S.24-141

SFU OFFICE OF THE PROVOST AND VICE-PRESIDENT, ACADEMIC

8888 University Drive, Burnaby, BC Canada V5A 1S6
TEL: 778.782.6654
FAX: 778.782.5876
avpacad@sfu.ca
www.sfu.ca/vpacademic

MEMORANDUM

ATTENTION	Senate	**DATE**	September 13, 2024
FROM	Peter Hall, Chair Senate Committee on Undergraduate Studies	**PAGES**	1/1
RE:	Course Changes (SCUS 24-82)		

For information:

Acting under delegated authority at its meeting of September 12, 2024 SCUS approved the following curriculum revisions effective Summer 2025.

a. Faculty of Applied Sciences

1. School of Computing Science

   (i) Equivalent statement changes for CMPT 476

2. School of Mechatronic Systems Engineering

   (i) Prerequisite changes for MSE 112

3. School of Sustainable Energy Engineering

   (i) Equivalent Statement change for SEE 100

b. Faculty of Science

1. Department of Molecular Biology and Biochemistry *(Fall 2025)*

   (i) Prerequisite change for MBB 110, 229, and 342

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

SENATE COMMITTEE ON UNDERGRADUATE STUDIES

COURSE MODIFICATION FORM

COURSE SUBJECT	CMPT	NUMBER	476	TITLE	Introduction to Quantum Algorithms (3)

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

Course number	☐	Units	☐	Prerequisite	☐
Title	☐	Description	☐	Equivalent Statement	☒

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. Please review the "Equivalency statements" section under Information about specific course components if changing equivalent statement(s).

An introductory treatment of quantum computing with an emphasis on quantum algorithms. Topics include the gate model of quantum computation focusing on the design and implementation of quantum algorithms. Basic knowledge of algorithms and complexity will be an asset, but not required. No prior knowledge of physics or quantum mechanics is necessary, only a solid background in linear algebra.
Prerequisite: MATH 232 or MATH 240, with a minimum grade of C-. ~~Students who have taken CMPT 409 in Summer 2020 and 2021 under the title "Intro to Quantum Computing" may not take this course for further credit.~~ Students with credit for MACM 476 cannot take CMPT 476 for further credit.

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

Summer 2025

RATIONALE (must be included)

This course is being introduced in support of the Quantum Computing initiative at SFU. The MATH and CMPT departments have agreed to support an annual 4th-year undergrad course presenting fundamental ideas on quantum algorithms. Both departments have agreed on an offset schedule of offerings, (nominally alternate year) and will be accepting MACM 476 and CMPT 476 as equivalent within their degree programs.

COURSE SUBJECT MSE **NUMBER** 112 **TITLE** Mechatronic Design Studio I

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

Course number	☐	Units	☐	Prerequisite	☒
Title	☐	Description	☐	Equivalent Statement	☐

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. Please review the "Equivalency statements" section under Information about specific course components if changing equivalent statement(s).

Prerequisite: ~~CMPT 120~~ CMPT 130

EFFECTIVE TERM AND YEAR FOR CHANGES

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

Summer 2025

RATIONALE (must be included)

Original Pre-req was an error - it should have been CMPT 130.

MSE students do not take CMPT 120 but they take CMPT 130.

COURSE SUBJECT	SEE	NUMBER	100	TITLE	Engineering Graphics and Software for Design

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

Course number	☐	Units	☐	Prerequisite	☐
Title	☐	Description	☐	Equivalent Statement	☒

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. Please review the "Equivalency statements" section under Information about specific course components if changing equivalent statement(s).

Introduction to graphical communication in the context of engineering design. Students learn to think and communicate visually. With the use of computer aided design (CAD) tools, students learn the theory and practice of design by dissecting, graphically representing, and redesigning products. Students with credit for MSE 100~~, or IAT 106~~ may not take this course for further credit.

EFFECTIVE TERM AND YEAR FOR CHANGES

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

Summer 2025

RATIONALE (must be included)

IAT 106 has 2-hour weekly lectures compared to 3-hour weekly lectures in SEE 100, which makes a significant difference in the contact hours. Also, SEE 100 is taught by a Professional Engineer registered with EGBC. Both items mentioned, put SEE in a very difficult position for accreditation.

Please note that ENSC 104 was removed from the equivalency statement in Fall 2022.

SFU SENATE COMMITTEE ON UNDERGRADUATE STUDIES

COURSE MODIFICATION FORM

COURSE SUBJECT	MBB	NUMBER	110	TITLE	Data Analysis for Molecular Biology and Biochemistry

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

Course number	☐	Units	☐	Prerequisite	☒
Title	☐	Description	☐	Equivalent Statement	☐

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. Please review the "Equivalency statements" section under Information about specific course components if changing equivalent statement(s).

Introductory data analysis focusing on molecular biology data sets and examples and including basic programming skills using Python and basic statistics skills using R. Prerequisite: BISC 101; MATH 12 or equivalent is recommended. Students with credit for MBB 243 may not take this course for further credit. CMPT 120 will be accepted in lieu of MBB 110.

EFFECTIVE TERM AND YEAR FOR CHANGES

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

Fall 2025

RATIONALE (must be included)

Instructors of MBB 110 found that students were ill-prepared for the molecular biology that lies at the foundation of this course. Adding BISC 101 as a pre-requisite would address this problem to ensure success of students enrolled in MBB 110.

SENATE COMMITTEE ON UNDERGRADUATE STUDIES

COURSE MODIFICATION FORM

COURSE SUBJECT	MBB	NUMBER	229	TITLE	Introductory Molecular Biology and Biochemistry Laboratory

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

Course number	☐	Units	☐	Prerequisite	☒
Title	☐	Description	☐	Equivalent Statement	☐

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. Please review the "Equivalency statements" section under Information about specific course components if changing equivalent statement(s).

Practical course providing hands-on experience in fundamental molecular biology and biochemistry techniques including DNA isolation, restriction enzyme digestion, transformation, polymerase chain reaction, DNA and protein electrophoresis and immunofluorescence. Prerequisite or Corequisite: MBB 222 with a minimum grade of C- or better. Students who have taken MBB 308 or MBB 309 first may not then take this course for further credit.

EFFECTIVE TERM AND YEAR FOR CHANGES

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

Fall 2025

RATIONALE (must be included)

An increase of the MBB 222 pre- or co-requisite to include a minimum grade of C- will better prepare students in this hands-on practical laboratory course and in turn, result in better outcomes.

COURSE SUBJECT	MBB	NUMBER	342	TITLE	Introductory Genomics and Bioinformatics

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

Course number	☐	Units	☐	Prerequisite	☒
Title	☐	Description	☐	Equivalent Statement	☐

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. Please review the "Equivalency statements" section under Information about specific course components if changing equivalent statement(s).

Major topics in genomics and bioinformatics, with integrated discussion of associated ethical/legal/social issues. An overview of laboratory and computer-based methods to study genomes, and their applications. Hands-on computer lab session providing an opportunity to use and experiment with bioinformatics software and databases utilized in genomics and bioinformatics research. Prerequisite: MBB 231, BISC 202 and either MBB ~~243~~ 110 or 3 units of CMPT or equivalent, all with a minimum grade of C. Recommended: STAT 201 (or an equivalent statistics course) or STAT 270.

EFFECTIVE TERM AND YEAR FOR CHANGES

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

Fall 2025

RATIONALE (must be included)

The course code for MBB 243 to MBB 110 sometime ago and the change was not made to the prerequisite list for MBB 342.