (3)

MSE 110 - Mechatronics Design I (3)

MSE 210 - Engineering Measurement and Data Analysis (3)

MSE 211 - Computational Methods for Engineers (3)

MSE 220 - Engineering Materials (3)

MSE 221 - Statics and Strength of Materials (4)

MSE 222 - Kinematics and Dynamics of Rigid Bodies and Mechanisms (4)

MSE 223 - Introduction to Fluid Mechanics (4)

MSE 250 - Electric Circuits I (4)

MSE 251 - Electronic Circuits (4)

MSE 280 - Linear Systems (3)

MSE 300 - The Business of Engineering I (3)

MSE 310 - Introduction to Electro-Mechanical Sensors and Actuators (4)

MSE 311 - Introduction to Microelectromechanical Systems (3)

MSE 312 - Mechatronics Design II (4) *

MSE 320 - Machine Design (Inactive) (3)

MSE 321 - Engineering Thermodynamics and Heat Transfer (4)

MSE 352 - Digital Logic and Microcontrollers (4)

MSE 353 - Power Electronics and Electric Machinery (4)

MSE 380 - Systems Modeling and Simulation (3)

MSE 381 - Feedback Control Systems (4) *

MSE 402 - Engineering Ethics, Law, and Professional Practice (2)

MSE 405W - The Business of Engineering II, Entrepreneurship for Engineers (4)

MSE 410 - Capstone Design Technical Project I (3)

MSE 411 - Capstone Design Technical Project II (3)

PHYS 140 - Studio Physics - Mechanics and Modern Physics (4)

PHYS 141 - Studio Physics - Optics, Electricity and Magnetism (4)

2. Calendar change request: Removal of MACM 316 from Mechatronic Systems Engineering and Business Double Degree Program

   Rationale: MSE has introduced a new course MSE211 that replaces MACM 316. As such, MACM 316 is to be removed from Mechatronic Systems Engineering and Business Double Degree Program

Please refer to the following link:

https://www.sfu.ca/students/calendar/2016/spring/programs/mechatronic-systems-engineering-and-business-double-degree-program/major/bachelor-of-applied-science-and-bachelor-of-business-administration.html

Program Requirements

Students complete all of

BUS 251 - Financial Accounting I (3)

BUS 254 - Managerial Accounting I (3) **

BUS 272 - Behavior in Organizations (3)

BUS 312 - Introduction to Finance (4)

BUS 336 - Data and Decisions II (4)

BUS 343 - Introduction to Marketing (3)

BUS 360W - Business Communication (4) †

BUS 381 - Introduction to Human Resource Management (3)

BUS 393 - Commercial Law (3)

BUS 478 - Strategy (3) **

BUEC 232 - Data and Decisions I (4)

CHEM 120 - General Chemistry I (3)

CMPT 130 - Introduction to Computer Programming I (3)

ECON 103 - Principles of Microeconomics (4)

ECON 105 - Principles of Macroeconomics (4)

~~MACM 316 - Numerical Analysis I (3)~~

MATH 151 - Calculus I (3)

MATH 152 - Calculus II (3)

MATH 232 - Applied Linear Algebra (3)

MATH 251 - Calculus III (3)

MATH 310 - Introduction to Ordinary Differential Equations (3)

MSE 100 - Engineering Graphics and Design (3)

MSE 101W - Process, Form, and Convention in Professional Genres (3)

MSE 102 - Applied Science, Technology and Society (3)

MSE 110 - Mechatronics Design I (3)

MSE 210 - Engineering Measurement and Data Analysis (3)

<u>MSE 211 - Computational Methods for Engineers (3)</u>

MSE 220 - Engineering Materials (3)

MSE 221 - Statics and Strength of Materials (4)

MSE 222 - Kinematics and Dynamics of Rigid Bodies and Mechanisms (4)

MSE 223 - Introduction to Fluid Mechanics (4)

MSE 250 - Electric Circuits I (4)

MSE 251 - Electronic Circuits (4)

MSE 280 - Linear Systems (3)

MSE 310 - Introduction to Electro-Mechanical Sensors and Actuators (4)

MSE 311 - Introduction to Microelectromechanical Systems (3)

MSE 312 - Mechatronics Design II (4) *

MSE 320 - Machine Design (Inactive) (3)

MSE 321 - Engineering Thermodynamics and Heat Transfer (4)

MSE 352 - Digital Logic and Microcontrollers (4)

MSE 353 - Power Electronics and Electric Machinery (4)

MSE 380 - Systems Modeling and Simulation (3)

MSE 381 - Feedback Control Systems (4) *

MSE 402 - Engineering Ethics, Law, and Professional Practice (2)

MSE 410 - Capstone Design Technical Project I (3)

MSE 411 - Capstone Design Technical Project II (3)

PHYS 140 - Studio Physics - Mechanics and Modern Physics (4)

PHYS 141 - Studio Physics - Optics, Electricity and Magnetism (4)

3. Calendar change request: Removal of MACM 316 from Mechatronic Systems Engineering Honours Program

Rationale: MSE has introduced a new course MSE211 that replaces MACM 316. As such, MACM 316 is to be removed from Mechatronic Systems Engineering Honours Program.

Please refer to the following link:

https://www.sfu.ca/students/calendar/2016/spring/programs/mechatronic-systems-engineering/honours/bachelor-of-applied-science.html

Program Requirements

Students complete all of

CMPT 130 - Introduction to Computer Programming I (3)

~~MACM 316 - Numerical Analysis I (3)~~

MATH 152 - Calculus II (3)

MATH 251 - Calculus III (3)

MATH 232 - Applied Linear Algebra (3)

MATH 310 - Introduction to Ordinary Differential Equations (3)

MSE 100 - Engineering Graphics and Design (3)

MSE 101W - Process, Form, and Convention in Professional Genres (3)

MSE 102 - Applied Science, Technology and Society (3)

MSE 110 - Mechatronics Design I (3)

MSE 210 - Engineering Measurement and Data Analysis (3)

MSE 211 - Computational Methods for Engineers (3)

MSE 220 - Engineering Materials (3)

MSE 221 - Statics and Strength of Materials (4)

MSE 222 - Kinematics and Dynamics of Rigid Bodies and Mechanisms (4)

MSE 223 - Introduction to Fluid Mechanics (4)

MSE 250 - Electric Circuits I (4)

MSE 251 - Electronic Circuits (4)

MSE 280 - Linear Systems (3)

MSE 300 - The Business of Engineering I (3)

MSE 310 - Introduction to Electro-Mechanical Sensors and Actuators (4)

MSE 311 - Introduction to Microelectromechanical Systems (3)

MSE 312 - Mechatronics Design II (4) *

MSE 320 - Machine Design (Inactive) (3)

MSE 321 - Engineering Thermodynamics and Heat Transfer (4)

MSE 352 - Digital Logic and Microcontrollers (4)

MSE 353 - Power Electronics and Electric Machinery (4)

MSE 380 - Systems Modeling and Simulation (3)

MSE 381 - Feedback Control Systems (4) *

MSE 402 - Engineering Ethics, Law, and Professional Practice (2)

MSE 405W - The Business of Engineering II, Entrepreneurship for Engineers (4)

MSE 410 - Capstone Design Technical Project I (3)

MSE 411 - Capstone Design Technical Project II (3)

MSE 498 - Mechatronic Systems Engineering Thesis Proposal (3)

MSE 499 - Mechatronic Systems Engineering Undergraduate Thesis (9)

PHYS 140 - Studio Physics - Mechanics and Modern Physics (4)

PHYS 141 - Studio Physics - Optics, Electricity and Magnetism (4)

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SENATE COMMITTEE ON
UNDERGRADUATE STUDIES

COURSE SUBJECT MSE **NUMBER** 250 **TITLE** Electric Circuits I

TYPE OF CHANGES. Please type 'X' for the appropriate revision(s):

	Course number		Credit		Title		Description	X	Prerequisite

WORDING/DESCRIPTION EDITS. Indicate deleted or changed text using ~~strike through~~, indicate added or new text using underline. If you need to enter more text than the box allows, drag the endpoint of the text box to make it bigger, as it will not automatically expand.

Prerequisite: PHYS 121 and 131, or PHYS 126 and 131, or PHYS 141, and MATH 232 and 310. MATH ~~232 and/or~~ 310 may be taken concurrently. Quantitative.

EFFECTIVE TERM AND YEAR FOR CHANGES
Fall, Spring, Summer and year (please enter in textbox)

Fall 2017

RATIONALE (must be included)

MATH 232 is already a prerequisite of MATH 310. Therefore, they cannot be taken together.

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COURSE SUBJECT | MSE | **NUMBER** | 481 | **TITLE** | Industrial Control Systems

TYPE OF CHANGES. Please type 'X' for the appropriate revision(s):

	Course number		Credit		Title		Description	X	Prerequisite

WORDING/DESCRIPTION EDITS. Indicate deleted or changed text using ~~strike through~~, indicate added or new text using <u>underline</u>. If you need to enter more text than the box allows, drag the endpoint of the text box to make it bigger, as it will not automatically expand.

> Prerequisite: MSE ~~351~~ <u>352</u>(or ENSC ~~332~~ <u>252</u>) and MSE 381 (or ENSC 383) and a minimum of 80 credits.

EFFECTIVE TERM AND YEAR FOR CHANGES
Fall, Spring, Summer and year (please enter in textbox)

Summer 2017

RATIONALE (must be included)

> There is a typo in the calendar. 351 should be changed to 352. As ENSC 332 is no longer offered, ENSC 252 has been included as an alternate pre-requisite for students in the Burnaby Engineering program who are interested in taking MSE 481 (and who don't have the MSE pre-req).

COURSE SUBJECT MSE   **NUMBER** 350   **TITLE** Introduction to Digital Logic

INSTRUCTIONS (OVERALL):

1. Rationale must be included.
2. Indicate term = Fall, Spring, Summer

RATIONALE

This course was never offered and was only used during the label change form ENSC329 to MSE350. The course has been replaced by MSE 352 - Digital Logic and Microcontrollers (4).

EFFECTIVE TERM AND YEAR, FOR CHANGES

Fall, Spring, Summer and year (enter in textbox)

Spring 2017

CHECK THE FOLLOWING:

☐ Did you conduct program impact analysis for this course?
Program impact analysis is reviewing the effect of a course deletion on program requirements. Academic units can contact the Senate and Academic Services Office (sfucal@sfu.ca) for a program impact report.

☐ Did you conduct course impact analysis for this course?
Course impact analysis is reviewing the effect of a course number change and/or course deletion on course prerequisites. For instructions on how to do a course impact analysis, please go here: https://www.sfu.ca/senate/senate-committees/scus/ugrad-curriculum/courses.html#steps and click on "deleting a course" and review Step 2. Course Impact Analysis.

COURSE SUBJECT | MSE | **NUMBER** | 351 | **TITLE** | Microprocessors and Interfacing

INSTRUCTIONS (OVERALL):

1. Rationale must be included.
2. Indicate term = Fall, Spring, Summer

RATIONALE

This course was never offered and was only used during the label change form ENSC332 to MSE351. The course has been replaced by MSE 353 - Power Electronics and Electric Machinery (4).

EFFECTIVE TERM AND YEAR, FOR CHANGES

Fall, Spring, Summer and year (enter in textbox)

Spring 2017

CHECK THE FOLLOWING:

☐ Did you conduct program impact analysis for this course?
Program impact analysis is reviewing the effect of a course deletion on program requirements. Academic units can contact the Senate and Academic Services Office (sfucal@sfu.ca) for a program impact report.

☐ Did you conduct course impact analysis for this course?
Course impact analysis is reviewing the effect of a course number change and/or course deletion on course prerequisites. For instructions on how to do a course impact analysis, please go here: https://www.sfu.ca/senate/senate-committees/scus/ugrad-curriculum/courses.html#steps and click on "deleting a course" and review Step 2. Course Impact Analysis.