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MEMORANDUM

ATTENTION	Senate	DATE	March 8, 2024
FROM	Peter Hall, Chair Senate Committee on Undergraduate Studies	PAGES	1/5
RE:	Program Changes		

For information:

Acting under delegated authority at its meeting of March 7, 2024 SCUS approved the following curriculum revisions effective Fall 2024.

a. Faculty of Applied Sciences *(SCUS 24-35)*

1. School of Computing Science

(i) Upper and lower division requirement changes to the:

- Software Systems Major

b. Faculty of Arts and Social Sciences *(SCUS 24-37)*

1. Cognitive Science Program

(i) Lower division requirement changes to the:

- Cognitive Science Major
- Cognitive Science Honours
- Cognitive Science Minor

2. Department of Economics

(i) Lower division requirement changes to the:
- Economics Major
- Economics Extended Minor
- Business and Economics Joint Honours
- Business and Economics Joint Major
- Political Science and Economics Joint Major

(ii) Upper and lower division requirement changes to the Economics Honours

(iii) Requirement changes to the Concentration in Economic Data Analysis for:
- Economics Major
- Economics Honours
- Business and Economics Joint Major
- Political Science and Economics Joint Major
- Business and Economics Joint Honours

3. Department of English

(i) Upper division requirement changes to the Creative Writing Minor

(ii) Requirement changes to the Writing and Rhetoric Certificate

4. Department of Global Humanities

(i) Upper division requirement changes to the:
- Concentration in Mythologies in the Global Humanities Major
- Concentration in Public Engagement and Intellectual Culture in the Global Humanities Major
- Concentration in Art and Material Culture in the Global Humanities Major

5. Department of History

(i) Requirement changes to the:
- History Minor
- History Extended Minor

6. Departments of Economics, Linguistics, Philosophy, and Political Science

(i) Requirement changes to the Social Data Analytics Minor

c. Beedie School of Business *(SCUS 24-38)*

(i) Lower division requirement changes to the Business Minor
(ii) Requirement changes to the Course Access Information and Grade Requirements
(iii) Admission and program requirement changes to the Mechatronic Systems Engineering and Business Double Degree Major
(iv) Upper division requirement changes to the Business Minor *(Fall 2025)*
(v) Requirement changes to the Course Access Information and Grade Requirements *(Fall 2025)*
(vi) Requirement changes to the:

- Business Major
- Business Honours

d. Faculty of Communication, Art and Technology *(SCUS 24-22)*

1. School of Interactive Arts and Technology

(i) Requirement changes to the Concentrations:

- Interactive Arts and Technology Major BA
- Interactive Arts and Technology Major BSc
- Interactive Arts and Technology Honours BA
- Interactive Arts and Technology Honours BSc
- Interactive Arts and Technology Second Degree BA
- Interactive Arts and Technology Second Degree BSc
- Communication and Interactive Arts and Technology Joint Major BA
- Communication and Interactive Arts and Technology Joint Major BSc
- Interactive Arts and Technology and Business Joint Major BA or BBA
- Interactive Arts and Technology and Business Joint Major BSc

(ii) Lower division requirement changes to the:

- Interactive Arts and Technology Major BA
- Interactive Arts and Technology Major BSc
- Interactive Arts and Technology Honours BA
- Interactive Arts and Technology Honours BSc
- Communication and Interactive Arts and Technology Joint Major BA
- Communication and Interactive Arts and Technology Joint Major BSc
- Interactive Arts and Technology and Business Joint Major BA or BBA
- Interactive Arts and Technology and Business Joint Major BSc

e. Faculty of Health Sciences *(SCUS 24-39)*

(i) Admission, lower and upper division requirement changes to the:
- Health Sciences Major BA
- Health Sciences Honours BA
- Philosophy and Health Sciences Joint Major

(ii) Admission and program requirement changes to the:
- Health Sciences Minor

(iii) Admission and minimum grade requirement changes to the:
- Health Sciences Honours BSc

(iv) Lower division requirement changes to the:
- Life Sciences Concentration in the Health Sciences Honours BSc
- Public Health and Data Concentration in the Health Sciences Honours BSc

(v) Admission requirement changes to the:
- Health Sciences Major BSc

(vi) Lower division requirement changes to the:
- Life Sciences Concentration in the Health Sciences Major BSc
- Public Health and Data Concentration in the Health Sciences Major BSc

f. Faculty of Science *(SCUS 24-40)*

1. Department of Biological Sciences

(i) Requirement changes to the:
- Environmental Toxicology Minor

(ii) Upper division requirement changes to the:
- Biological Sciences Major
- Biological Sciences Honours

2. Department of Mathematics

(i) Lower division requirement changes to the:
- Applied Mathematics Major
- Applied Mathematics Honours
- Mathematics Major
- Mathematics Honours
- Mathematical Physics Honours
- Operations Research Major
- Operations Research Honours

(ii) Upper and lower division requirement changes to the:
- Mathematics and Computing Science Joint Major
- Mathematics and Computing Science Joint Honours

3. Department of Molecular Biology and Biochemistry

(i) Requirement changes to the:

- Molecular Biology and Biochemistry Major
- Molecular Biology and Biochemistry Honours
- Molecular Biology and Biochemistry and Computing Science Joint Major
- Molecular Biology and Biochemistry and Computing Science Joint Honours

4. Department of Statistics and Actuarial Sciences

(i) Upper and lower division requirement changes to the:

- Actuarial Science Major
- Actuarial Science Honours
- Statistics Minor

(ii) Lower division requirement changes to the *(SCUS 23-82):*

- Data Science Major
- Data Science Honours

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.

SFU SENATE COMMITTEE ON UNDERGRADUATE STUDIES

PROGRAM MODIFICATION TEMPLATE

Name of Program or Name of Faculty
Software Systems Bachelor of Science

Rationale for change:

Removing MSE 110 from program:

MSE 110 is a design and project course that while interesting, isn't fundamental to the Software Systems program, and is not a prerequisite to any future courses. This requirement makes transferring into the Software Systems program less attractive and provides less flexibility for students to explore their interests when choosing courses. The course is currently being revamped by MSE to better serve their students' needs, making now a good time to remove it from Software Systems. A survey conducted by the Software Systems Student Society, while not conclusive, did not make a strong case for continuing to require this course, and showed that many students delay taking the course until late in their academic careers. The Software Systems committee feels it is in the best interests of our students to remove it.

Changing depth requirement from nine 400-level units to twelve 400-level units:

The depth requirement states: "*In order to meet their program requirements, students must have completed at least nine CMPT or MACM units at the 400 level*". This means students who opt to take the two capstone courses would be able to graduate with only one "normal" 400-level course (CMPT 473, which is required).

We'd like to change the requirement to "*at least twelve CMPT or MACM units at the 400 level*". The Software Systems committee discussed this as the best option, and the advisors don't see any problem with it.

Along with the required CMPT 473, this would force students to take at least one more 400-level course in addition to the capstone (or equivalent) requirement. The capstone (or equivalent) can count towards these twelve units. This change provides flexibility for students in their choice of extra 400 level course. It also provides symmetry between Software Systems and the Computing Science Major in requiring twelve units at the 400 level.

Effective term and year:
Fall 2024

The following program(s) will be affected by these changes:
Software Systems Major

Calendar Change: "to" and "from" sections are not required. All deletions should be crossed out as follows: ~~sample.~~ All additions should be marked by a **bold.**

Software Systems Major

[...]
Program Requirements

[...]

Lower Division Requirements

Students must complete the courses listed below. It is suggested that students complete a recommended schedule of courses within the first two years.

Students complete one of

CMPT 105W - Social Issues and Communication Strategies in Computing Science (3)
ENSC 105W - Process, Form, and Convention in Professional Genres (3)
MSE 101W - Process, Form, and Convention in Professional Genres (3)
SEE 101W - Process, Form and Convention in Professional Genres (3)
and all of

CMPT 130 - Introduction to Computer Programming I (3)
CMPT 135 - Introduction to Computer Programming II (3)
CMPT 201 - Systems Programming (4)
CMPT 210 - Probability and Computing (3)
CMPT 213 - Object Oriented Design in Java (3)
CMPT 225 - Data Structures and Programming (3)
CMPT 276 - Introduction to Software Engineering (3)
CMPT 295 - Introduction to Computer Systems (4)
MACM 101 - Discrete Mathematics I (3)
~~MSE 110 - Mechatronics Design I (3)~~
STAT 271 - Probability and Statistics for Computing Science (3)
and one of

MATH 150 - Calculus I with Review (4)
MATH 151 - Calculus I (3)
MATH 154 - Mathematics for the Life Sciences I (3) *
MATH 157 - Calculus I for the Social Sciences (3) *
and one of

MATH 152 - Calculus II (3)
MATH 155 - Mathematics for the Life Sciences II (3) *
MATH 158 - Calculus II for the Social Sciences (3) *
and one of

MATH 232 - Applied Linear Algebra (3)
MATH 240 - Algebra I: Linear Algebra (3)
* with a grade of at least B+ and with school permission.

Upper Division Requirements

[…]
Depth Requirement

Students must complete six additional CMPT or MACM units at the 300 or 400 level. In order to meet their program requirements, students must have completed at least ~~nine~~ **twelve** CMPT or MACM units at the 400 level. CMPT 415, 416 and 498 may only be included with permission of the School.

[…]

SFU SENATE COMMITTEE ON UNDERGRADUATE STUDIES

PROGRAM MODIFICATION TEMPLATE

Name of Program or Name of Faculty Cognitive Science
Rationale for change: Reduces lower division requirements to accelerate degree completion (COGS currently has more than double the number of lower division requirements than for Linguistics, Psychology and Philosophy) while maintaining access to upper division courses.
Effective term and year: Fall 2024
The following program(s) will be affected by these changes: Cognitive Science Honours, Major and Minor programs

Calendar Change: All deletions should be crossed out as follows: ~~sample.~~ All additions should be marked in **bold font.** Do not use **"**to" and "from" sections.

Cognitive Science Major

Lower Division Requirements

~~INTRODUCTORY COURSES~~

Students ~~are required to~~ complete **all of** ~~the following~~:

CMPT 120 - Introduction to Computing Science and Programming I (3)
COGS 100 - Exploring the Mind (3)
COGS 200 - Foundations in Cognitive Science (3)
LING 220 - Introduction to Linguistics (3)
PHIL 100W - Knowledge and Reality (3)
PSYC 100 - Introduction to Psychology I (3)

and one of

MACM 101 - Discrete Mathematics I (3)
PHIL 110 - Introduction to Logic and Reasoning (3)

Students must additionally complete the courses listed in three of the four disciplines below (three to six units each depending on the discipline).

LINGUISTICS

LING 282W - Writing for Linguistics (3)

PHILOSOPHY

One of

PHIL 201 - Epistemology (3)
PHIL 203 - Metaphysics (3)

COMPUTING SCIENCE

Both of

CMPT 125 - Introduction to Computing Science and Programming II (3)
CMPT 225 - Data Structures and Programming (3)

PSYCHOLOGY

PSYC 201W - Introduction to Research Methods in Psychology (4)

and one of

PSYC 221 - Introduction to Cognitive Psychology (3)
PSYC 280 - Introduction to Biological Psychology (3)

~~and the following requirements.~~

~~COMPUTING SCIENCE~~

~~CMPT 120 - Introduction to Computing Science and Programming I (3)~~

~~and~~

~~CMPT 125 - Introduction to Computing Science and Programming II (3)~~

~~Additionally students who choose intermediate level computing science, must complete~~

~~MACM 101 - Discrete Mathematics I (3)~~
~~LINGUISTICS~~
~~LING 220 - Introduction to Linguistics (3)~~
~~PHILOSOPHY~~
~~PHIL 100W - Knowledge and Reality (3)~~

~~PHIL 110 - Introduction to Logic and Reasoning (3)~~
~~PSYCHOLOGY~~
~~PSYC 100 - Introduction to Psychology I (3)~~
~~PSYC 102 - Introduction to Psychology II (3)~~

~~INTERMEDIATE COURSES~~

~~Students complete~~

~~COGS 200 - Foundations in Cognitive Science (3)~~

~~and the requirements for at least three of the four disciplines shown below.~~

~~COMPUTING SCIENCE~~

~~CMPT 225 - Data Structures and Programming (3)~~
~~LINGUISTICS~~

~~LING 282W - Writing for Linguistics (3)~~
~~PHILOSOPHY~~

~~PHIL 201 - Epistemology (3) or PHIL 203 - Metaphysics (3)~~
~~PSYCHOLOGY~~

~~PSYC 201W - Introduction to Research Methods in Psychology (4)~~
~~PSYC 221 - Introduction to Cognitive Psychology (3)~~
~~PSYC 280 - Introduction to Biological Psychology (3)~~

(…)

Cognitive Science Honours

Lower Division Requirements

~~INTRODUCTORY COURSES~~

Students ~~are required to~~ complete **all of** ~~the following~~

CMPT 120 - Introduction to Computing Science and Programming I (3)
COGS 100 - Exploring the Mind (3)
COGS 200 - Foundations in Cognitive Science (3)
LING 220 - Introduction to Linguistics (3)

PHIL 100W - Knowledge and Reality (3)
PSYC 100 - Introduction to Psychology I (3)

and one of

MACM 101 - Discrete Mathematics I (3)
PHIL 110 - Introduction to Logic and Reasoning (3)

Students must additionally complete the courses listed in three of the four disciplines below (three to six units each depending on the discipline).

LINGUISTICS

LING 282W - Writing for Linguistics (3)

PHILOSOPHY

One of

PHIL 201 - Epistemology (3)
PHIL 203 - Metaphysics (3)

COMPUTING SCIENCE

Both of

CMPT 125 - Introduction to Computing Science and Programming II (3)
CMPT 225 - Data Structures and Programming (3)

PSYCHOLOGY

PSYC 201W - Introduction to Research Methods in Psychology (4)

and one of

PSYC 221 - Introduction to Cognitive Psychology (3)
PSYC 280 - Introduction to Biological Psychology (3)

~~and the following requirements.~~

~~COMPUTING SCIENCE~~

~~CMPT 120 - Introduction to Computing Science and Programming I (3)~~

~~and~~

~~CMPT 125 - Introduction to Computing Science and Programming II (3)~~

~~Additionally students who choose intermediate level computing science must complete~~

~~MACM 101 - Discrete Mathematics I (3)~~

~~LINGUISTICS~~

~~LING 220 - Introduction to Linguistics (3)~~

~~PHILOSOPHY~~

~~PHIL 100W - Knowledge and Reality (3)~~
~~PHIL 110 - Introduction to Logic and Reasoning (3)~~

~~PSYCHOLOGY~~

~~PSYC 100 - Introduction to Psychology I (3)~~
~~PSYC 102 - Introduction to Psychology II (3)~~

~~INTERMEDIATE COURSES~~

~~Students complete~~

~~COGS 200 - Foundations in Cognitive Science (3)~~

~~and the requirements for at least three of the four disciplines shown below.~~

~~COMPUTING SCIENCE~~

~~Students who choose this discipline will complete~~

~~CMPT 225 - Data Structures and Programming (3)~~

~~LINGUISTICS~~

~~Students who choose this discipline will complete~~

~~LING 282W - Writing for Linguistics (3)~~

~~PHILOSOPHY~~

~~Students who choose this discipline will complete~~

~~PHIL 201 - Epistemology (3) or PHIL 203 - Metaphysics (3)~~

~~PSYCHOLOGY~~

~~Students who choose this discipline will complete~~

~~PSYC 201W - Introduction to Research Methods in Psychology (4)~~
~~PSYC 221 - Introduction to Cognitive Psychology (3)~~
~~PSYC 280 - Introduction to Biological Psychology (3)~~

Cognitive Science Minor

Program Requirements

Lower Division Requirements

Students complete

COGS 100 - Exploring the Mind (3)
COGS 200 - Foundations in Cognitive Science (3)

and the requirements listed below for two of the four disciplines. When provided with a choice between different 200 division courses, students should consider which course can be used as a prerequisite for a subsequent 300 division course.

COMPUTING SCIENCE

Students who choose this discipline will complete **all of**

CMPT 120 - Introduction to Computing Science and Programming I (3)

~~and~~

CMPT 125 - Introduction to Computing Science and Programming II (3)

~~Additionally students will complete~~

CMPT 225 - Data Structures and Programming (3)
MACM 101 - Discrete Mathematics I (3)

LINGUISTICS

Students who choose this discipline will complete **both of**

LING 220 - Introduction to Linguistics (3)

~~and~~

LING 282W - Writing for Linguistics (3)

PHILOSOPHY

Students who choose this discipline will complete all of

PHIL 100W - Knowledge and Reality (3)
PHIL 110 - Introduction to Logic and Reasoning (3)
PHIL 201 - Epistemology (3) or PHIL 203 - Metaphysics (3)

PSYCHOLOGY

Students who choose this discipline will complete all of

PSYC 100 - Introduction to Psychology I (3)
~~PSYC 102 - Introduction to Psychology II (3)~~
PSYC 201W - Introduction to Research Methods in Psychology (4)

and one of

PSYC 221 - Introduction to Cognitive Psychology (3)
PSYC 280 - Introduction to Biological Psychology (3)

Name of Program or Name of Faculty Department of Economics
Rationale for change: Improve communication to students about the program's lower division math requirements
Effective term and year: Fall 2024
The following program(s) will be affected by these changes: Economics Major

Calendar Change: All deletions should be crossed out as follows: ~~sample.~~ All additions should be marked in **bold font.** Do not use **"**to" and "from" sections.

Lower Division Requirements

Students complete the following prior to program declaration with at least a C- grade (unless otherwise indicated).

ECON 103 - Principles of Microeconomics (4) or ECON 113 - Introduction to Microeconomics (3) *
ECON 105 - Principles of Macroeconomics (4) or ECON 115 - Introduction to Macroeconomics (3) *
ECON 201 - Microeconomic Theory I: Competitive Behavior (4)
~~MATH 157 - Calculus I for the Social Sciences (3)~~

and one of :
MATH 150 - Calculus I with Review (4)
MATH 151 - Calculus I (3)
MATH 154 - Mathematics for the Life Sciences I (3)
MATH 157 - Calculus I for the Social Sciences (3)

Students must also complete

BUS 232 - Business Statistics (3) or ECON 233 - Introduction to Economic Data and Statistics (3)

and

ECON 220W - Communication in Economics (4)
and one additional 200 division ECON course (other than ECON 201, 220W, and 233)

Students who earn a grade of A- or better at Simon Fraser University on their first attempt in ECON 201 are exempt from the requirement of one additional 200 division ECON course. These students should see Early Access to Upper Division Courses below for additional program information.

* ECON 113 and ECON 115 with a minimum grade of A- on first attempt

Name of Program or Name of Faculty Department of Economics
Rationale for change: Improve communication to students about the program's lower division math requirements
Effective term and year: Fall 2024
The following program(s) will be affected by these changes: Economics Extended Minor

Calendar Change: All deletions should be crossed out as follows: ~~sample.~~ All additions should be marked in **bold font.** Do not use "to" and "from" sections.

Lower Division Requirements
Students complete the following prior to program declaration with a minimum grade of C- (unless otherwise indicated).

ECON 103 - Principles of Microeconomics (4) or ECON 113 - Introduction to Microeconomics (3) *
ECON 105 - Principles of Macroeconomics (4) or ECON 115 - Introduction to Macroeconomics (3) *
ECON 201 - Microeconomic Theory I: Competitive Behavior (4)
~~MATH 157 - Calculus I for the Social Sciences (3)~~

and one of :
MATH 150 - Calculus I with Review (4)
MATH 151 - Calculus I (3)
MATH 154 - Mathematics for the Life Sciences I (3)
MATH 157 - Calculus I for the Social Sciences (3)

Students must also complete

BUS 232 - Business Statistics (3) or ECON 233 - Introduction to Economic Data and Statistics (3)
and

ECON 220W - Communication in Economics (4)
and one additional 200 division ECON course (other than ECON 201, 220W, and 233)

Students who earn a grade of A- or better at Simon Fraser University on their first attempt in ECON 201 are exempt from the requirement of one additional 200 division ECON course.

* ECON 113 and ECON 115 with a minimum grade of A- on first attempt

Name of Program or Name of Faculty Department of Economics
Rationale for change: Improve communication to students about the program's lower division math requirements
Effective term and year: Fall 2024
The following program(s) will be affected by these changes: Business and Economics Joint Honours

Calendar Change: All deletions should be crossed out as follows: ~~sample.~~ All additions should be marked in **bold font.** Do not use "to" and "from" sections.

Lower Division Requirements
Students complete one of

BUS 217W - Critical Thinking in Business (3)
ECON 220W - Communication in Economics (4)

and all of

~~MATH 157 - Calculus I for the Social Sciences (3)~~
BUS 237 - Introduction to Business Technology Management (3)
BUS 251 - Financial Accounting I (3)
BUS 254 - Managerial Accounting I (3)
BUS 272 - Behaviour in Organizations (3)
ECON 103 - Principles of Microeconomics (4)
ECON 105 - Principles of Macroeconomics (4)
ECON 201 - Microeconomic Theory I: Competitive Behavior (4)

and one of :
MATH 150 - Calculus I with Review (4)
MATH 151 - Calculus I (3)
MATH 154 - Mathematics for the Life Sciences I (3)
MATH 157 - Calculus I for the Social Sciences (3)

One additional 200-level ECON course

Students who earn a grade of A- or better at Simon Fraser University on their first attempt in ECON 201 are exempt from the requirement of one additional 200-level ECON course. These students should see Early Access to Upper Division Courses below for additional program information.

and one of

BUS 232 - Business Statistics (3)
ECON 233 - Introduction to Economic Data and Statistics (3)
STAT 270 - Introduction to Probability and Statistics (3)

and one of*

ENGL 111W - Literary Classics in English (3)
ENGL 112W - Literature Now (3)
ENGL 113W - Literature and Performance (3)
ENGL 114W - Language and Purpose (3)
ENGL 115W - Literature and Culture (3)
ENGL 199W - Writing to Persuade (3)
PHIL 100W - Knowledge and Reality (3)
PHIL 105 - Critical Thinking (3)
PHIL 110 - Introduction to Logic and Reasoning (3)
PHIL 120W - Moral and Legal Problems (3)
PHIL 150 - Great Works in the History of Philosophy (3)
WL 101W - Writing in World Literature (3)
WL 103W - Early World Literatures (3)
WL 104W - Modern World Literatures (3)
WL 105W - World Literature Lab (3)
* Any one of these courses may be replaced by any three unspecified transfer units in English or in ENGL-Writing at the 100- or 200-level.

Name of Program or Name of Faculty Department of Economics
Rationale for change: Improve communication to students about the program's lower division math requirements
Effective term and year: Fall 2024
The following program(s) will be affected by these changes: Business and Economics Joint Major

Calendar Change: All deletions should be crossed out as follows: ~~sample.~~ All additions should be marked in **bold font.** Do not use **"**to" and "from" sections.

Lower Division Requirements

Students complete one of

BUS 217W - Critical Thinking in Business (3)
ECON 220W - Communication in Economics (4)

and all of

BUS 237 - Introduction to Business Technology Management (3)
BUS 251 - Financial Accounting I (3)
BUS 254 - Managerial Accounting I (3)
BUS 272 - Behaviour in Organizations (3)
ECON 103 - Principles of Microeconomics (4) or ECON 113 - Introduction to Microeconomics (3) **
ECON 105 - Principles of Macroeconomics (4) or ECON 115 - Introduction to Macroeconomics (3) **
ECON 201 - Microeconomic Theory I: Competitive Behavior (4)
~~MATH 157 - Calculus I for the Social Sciences (3)~~

and one of :
MATH 150 - Calculus I with Review (4)
MATH 151 - Calculus I (3)
MATH 154 - Mathematics for the Life Sciences I (3)
MATH 157 - Calculus I for the Social Sciences (3)

One additional 200 level ECON course

Students who earn a grade of A- or better at Simon Fraser University on their first attempt in ECON 201 are exempt from the requirement of one additional 200 division ECON course. These students should see Early Access to Upper Division Courses below for additional program information.

and one of

BUS 232 - Business Statistics (3)
ECON 233 - Introduction to Economic Data and Statistics (3)
STAT 270 - Introduction to Probability and Statistics (3)

and one of*

ENGL 111W - Literary Classics in English (3)
ENGL 112W - Literature Now (3)
ENGL 113W - Literature and Performance (3)
ENGL 114W - Language and Purpose (3)
ENGL 115W - Literature and Culture (3)
ENGL 199W - Writing to Persuade (3)
PHIL 100W - Knowledge and Reality (3)
PHIL 105 - Critical Thinking (3)
PHIL 110 - Introduction to Logic and Reasoning (3)
PHIL 120W - Moral and Legal Problems (3)
PHIL 150 - Great Works in the History of Philosophy (3)
WL 101W - Writing in World Literature (3)
WL 103W - Early World Literatures (3)
WL 104W - Modern World Literatures (3)
WL 105W - World Literature Lab (3)

* Any one of these courses may be replaced by any three unspecified transfer units in English or in ENGL-Writing at the 100- or 200-level.

** ECON 113 and ECON 115 with a minimum grade of A- on first attempt

Name of Program or Name of Faculty Department of Economics
Rationale for change: Improve communication to students about the program's lower division math requirements
Effective term and year: Fall 2024
The following program(s) will be affected by these changes: Political Science and Economics Joint Major

Calendar Change: All deletions should be crossed out as follows: ~~sample.~~ All additions should be marked in **bold font.** Do not use **"**to" and "from" sections.

Lower Division Economics Requirements

Prior to declaring this joint major program, students complete, with a grade of at least C- (unless otherwise indicated), all of

ECON 103 - Principles of Microeconomics (4) or ECON 113 - Introduction to Microeconomics (3) *
ECON 105 - Principles of Macroeconomics (4) or ECON 115 - Introduction to Macroeconomics (3) *
ECON 201 - Microeconomic Theory I: Competitive Behavior (4)
~~MATH 157 - Calculus I for the Social Sciences (3)~~

and one of :
MATH 150 - Calculus I with Review (4)
MATH 151 - Calculus I (3)
MATH 154 - Mathematics for the Life Sciences I (3)
MATH 157 - Calculus I for the Social Sciences (3)

Students also complete one of

BUS 232 - Business Statistics (3)
ECON 233 - Introduction to Economic Data and Statistics (3)

and both of

ECON 220W - Communication in Economics (4)
one additional 200 division ECON course

Students who earn a grade of A- or better at Simon Fraser University on their first attempt in ECON 201 are exempt from the requirement of one additional 200 division ECON course. These students should see Early Access to Upper Division Courses below for additional program information.

* ECON 113 and ECON 115 with a minimum grade of A- on first attempt

Name of Program or Name of Faculty Department of Economics
Rationale for change: Improve communication to students about the program's lower division math requirements
Effective term and year: Fall 2024
The following program(s) will be affected by these changes: Economics Honours

Calendar Change: All deletions should be crossed out as follows: ~~sample.~~ All additions should be marked in **bold font.** Do not use "to" and "from" sections.

Lower Division Requirements

Students complete the following **prior to program declaration** with at least a C-grade ~~in each course prior to program declaration~~ **(unless otherwise indicated)**.

ECON 103 - Principles of Microeconomics (4) o**r ECON 113 - Introduction to Microeconomics (3) ***
ECON 105 - Principles of Macroeconomics (4) **or ECON 115 - Introduction to Macroeconomics (3) ***
ECON 201 - Microeconomic Theory I: Competitive Behavior (4)
~~MATH 157 - Calculus I for the Social Sciences (3)~~

and one of :
MATH 150 - Calculus I with Review (4)
MATH 151 - Calculus I (3)
MATH 154 - Mathematics for the Life Sciences I (3)
MATH 157 - Calculus I for the Social Sciences (3)

Students must also complete

BUS 232 - Business Statistics (3) or ECON 233 - Introduction to Economic Data and Statistics (3)

and

ECON 220W - Communication in Economics (4)
and one additional 200 division ECON course (other than ECON 201, 220W, and 233)

Students who earn a grade of A- or better at Simon Fraser University on their first attempt in ECON 201 are exempt from the requirement of one additional 200 division ECON course. These students should see Early Access to Upper Division Courses below for additional program information.

*** ECON 113 and ECON 115 with a minimum grade of A- on first attempt**

Upper Division Requirements

In addition, students will receive credit for at least 50 upper division units in economics including all of

ECON 302 - Microeconomic Theory II: Strategic Behavior (4)
ECON 305 - Intermediate Macroeconomic Theory (4)
ECON 331 - Introduction to Mathematical Economics (5) *
ECON 333 - Statistical Analysis of Economic Data (4)
ECON 435 - Econometric Methods (5)
ECON 494 - Honours Research Proposal (3)
ECON 499W - Honours Research Project (6)

and at least two out of the following three course options:
ECON 402 - Advanced Microeconomic Theory (4)
ECON 403 - Advanced Macroeconomic Theory (3)

Two 400 division ECON courses (excluding ECON 402, 403, 431, 435)

* **ECON 331 is not required if students have successfully completed MATH 251 and either MATH 232 or MATH 240** ~~honours students who have successfully completed both MATH 232 and 251 need not complete ECON 331~~. However, at least 50 upper division units in economics must still be completed.

Name of Program or Name of Faculty Department of Economics
Rationale for change: STAT is collapsing the co-requisites courses STAT 260+261, 310+311 and 360+361 into three courses STAT 260-3, STAT 310-4, and STAT 360-3 starting Fall 2024. The proposed program change updates our calendar to reflect the changes in these courses.
Effective term and year: Fall 2024
The following program(s) will be affected by these changes: Economics Major, Economics Honours, Business and Economics Joint Major, Political Science and Economics Joint Major, Business and Economics Joint Honours

Calendar Change: All deletions should be crossed out as follows: ~~sample.~~ All additions should be marked in **bold font.** Do not use "to" and "from" sections.

Concentration in Economic Data Analysis Students qualify for this concentration by completing six required courses of which at least four must be ECON courses. Students complete ECON 333 - Statistical Analysis of Economic Data (4) one of BUS 232 - Business Statistics (3) ECON 233 - Introduction to Economic Data and Statistics (3) STAT 270 - Introduction to Probability and Statistics (3) and at least four of CMPT 129 - Introduction to Computing Science and Programming for Mathematics and Statistics (3) ECON 334 - Data Visualization and Economic Analysis (3) ECON 335 - Cause and Effect in Economic Data (3)

ECON 428 - Seminar in Experimental and Behavioural Economics (3)
ECON 433 - Financial and Time Series Econometrics (3)
ECON 434 - Seminar in Applied Market Design (3)
ECON 435 - Econometric Methods (5)
ECON 436 - Seminar in Economics and Social Network Analysis (3)
ECON 480 - Seminar in the Economics of Labor Market Policy (3)
STAT 260 - Introductory R for Data Science (3)
~~STAT 260 - Introductory R for Data Science (2) #~~
~~STAT 261 - Laboratory for Introductory R for Data Science (1) #~~
STAT 310 - Introduction to Data Science for the Social Sciences (4)*
~~STAT 310 - Introduction to Data Science for the Social Sciences (2) *%~~
~~STAT 311 - Data Science Laboratory for the Social Sciences (2) *%~~
STAT 342 - Introduction to Statistical Computing and Exploratory Data Analysis - SAS (2)
STAT 445 - Applied Multivariate Analysis (3)
STAT 452 - Statistical Learning and Prediction (3)
STAT 475 - Applied Discrete Data Analysis (3) *
STAT 485 - Applied Time Series Analysis (3) *

Other courses with appropriate content can be used for credit upon prior application to the advisor.

* Allows ECON 333 as prerequisite

~~% Corequisite courses STAT 310 and STAT 311 count as only one course.~~

~~# Corequisite courses STAT 260 and STAT 261 count as only one course.~~

Name of Program or Name of Faculty Department of English
Rationale for change: Students are having trouble enrolling in courses in other departments outside of English that can count toward the minor. Either these courses are full, or they are offered infrequently. Therefore, the minor would like to expand the list of eligible English courses applicable toward the minor by adding courses where the genres students write in the Creative Writing minor is studied.
Effective term and year: Fall 2024
The following program(s) will be affected by these changes: Creative Writing minor

Calendar Change: All deletions should be crossed out as follows: ~~sample.~~ All additions should be marked in **bold font.** Do not use **"**to" and "from" sections.

Creative Writing Minor

Admission Requirements

Prior to formal program admission, students must complete one of:

- ENGL 111W - Literary Classics in English (3)
- ENGL 112W - Literature Now (3)
- ENGL 113W - Literature and Performance (3)
- ENGL 114W - Language and Purpose (3)
- ENGL 115W - Literature and Culture (3)
- PUB 101 - Publication of Self in Everyday Life (3)
- WL 105W - World Literature Lab (3)

Program Requirements

Students successfully complete a minimum total of 24 units, including a minimum of 15 Upper Division units. These courses must include:

ENGL 272 - Creative Reading (3)
ENGL 372 - Creative Writing I: Poetry (4)
ENGL 374 - Creative Writing II: Fiction (4)
ENGL 472W - Seminar in Advanced Creative Writing (4)

and at least three of:

CA 238W - Screenwriting I (3)

CA 319W - Critical Writing in the Arts (3)
CA 338W - Screenwriting II (3)
ENGL 234 - Metrics and Prosody (3)
ENGL 304 – The Medieval World (4)

ENGL 310 – Early Modern Words and Worlds (4)

ENGL 312 – Shakespeare and the Stage: 1570-1642 (4)

ENGL 320 – The Long Eighteenth Century and the Romantic Era (4)

ENGL 330 – The Long Nineteenth Century (4)

ENGL 341 – Modern and Contemporary British Literature (4)

ENGL 345 – American Literatures (4)

ENGL 355 – Canadian Literatures (4)

ENGL 360 - Popular Writing by Indigenous Authors (4)
ENGL 361 - Diaspora Literatures in English (4)

ENGL 362 – Transnational Literatures in English (4)

ENGL 363 – Studies in Media Cultures (4)

ENGL 383 – Studies in Popular Literature and Culture (4)

ENGL 385 – Across Time, Across Space (4)

ENGL 387 – Studies in Children's Literature (4)

ENGL 411W – Seminar in Literature and Race (4)

ENGL 413W – Seminar in Literature and Environment (4)

ENGL 414W – Seminar in Literature and History (4)

ENGL 415W – Seminar in Media, Culture and Performance (4)

ENGL 417W – Seminar in Gender, Sexuality and Literature (4)
ENGL 431W - Seminar in Indigenous Literatures (4)

ENGL 432W – Seminar in Canadian Literature (4)

ENGL 433W – Seminar in British Literatures (4)

ENGL 437W – Seminar in American Literatures (4)
ENGL 439W - Seminar in World Literatures in English (4)

ENGL 443W – Seminar in Literatures of Diaspora and Migration (4)
ENGL 474W - Seminar in North American Poetry and Poetics (4)
PUB 371 - The Structure of the Book Publishing Industry in Canada (4)
WL 307 - Creative Writing in World Literature (4)

Upper Division Courses counted toward the Creative Writing minor may not also count toward the English Major, any of the English Joint Majors, the English Minor, or the Extended Minor.

Substitutions may be approved on a case-by-case basis by the student advisor or Undergraduate Chair. A cumulative grade point average of 2.0 is required in the courses used for the minor.

Name of Program or Name of Faculty

Department of English

Rationale for change:
We have found that students are having trouble completing the Writing and Rhetoric Certificate for two reasons: they have to complete too many credits, and the non-English courses that are available to take toward the certificate are either rarely offered, or English students have trouble enrolling in them. As a result, we have dropped our prerequisites and added more English classes to the requirements.

Effective term and year: Fall 2024

The following program(s) will be affected by these changes:

Writing and Rhetoric Certificate

Calendar Change: All deletions should be crossed out as follows: ~~sample.~~ All additions should be marked in **bold font.** Do not use **"**to" and "from" sections.

~~Admission Requirements~~

~~Normal requirements for admission to Simon Fraser University apply. Prior to formal program admission, students must complete one of~~

- ~~ENGL 199W - Writing to Persuade (3)~~
- ~~LING 200 - Foundations of English Grammar (3)~~
- ~~PHIL 110 - Introduction to Logic and Reasoning (3)~~
- ~~PUB 210W - Professional Writing Workshop (3)~~

Program Requirements

A cumulative grade point average of 2.0 is required in the courses used for the certificate.

Students successfully complete a minimum total of ~~24~~ **18** units, including

ENGL 214 - History and Principles of Rhetoric (3)

and ~~four~~ **any two** of

CMNS 304W - Communication in Everyday Life (4)

ENGL 199W – Writing to Persuade (3)
LING 200 - Foundations of English Grammar (3)
ENGL 371 - Writing: Theory and Practice (4)
ENGL 375 - Studies in Rhetoric (4)
LING 160 - Language, Culture and Society (3)

PHIL 110 - Introduction to Logic and Reasoning (3)

PHIL 344 - Topics in the Philosophy of Language (3)

PUB 210W - Professional Writing Workshop (3)

PUB 212 - Public Relations and Public Engagement (3)

and two of

CMNS 432 - Political Communication, Public Opinion and Political Marketing (4)
CMNS 447 - Negotiation and Dialogue as Communication (4)
CMNS 452 - Race and the Media (4)
ENGL 470W - Seminar in the English Language (4)
ENGL 475W - Seminar in Rhetoric (4)

Of the **eighteen required units, a minimum of nine** ~~seven required courses, a minimum of three~~ must be in the Department of English. Substitutions may be approved on a case-by-case basis by the advisor.

Name of Program or Name of Faculty
Faculty of Arts and Social Science, Global Humanities

Rationale for change:
We wish to request that the following courses be included as class options to satisfy the requirements for the Concentration in Mythologies within the Global Humanities Majors and Minors:

- HUM 130 - Introduction to Religious Studies
- **HUM 202 - Great Texts: Western Thought and Literature** ~~in the Humanities~~
- HUM 211- Art and Literature of the Italian Renaissance
- HUM 319 - Greeks Go Global: From Antigone to Atwood
- HUM 331- ~~Special Topics in~~ Asian Religious Traditions
- HUM 333W – Italian Films, Italian Humanities
- HUM 382 - Selected Topics in Asian Art and Cultures

Reasons:
These courses are highly relevant to the Concentration in Mythologies in that they focus on different forms of storytelling (mythos logos) inextricable from the content of texts from diverse cultures. Two course titles are in the process of revision with the current submission.

Effective term and year:
Fall 2024

The following program(s) will be affected by these changes:
Global Humanities major

Concentration in:

- Mythologies

Calendar Change: All deletions should be crossed out as follows: ~~sample.~~ All additions should be marked in **bold font.** Do not use **"**to" and "from" sections.

Concentration in Mythologies

Students may qualify for this concentration by completing two of

HUM 102W - Classical Mythology (3)
HUM 130 - Introduction to Religious Studies (3)
HUM 202 - Great Texts: Western Thought and Literature (3)
HUM 203 - Great Texts: Asian Thought and Literature (3)
HUM 209 – Heroic **Archetypes** ~~Greek Tales~~: From the Trojans to Frankenstein (3)

HUM 211- Art and Literature of the Italian Renaissance (3)

and four of

HUM 151 - Ancient and Biblical Greek I (3)
HUM 161 - Latin I (3)
HUM 162 - Latin II (3)
HUM 305 - Medieval Studies (4) *
HUM 309 - Literatures and the Arts Across Cultures (4)
HUM 311 - Italian Renaissance Humanism (4)
HUM 318 - Heroines in Greece and Beyond: Political Representations of Women in Film and Literature (4)
HUM 319 - Greeks Go Global: From Antigone to Atwood (4)
HUM 330 - Religions in Context (4) *
HUM 331- Asian Religious Traditions (4)
HUM 332 - Mythology in Context (4)
HUM 333W – Italian Films, Italian Humanities (4)
HUM 350 - Great Figures in the Humanistic Tradition (4) *
HUM 360 - Special Topics: Great Themes in the Humanistic Tradition (4) *
HUM 381 - Topics in Global Humanities (4) *
HUM 382 - Selected Topics in Asian Art and Cultures (4) *
HUM 387 - Other Europe**s**: Arts and Cultures (4) *
SA 323 - Symbol, Myth and Meaning (A) (4)

* When topics are appropriate. Consult with the advisor.

Name of Program or Name of Faculty
Faculty of Arts and Social Science, Global Humanities

Rationale for change:
We wish to request that the following courses be included as class options to satisfy the requirements for the Concentration in Public Engagement and Intellectual Culture within the Global Humanities Majors and Minors:

- HUM 121 - Walk of Life: Migrations in Eurasia from Antiquity to the Present
- HUM 130 - Introduction to Religious Studies
- HUM 150 - Warfare ~~in the Hellenic World~~: From Plato to NATO
- HUM 203 - Great Texts: Asian Thought and Literature
- HUM 219 - The Early Middle Ages
- HUM 220 - Rome: From Republic to Empire
- HUM 276 - Social, Economic, and Political History of the Mediterranean
- HUM 325 - The Humanities and the Natural World
- HUM 331 - ~~Special Topics in~~ Asian Religious Traditions
- HUM 335 (currently HUM 345) - Modern Italian Culture
- HUM 340 - Great Cities in Their Time
- HUM 350 - ~~Special Topics:~~ Great Figures in the Humanistic Tradition
- HUM 360 - Special Topics: Great Themes in the Humanistic Tradition *

Reasons:
These courses are highly relevant to the Concentration in Public Engagement and Intellectual Culture in that they focus on texts and ideas that pertain to current debates, public action, beliefs and practices across different communities. Three course titles and one course code are in the process of revision with the current submission.

Effective term and year:
Fall 2024

The following program(s) will be affected by these changes:
Global Humanities major

Concentration in:

- Public Engagement and Intellectual Culture

Calendar Change: All deletions should be crossed out as follows: ~~sample.~~ All additions should be marked in **bold font.** Do not use "to" and "from" sections.

Concentration in Public Engagement and Intellectual Culture

Students may qualify for this concentration by completing two of

HUM 101W - Introduction to Global Humanities (3)
HUM 110 - The Greek World (3)
HUM 121 - Walk of Life: Migrations in Eurasia from Antiquity to the Present (3)
HUM 130 - Introduction to Religious Studies (3)
HUM 150 - Warfare: From Plato to NATO (3)
HUM 202 - Great Texts: Western Thought and Literature (3)
HUM 203 - Great Texts: Asian Thought and Literature (3)
HUM 204 - Great Religious Texts (3)
HUM 211 - Art and Literature of the Italian Renaissance (3)
HUM 219 - The Early Middle Ages (3)
HUM 220 - Rome: From Republic to Empire (3)
HUM 226 - War and Society (3)
HUM 276 - Social, Economic, and Political History of the Mediterranean (3)

and four of

GA 301 - Asia-Canada Identities: Experiences and Perspectives (3)
GA 302 - Selected Topics in Chinese Studies (3)
HUM 302W - Athenian Democracy (4)
HUM 311 - Italian Renaissance Humanism (4)
HUM 312W - Renaissance Studies (4)
HUM 318 - Heroines in Greece and Beyond: Political Representations of Women in Film and Literature (4)
HUM 319 - Greeks Go Global: From Antigone to Atwood (4)
HUM 320 - Cross-Cultural Philosophy in the Humanities (4)
HUM 321W - The Humanities and Critical Thinking (4)
HUM 325 - The Humanities and the Natural World (4)
HUM 330 - Religions in Context (4)
HUM 331 - Asian Religious Traditions (4)
HUM 333W - Italian Films, Italian Humanities (4)
HUM 335 - Modern Italian Culture (4)
HUM 340 - Great Cities in Their Time (4)
~~HUM 345 - Problems in Modern Italian History (4)~~
HUM 350 - Great Figures in the Humanistic Tradition (4)
HUM 360 - Special Topics: Great Themes in the Humanistic Tradition (4)
HUM 382 - Selected Topics in Asian Art and Cultures (4)

Name of Program or Name of Faculty
Faculty of Arts and Social Science, Global Humanities

Rationale for change:
We wish to request that the following courses be included as class options to satisfy the requirements for the Concentration in Art and Material Culture within the Global Humanities Majors and Minors:

- HUM 202 - Great Texts**: Western Thought and Literature** ~~in the Humanities~~
- HUM 312W - Renaissance Studies
- HUM 325 - The Humanities and the Natural World *
- HUM 331 - ~~Special Topics in~~ Asian Religious Traditions
- HUM 335 (currently HUM 345) - Modern Italian Culture

Reason(s):
These courses are highly relevant to the Concentration in Art and Material Culture in that they include the study of artworks and material expressions of the creative imagination through a historical and/or thematic approach. Two course titles and one course code are in the process of revision with the current submission.

Effective term and year:
Fall 2024

The following program(s) will be affected by these changes:
Global Humanities major,

Concentration in:

- Art and Material Culture

Calendar Change: All deletions should be crossed out as follows: ~~sample.~~ All additions should be marked in **bold font.** Do not use **"**to" and "from" sections.

Concentration in Art and Material Culture

Students may qualify for this concentration by completing two of

HUM 106 - Art and the Humanities (3)
HUM 202 - Great Texts: Western Thought and Literature (3)
HUM 203 - Great Texts: Asian Thought and Literature (3)
HUM 209 - Heroic Archetypes: From the Trojans to Frankenstein (3)
HUM 211 - Art and Literature of the Italian Renaissance (3)
HUM 222 - Cross-Cultural Perspectives on Art (3)
HUM 231 - Daily Life in Ancient Greece and Rome (3)
HUM 232 - Religions of Ancient Greece and Rome (3)
HUM 275 - From Alexander to Muhammad: The Hellenic and Roman Worlds to the End of Antiquity (3)
HUM 277 - History of Greek Civilization (3)

and four of

GA 301 - Asia-Canada Identities: Experiences and Perspectives (3)
GA 302 - Selected Topics in Chinese Studies (3)
HUM 305 - Medieval Studies (4)
HUM 309 - Literatures and the Arts Across Cultures (4)
HUM 311 - Italian Renaissance Humanism (4) *
HUM 312W - Renaissance Studies
HUM 313 - Roman Art and Archaeology (4)
HUM 314 - Greek Art and Archaeology (4)
HUM 325 - The Humanities and the Natural World (4) *
HUM 331 - Asian Religious Traditions (4)
HUM 333W - Italian Films, Italian Humanities (4)
HUM 335 - Modern Italian Culture (4)
HUM 340 - Great Cities in Their Time (4)
~~HUM 345 - Problems in Modern Italian History (4)~~
HUM 349 - Rome after Rome: The Byzantine Middle Ages from the end of Antiquity to the Crusades (4)
HUM 360 - Special Topics: Great Themes in the Humanistic Tradition (4) *
HUM 382 - Selected Topics in Asian Art and Cultures (4)
HUM 387 - Other Europe**s**: Arts and Cultures (4)
HUM 460 - Themes in Byzantine History (4)

* When topics are appropriate. Consult with the advisor.

Name of Program or Name of Faculty Department of History
Rationale for change: For both the History minor and extended minor, we would like to change the declaration requirements stated on the Academic Calendar to make it clearer to students how to add the plan to their degree program. In doing so, it will align declaration requirements across all History programs and reflect current declaration practices. This proposed change will lower the barrier to declaring a History minor or extended minor in line with current practices.
Effective term and year: Fall 2024
The following program(s) will be affected by these changes: History minor and extended minor

Calendar Change: All deletions should be crossed out as follows: ~~sample.~~ All additions should be marked in **bold font.** Do not use **"**to" and "from" sections.

History Minor

Program Requirements
To enter the program, students must **contact the departmental advisor (histadv@sfu.ca)**~~obtain credit for at least nine units in 100 and 200 division history courses~~. **A history minor can be added at any time.**

Lower Division Requirements
Students complete nine lower division units, including at least one 200 division course.

Upper Division Requirements
The program requires 15 or 16 units in 300 and 400 division history courses, with at least four units in each division.

Students in history programs have the option of taking concentrations to enhance their programs.

Concentration in British History and Irish History

Concentration in Early Modern World History

Concentration in Middle Eastern and Islamic History

History Extended Minor

Program Requirements
To enter the program, students **must contact the departmental advisor (histadv@sfu.ca)** ~~obtain credit for at least nine units in 100 and 200 division history courses.~~ **A history extended minor can be added at any time.**

The program requires 18 units in 100 and 200 division courses and 15 or 16 units in 300 and 400 division, with at least four units in each division.

Students in history programs have the option of taking concentrations to enhance their programs.

Concentration in British History and Irish History

Concentration in Early Modern World History

Concentration in Middle Eastern and Islamic History

Name of Program or Name of Faculty
Social Data Analytics

Rationale for change:

- PHIL 270 is equivalent to SDA 270, and so students in the Social Data Analytics Minor program should be able to use PHIL 270 in place of SDA 270 to satisfy the requirements of the program.
- LING 250 is equivalent to SDA 250, and so students in the Social Data Analytics Minor program should be able to use LING 250 in place of SDA 250 to satisfy the requirements of the program.
- Currently, SDA students may complete (at most) one course in data visualization as an elective credit in the SDA minor. Data visualization is a core skill that ensures student success in the SDA program and hence should be required, instead of an elective. However, this should not change the total number of credits required to complete the SDA minor.
- As of Fall 2024, STAT will combine STAT 360-2 & STAT 361-1 into a single course (STAT 360-3), and STAT 310-2 & STAT 311-2 into a single course (STAT 310-4). We we are updating SDA program requirements accordingly.

Effective term and year: Fall 2024

The following program(s) will be affected by these changes:

Social Data Analytics Minor

Calendar Change:

All deletions should be crossed out as follows: ~~sample.~~ All additions should be marked in **bold font.** Do not use **"**to" and "from" sections.

Program Requirements

Students must complete at least 27 units as follows:

Complete all of:

SDA 250 - Computational Text Analysis (4) **or LING 250 (4)**
SDA 270 - Data, Ethics and Society (3) **or PHIL 270 (3)**
SDA 490 - Capstone Project Seminar (5)

Complete one of:

ECON 233 - Introduction to Economic Data and Statistics (4)
POL 201 - Introductory Quantitative Methods in Political Science (4)

STAT 203 - Introduction to Statistics for the Social Sciences (3)

Complete one of:

ECON 334 - Data Visualization and Economic Analysis (3)
POL 390 - Data Visualization and Political Analysis (3)
STAT 240 - Introduction to Data Science (3)
STAT 310 - Introduction to Data Science for the Social Sciences (4)

Elective Requirements

Students complete a total of at least ~~12~~ **9** elective units, as follows:

No more than four units of which may come from:

CMNS 353 - Topics in Science, Technology and Society (4)
ENGL 363 - Studies in Media Cultures (4)
GSWS 399 - Gender, Sex and Numbers (4)
POL 318 - Fake News and Alt-Facts: Navigating Post-Truths Politics (4)
POL 426W - Political Behavior (4)

~~No more than four units of which may come from:~~

~~ECON 334 - Data Visualization and Economic Analysis (3)~~
~~POL 390 - Data Visualization and Political Analysis (3)~~
~~STAT 240 - Introduction to Data Science (3)~~
~~STAT 310 - Introduction to Data Science for the Social Sciences (2) and STAT 311 - Data Science Laboratory for the Social Sciences (2)~~

Any of:
ECON 329 - Experimental Economics (3)
ECON 335 - Cause and Effect in Economic Data (3)
ECON 435 - Econometric Methods (5)
GEOG 255 - Geographical Information Science I (3)
GEOG 355 - Geographical Information Science II (4)
LING 450 - Computational Linguistics (3)
PHIL 315 - Formal Methods (3)
POL 315 - Intermediate Quantitative Methods (4)
POL 488 - Topics in Empirical Research Design and Analysis (4)
STAT 302 - Analysis of Experimental and Observational Data (3)
STAT 360 - Advanced R for Data Science **(3)** ~~(2) and STAT 361 - Laboratory for Advanced R for Data Science (1)~~
STAT 452 - Statistical Learning and Prediction (3)

With approval of the program director, up to six units of relevant courses from other departments may be counted for the minor.

SFU SENATE COMMITTEE ON UNDERGRADUATE STUDIES

PROGRAM MODIFICATION TEMPLATE

Name of Program or Name of Faculty Beedie School of Business
Rationale for change: Upper Division Business Minor requirements were reviewed in Fall 2023 with goals to support the student completion of the business minor, improve students' experience, and deepen their business journey. The proposed changes are in alignment with these goals. Adjustments to the Lower Division Business Minor requirements for Fall 2024 will ensure a smooth student transition when the new Upper Division Business requirements become effective in Fall 2025.
Effective term and year: Fall 2024
The following program(s) will be affected by these changes: Business Minor

Calendar Change: "to" and "from" sections are not required. All deletions should be crossed out as follows: ~~sample.~~ All additions should be marked by a **bold.**

Business Minor

[…]

Program Requirements

Lower Division Requirements

Students complete both

BUS 200 - Business Fundamentals (3)
BUS 251 - Financial Accounting I (3)

and one of

ECON 103 - Principles of Microeconomics (4)
ECON 113 - Introduction to Microeconomics (3)

and one of

BUS 240 - Introduction to Innovation (3)
BUS 272 - Behaviour in Organizations (3)

and ~~four~~ **three** of*

BUS 221 - Personal Finance (3)
BUS 233 - Introduction to Business Law and Ethics (3)
BUS 237 - Introduction to Business Technology Management (3)
~~BUS 240 - Introduction to Innovation (3)~~
~~BUS 272 - Behaviour in Organizations (3)~~
BUS 275 - Business in a Sustainable Society (3)

*one of these courses may be replaced by one of the courses listed below or with any three unspecified transfer units in English or in ENGL-Writing at the 100- or 200-level.

BUS 216 – Introduction to Essentials of Business Communications (3)
ECON 105 - Principles of Macroeconomics (4)
ECON 115 - Introduction to Macroeconomics (3)
ENGL 111W - Literary Classics in English (3)
ENGL 112W - Literature Now (3)
ENGL 113W - Literature and Performance (3)
ENGL 114W - Language and Purpose (3)
ENGL 115W - Literature and Culture (3)
ENGL 199W - Writing to Persuade (3)
PHIL 100W - Knowledge and Reality (3)
PHIL 105 - Critical Thinking (3)
PHIL 110 - Introduction to Logic and Reasoning (3)
PHIL 120W - Moral and Legal Problems (3)
PHIL 150 - Great Works in the History of Philosophy (3)
WL 101W - Writing in World Literature (3)
WL 103W - Early World Literatures (3)
WL 104W - Modern World Literatures (3)
WL 105W - World Literature Lab (3)

[...]

Name of Program or Name of Faculty Beedie School of Business
Rationale for change: Currently Actuarial Science Students have access to BUS 312 and BUS 315. As part of a review of the Actuarial Science Bachelor of Science, BUS 217W and BUS 316 were identified as being beneficial for their students as well.
Effective term and year: Fall 2024
The following program(s) will be affected by these changes: Course Access Information and Grade Requirements https://www.sfu.ca/students/calendar/faculties-research/faculty-business/course-access-info-and-grade-requirements.html

Calendar Change: "to" and "from" sections are not required. All deletions should be crossed out as follows: ~~sample.~~ All additions should be marked by a **bold.**

Information About Access to Business Courses […] ACTUARIAL SCIENCE STUDENTS Actuarial science majors and honours students have access to **BUS 217W,** BUS 312**,** ~~and~~ BUS 315**, and BUS 316**. […]

Name of Program or Name of Faculty

Beedie School of Business

Rationale for change:

The crossed-out policy below is not in alignment with the revised internal transfer and college/university transfer requirements for business-intended students entering the program in Fall 2024 and beyond.

Students who have taken BUS 374 have been deemed as meeting the BUS 381 requirement and thus, it is being waived. Adding BUS 374 would be in alignment with program learning goals and with student course-taking patterns to support progression.

Effective term and year:

Fall 2024

The following program(s) will be affected by these changes:

Mechatronic Systems Engineering and Business Double Degree Program Major

Calendar Change: "to" and "from" sections are not required. All deletions should be crossed out as follows: ~~sample.~~ All additions should be marked by a **bold.**

BACHELOR OF APPLIED SCIENCE AND BACHELOR OF BUSINESS ADMINISTRATION

This double-degree major program leads to a bachelor of applied science degree and a bachelor of business administration degree.

Admission Requirements

~~Admission is normally via the mechatronic systems engineering major (MSE). Students are admitted based on a CGPA of 3.0 obtained on the first 30 units of the mechatronic systems engineering major plus ECON 105. Otherwise,~~ MSE majors may ~~later~~ gain admission by meeting the competitive requirements for entry into the Beedie School of Business. Beedie business students may gain admission by meeting the internal transfer requirements of the mechatronic systems engineering major.

[…]

Program Requirements

Students complete all of

BUS 232 - Business Statistics (3)
BUS 251 - Financial Accounting I (3)
BUS 254 - Managerial Accounting I (3)
BUS 272 - Behaviour in Organizations (3)
BUS 312 - Introduction to Finance (3)
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) **
CHEM 120 - General Chemistry I (3)
CMPT 130 - Introduction to Computer Programming I (3)
MATH 151 - Calculus I (3)
MATH 152 - Calculus II (3)
MATH 232 - Applied Linear Algebra (3)
MATH 251 - Calculus III (3)
MSE 101W - Process, Form, and Convention in Professional Genres (3)
MSE 102 - Applied Science, Technology and Society (3)
MSE 103 – Statics and Dynamics (3)
MSE 112 – Mechatronic Design Studio I (3)
MSE 152 – Digital Computing Fundamentals (3)
MSE 210 - Engineering Measurement and Data Analysis (3)
MSE 212 – Mechatronic Design Studio II (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 (4)
MSE 251 - Electronic Circuits (4)
MSE 252 – Fundamentals of Digital Logic and PLCs (3)
MSE 280 - Linear Systems (3)
MSE 281 – Modelling of Mechatronic Systems (3)
MSE 310 - Sensors and Actuators (4)
MSE 312 - Mechatronics Design II (4) *
MSE 320 - Machine Design (4)
MSE 321 - Engineering Thermodynamics and Heat Transfer (4)
MSE 352 - Digital Logic and Microcontrollers (4)
MSE 353 - Power Electronics and Electric Machinery (4)
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 141 - Studio Physics - Optics, Electricity and Magnetism (4)

and one of

BUS 374 – Organization Theory (3)
BUS 381 - Introduction to Human Resource Management (3)

and one of

ECON 103 - Principles of Microeconomics (4)
ECON 113 - Introduction to Microeconomics (3)

and one of

ECON 105 - Principles of Macroeconomics (4)
ECON 115 - Introduction to Macroeconomics (3)

and one of

BUS 207 - Managerial Economics (3)
ECON 201 - Microeconomic Theory I: Competitive Behavior (4)

Prior approval by the director of the school is required if the student plans a term with fewer than 12 course units.

* Strongly recommended to be completed concurrently.

** To be completed at Simon Fraser University.

† To be completed before the student's 75th unit and at Simon Fraser University in accordance with the WQB requirements.

Name of Program or Name of Faculty Beedie School of Business
Rationale for change: Upper Division Business Minor requirements were reviewed in Fall 2023 with goals to support the student completion of the business minor, improve students' experience and deepen their business journey. The proposed changes are in alignment with these goals. Effective change is proposed for Fall 2025 to support student transition as many minor students are admitted at the end of their major program and start taking 300-level minor courses in their admit term.
Effective term and year: Fall 2025
The following program(s) will be affected by these changes: Business Minor Course Access Information and Grade Requirements https://www.sfu.ca/students/calendar/faculties-research/faculty-business/course-access-info-and-grade-requirements.html

Calendar Change: "to" and "from" sections are not required. All deletions should be crossed out as follows: ~~sample.~~ All additions should be marked by a **bold.**

Business Minor

[…]

Upper Division Requirements

Core Courses

Students must complete all core courses with a minimum C- grade.

At least ~~16~~ **15** upper division BUS units are required including all of the following core courses

Students complete all of

BUS 311 - ~~Introduction to Managerial Accounting and Financial Management~~ **Financial Decision Making** (~~4~~ **3**)
BUS 340 - International Business Strategy (~~4~~ **3**)
BUS 341 - Fundamentals of Marketing (~~4~~ **3**)
BUS 401 - Developing Organizational Opportunities (~~4~~ **3**)**

and one of

BUS 314 – Resourcing New Ventures (3)
BUS 338 – Foundations of Innovation (3)
BUS 347 – Consumer Behaviour (3)
BUS 361 – Project Management (3)
BUS 374 – Organization Theory (3)
BUS 381 – Introduction to Human Resource Management (3)

** Must be completed at SFU.

Course Access Information and Grade Requirements

Information About Access to Business Courses

[…]

BUSINESS MINOR STUDENTS

Only students admitted to the business minor will be permitted to enroll in upper division business minor courses (BUS 311, BUS 340, BUS 341, and BUS 401). **Business minor students have access to BUS 314, BUS 338, BUS 347, BUS 361, BUS 374, and BUS 381.**

[…]

Name of Program or Name of Faculty Beedie School of Business
Rationale for change: Through a review of the Business Foundation Program along with analyses of student progression, these proposed updates provide an opportunity to support student progress in the BBA by emphasizing course taking expectations. This supports SFU's goals to encourage timely degree completion. The adjustments proposed clear up the language and the intent of this curriculum component as it outlines students first term BBA program requirements dependent on their admissions pathway. It also allows the BBA to designate within SIMS a "tag" on student groups to place them into the correct pathway upon admissions (BFP – Transfer and BFP – High School). This ensures students are in the correct BUS 201/202 course. The indicator is then utilized to audit and ensure students meet their first term course requirement.
Effective term and year: Fall 2024
The following program(s) will be affected by these changes: Business Major Business Honours

Calendar Change: "to" and "from" sections are not required. All deletions should be crossed out as follows: ~~sample.~~ All additions should be marked by a **bold.**

BACHELOR OF BUSINESS ADMINISTRATION Students admitted to the Beedie School of Business for the Fall 2017 term onwards must complete the Business Foundation ~~Program~~ **Pathways** within their first year. (…)

Program Requirements

Students admitted to the Beedie School of Business for the Fall 2017 term onwards must complete the Business Foundation ~~Program~~ **Pathways** within their first year. Students admitted from high school must complete the Business Foundation ~~Program~~ **Pathways** – High School Stream. Students admitted through internal or external transfer must complete the Business Foundation ~~Program~~ **Pathways** - Transfer Stream. The courses required for each stream can be found under the Business Foundation ~~Program~~ **Pathways** .

Business Honours

BACHELOR OF BUSINESS ADMINISTRATION

(...)

Program Requirements

Students admitted to the Beedie School of Business for the Fall 2017 term onwards must complete the Business Foundation ~~Program~~ **Pathways** within their first year. Students admitted from high school must complete the Business Foundation ~~Program~~ **Pathways** – High School Stream. Students admitted through internal or external transfer must complete the Business Foundation ~~Program~~ **Pathways** - Transfer Stream. The courses required for each stream can be found under the Business Foundation ~~Program~~ **Pathways** .

SFU SENATE COMMITTEE ON UNDERGRADUATE STUDIES

PROGRAM MODIFICATION TEMPLATE

Calendar Entry Change
School of Interactive Arts & Technology
Concentration changes

Rationale for change:
In response to the SIAT external review (completed Fall 2022, available at https://ah1.ca/23ext) and surveying of SIAT faculty, students and alumni as part of our self-study (in 2022) SIAT is undergoing a process of significant curriculum renewal as outlined in our action plan (available at https://ah1.ca/23ap).

The changes proposed in this document are the start of the curriculum renewal process and focus on defining new concentrations. An overview of the process completed for these changes is available at https://andrewh.ca/ucc/concentrations.

The majority of concentrations are reorganizing our existing 300-level and 400-level curriculum into new groups of courses. The new concentrations complement new faculty hires and enable more effective laddering of course content. The only concentration proposing new courses is the Human-Centered AI & Data-Science concentration, which has separate new course forms attached and it is recommended that those courses be reviewed *before* reviewing this calendar change.

The language for each concentration has been kept purposefully brief to ensure the calendar is not too cumbersome for students to review. We will maintain longer descriptions for each concentration on the SIAT website at http://www.sfu.ca/siat/programs/undergraduate/prospective-students/degrees.html

To ensure these new concentrations effectively ladder the courses within, each concentration has a set of learning outcomes associated with it. Learning outcomes have been provided for your reference as an addendum to this package.

Discussions were held with the UCC Chair of Computing Science on the proposed changes. Statistics and Actuarial Science has not responded to date.

There are some smaller changes in the concentration language included in this to clarify concentrations for students:

- *Removal of 'limited access' to concentrations and preferred course access for concentration students:* This has been removed as managing the preferred course access creates more overhead for advisors and was frequently misunderstood by students to mean being in a concentration ensures access to a course (which is not the case). A small number of seats (typically 8 per course) were reserved for students of that concentration. We do not believe this is of significant benefit any longer and there are some students who actively switched concentrations to gain

access to the reserved seating.

- *Changing 'degree' to 'transcript':* As concentrations do not appear on the parchment we felt it would be better to clarify in the concentration language that concentrations appear on the *transcript* instead of the *degree* (which is more ambiguous).

- *Requirement of enrolling in concentration for Joint Majors:* We recognize the proposed definition of a concentration does *not* permit for the requirement of enrolling. Joint Majors (in Communications/Business) have been historically required to select a concentration to ensure there is a focus to their shorter portion of study at IAT. We do not want to introduce confusion for regular IAT Majors and Joint Majors by separating out the language into Concentrations and Streams respectively. As a result we would like to maintain the language of 'concentration' while still requiring a concentration be selected for Joint Majors.

As this is a larger and more complex program change, please do not hesitate to reach out to SIAT UCC Chair Andrew Hawryshkewich (Andrew_h@sfu.ca) if a more in-depth presentation of these changes is required.

Effective term and year: Fall 2024

The following program(s) will be affected by these changes:
Interactive Arts and Technology Major BA
Interactive Arts and Technology Major BSc
Interactive Arts and Technology Honours BA
Interactive Arts and Technology Honours BSc
Interactive Arts and Technology Second Degree BA
Interactive Arts and Technology Second Degree BSc
Communication and Interactive Arts and Technology Joint Major BA
Communication and Interactive Arts and Technology Joint Major BSc
Interactive Arts and Technology and Business Joint Major BA or BBA
Interactive Arts and Technology and Business Joint Major BSc

Calendar Change: "to" and "from" sections are not required. All deletions should be crossed out as follows: ~~sample.~~ All additions should be marked by a **bold.**

In the following calendar sections:

- *Interactive Arts and Technology Major BA*
  Interactive Arts and Technology Major BSc
  Interactive Arts and Technology Honours BA
  Interactive Arts and Technology Honours BSc
  Interactive Arts and Technology Second Degree BA
  Interactive Arts and Technology Second Degree BSc

Concentrations

~~A concentration is an area of specialization that approved IAT majors may pursue within their bachelor of arts. SIAT offers concentrations in media arts, interactive systems and design.~~ **A concentration is a group of related courses that approved IAT majors can pursue within their degree.**

~~Students may choose their area of concentration after completing at least 27 units of lower division core courses. All upper division (300 and 400-level) concentration courses must be completed at SFU.~~

~~Areas of concentration are only open to approved IAT majors. Acceptance to concentrations is limited due to the limited spaces in required courses; students will be accepted to these concentrations based on their CGPA and are required to maintain the specified CGPA while pursuing the concentration. Students can be accepted only to one concentration at a time. Once admitted to a concentration, students are given access to reserved seats for six consecutive terms. After six consecutive terms, students will no longer have access to the reserved seats.~~

~~Students are encouraged to speak with their undergraduate advisor early in their academic career regarding admission to their chosen concentration.~~

~~Students who do not choose a concentration or are not accepted to any concentration may still complete concentration requirements and apply for recognition of the completed concentration on their degrees at the time of graduation.~~

Students may complete more than one concentration. All completed concentrations will be recognized on their ~~degree~~ **transcript**. **All upper division (300 and 400-level) concentration courses must be completed at SFU.**

~~*Media Arts*~~

~~This concentration studies the creation, analysis and understanding of new media. New media environments are both computational artifacts and cultural experiences that include historical, social, aesthetic, and economic processes.~~

~~Graduates will be skilled in the critical analysis and making of new media forms such as electronic games, digital video, computer animation, and interactive multimedia.~~

~~Students who choose this concentration complete six of~~
~~IAT 313 - Narrative and New Media (3)~~
~~IAT 320 - Body Interface (4)~~
~~IAT 340 - Sound Design (3)~~
~~IAT 343 - Animation (4)~~
~~IAT 344 - Moving Images (4)~~
~~IAT 443 - Interactive Video (4)~~
~~IAT 445 - Immersive Environments (4)~~

~~*Interactive Systems*~~

~~Students in this concentration learn how to design and program interactive technology used in work, play and learning.~~

~~This concentration emphasizes applying human-computer interaction principles to highly interactive applications, devices and systems. Graduates will be able to conceive, design and program applications in areas such as the web, handheld devices and games.~~

~~Students who choose this concentration complete six of~~
~~IAT 351 - Advanced Human-Computer Interaction (3)~~
~~IAT 352 - Internet Computing Technologies (4)~~
~~IAT 355 - Introduction to Visual Analytics (3)~~
~~IAT 359 - Mobile Computing (4)~~
~~IAT 410 - Advanced Game Design (4)~~

~~IAT 452 - Developing Design Tools (3)~~
~~IAT 455 - Computational Media (3)~~

~~*Design*~~

~~This concentration focuses on the design and use of interactive products and systems. It emphasizes designing and understanding all aspects of successful designs. Graduates will demonstrate ability in contemporary design from requirements through design to critique and evaluation.~~

~~Students who choose this concentration complete six of~~
~~IAT 333 - Interaction Design Methods (4)~~
~~IAT 334 - Interface Design (4)~~
~~IAT 336 - Materials in Design (4)~~
~~IAT 339 - Web Design and Development (3)~~
~~IAT 431 - Speculative Design (4)~~
~~IAT 432 - Design Evaluation (3)~~
~~IAT 437 - Representation and Fabrication (3)~~
~~IAT 438 - User Experience Design (6)~~

Creative Media
In the Creative Media Concentration, students gain skills in emergent areas such as narrative, interactivity, video, sound design, motion capture, visual effects and immersive technologies to tackle meaningful and critically-engaged stories, preparing them for further work in graduate studies or careers in entertainment, film, media arts, and software media industries.

Students who choose this concentration complete the following courses:

IAT 313 Narrative and New Media
IAT 340 Sound Design
IAT 344 Moving Images
IAT 443 Interactive Video

Designing Interactions
Designing Interactions develops competencies in interaction design, speculative design and user experience design. Projects develop problem-solving capabilities rigorously tested by critique after framing and research for interventions for people and communities. The role of the designer is explored in a range of contexts. Projects

range from screen-based to tangible artifacts, products and services.

Students who choose this concentration complete the following courses:

IAT 333 Interaction Design Methods
IAT 431 Speculative Design
IAT 438 User Experience Design

Extended Reality and Game Design
The XR and Game Design concentration provides a blend of technical, theoretical, and practical skills in diverse areas of extended reality and game design. Students learn to create compelling gaming and immersive experiences, apply user-centered design, manage projects, work collaboratively, communicate effectively, and engage in critical thinking and ethical practices.

Students who choose this concentration complete the following courses:

IAT 312 Foundations of Game Design
IAT 343 Animation
IAT 410 Advanced Game Design
IAT 445 Immersive Environments

AI and Data Science for Human-centered Systems
This concentration is aimed to teach students the skills to extract insights from data, design and build AI systems for interactive technologies, data-driven decision-making, and computer assisted creativity. It emphasizes applying human-centered computing principles and ethical considerations to AI and data science to design, evaluate and deploy state-of-the-art interactive systems.

Students who choose this concentration complete the following courses:

IAT 355 Introduction to Visual Analytics
IAT 360 Exploring Artificial Intelligence: Its Use, Concepts, and Impact
IAT 460 Generative AI and Computational Creativity
IAT 461 Data Science for Human-Centered Systems

Design and Development for Web and Mobile
This concentration provides students with the theories, tools and methods for developing digital applications for the web and mobile. There is a heavy focus on modern development practices, accessibility considerations and creating applications tailored to meet the unique needs of the target audience while considering the context of use.

Students who choose this concentration complete the following courses:

IAT 339 Web Design and Development
IAT 359 Mobile Computing
IAT 459 Internet Computing Technologies

In the following calendar sections:

- Communication and Interactive Arts and Technology Joint Major BA
- Communication and Interactive Arts and Technology Joint Major BSc
- Interactive Arts and Technology and Business Joint Major BA or BBA
- Interactive Arts and Technology and Business Joint Major BSc

SIAT Concentrations

~~A concentration is an area of specialization that approved IAT majors may pursue within their bachelor of science. SIAT offers concentrations in media arts, interactive systems and design.~~ **A concentration is a group of related courses that approved IAT joint majors must pursue within their degree. Including concentration courses joint majors must complete 20 units of upper-division IAT units.**

Students may complete more than one concentration. All completed concentrations will be recognized on their transcript. All upper division (300 and 400-level) concentration courses must be completed at SFU.

~~Students are required to complete 15 units from one concentration listed below and an additional six upper division IAT units (6).~~

~~To enroll in 400-level courses, students must complete the IAT lower division requirements as specified above and a required upper division writing course.~~

~~Media Arts~~

~~This concentration studies the creation, analysis and understanding of new media. New media environments are both computational artifacts and cultural experiences that include historical, social, aesthetic, and economic processes.~~

~~Graduates will be skilled in the critical analysis and making of new media forms such as electronic games, digital video, computer animation, and interactive multimedia.~~

~~Students complete 15 units of~~

~~IAT 313 - Narrative and New Media (3)~~
~~IAT 320 - Body Interface (4)~~
~~IAT 340 - Sound Design (3)~~
~~IAT 343 - Animation (4)~~
~~IAT 344 - Moving Images (4)~~
~~IAT 443 - Interactive Video (4)~~
~~IAT 445 - Immersive Environments (4)~~

~~Interactive Systems~~

~~Students in this concentration learn how to design and program interactive technology used in work, play and learning.~~

~~This concentration emphasizes applying human-computer interaction principles to highly interactive applications, devices and systems. Graduates will be able to conceive, design and program applications in areas such as the web, handheld devices and games.~~

~~Students complete 15 units of~~
~~IAT 351 - Advanced Human-Computer Interaction (3)~~
~~IAT 352 - Internet Computing Technologies (4)~~
~~IAT 355 - Introduction to Visual Analytics (3)~~
~~IAT 359 - Mobile Computing (4)~~
~~IAT 410 - Advanced Game Design (4)~~
~~IAT 452 - Developing Design Tools (3)~~
~~IAT 455 - Computational Media (3)~~

~~Design~~

~~This concentration focuses on the design and use of interactive products and systems. It emphasizes designing and understanding all aspects of successful designs. Graduates will demonstrate ability in contemporary design from requirements through design to critique and evaluation.~~

~~Students complete 15 units of~~
~~IAT 333 - Interaction Design Methods (4)~~
~~IAT 334 - Interface Design (4)~~
~~IAT 336 - Materials in Design (4)~~
~~IAT 339 - Web Design and Development (3)~~
~~IAT 431 - Speculative Design (4)~~
~~IAT 432 - Design Evaluation (3)~~
~~IAT 437 - Representation and Fabrication (3)~~
~~IAT 438 - User Experience Design (6)~~

Creative Media
In the Creative Media Concentration, students gain skills in emergent areas such as narrative, interactivity, video, sound design, motion capture, visual effects and immersive technologies to tackle meaningful and critically-engaged stories, preparing them for further work in graduate studies or careers in entertainment, film, media arts, and software media industries.

Students who choose this concentration complete the following courses:

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IAT 340 Sound Design
IAT 344 Moving Images
IAT 443 Interactive Video

Designing Interactions
Designing Interactions develops competencies in interaction design, speculative design and user experience design. Projects develop problem-solving capabilities rigorously tested by critique after framing and research for interventions for people and communities. The role of the designer is explored in a range of contexts. Projects range from screen-based to tangible artifacts, products and services.

Students who choose this concentration complete the following courses:

IAT 333 Interaction Design Methods
IAT 431 Speculative Design
IAT 438 User Experience Design

Extended Reality and Game Design
The XR and Game Design concentration provides a blend of technical, theoretical, and practical skills in diverse areas of extended reality and game design. Students learn to create compelling gaming and immersive experiences, apply user-centered design, manage projects, work collaboratively, communicate effectively, and engage in critical thinking and ethical practices.

Students who choose this concentration complete the following courses:

IAT 312 Foundations of Game Design
IAT 343 Animation
IAT 410 Advanced Game Design

IAT 445 Immersive Environments

AI and Data Science for Human-centered Systems
This concentration is aimed to teach students the skills to extract insights from data, design and build AI systems for interactive technologies, data-driven decision-making, and computer assisted creativity. It emphasizes applying human-centered computing principles and ethical considerations to AI and data science to design, evaluate and deploy state-of-the-art interactive systems.

Students who choose this concentration complete the following courses:

IAT 355 Introduction to Visual Analytics
IAT 360 Exploring Artificial Intelligence: Its Use, Concepts, and Impact
IAT 460 Generative AI and Computational Creativity
IAT 461 Data Science for Human-Centered Systems

Design and Development for Web and Mobile
This concentration provides students with the theories, tools and methods for developing digital applications for the web and mobile. There is a heavy focus on modern development practices, accessibility considerations and creating applications tailored to meet the unique needs of the target audience while considering the context of use.

Students who choose this concentration complete the following courses:

IAT 339 Web Design & Development
IAT 359 Mobile Computing
IAT 459 Internet Computing Technologies

Calendar Entry Change
School of Interactive Arts & Technology
Proposed lower-division requirements changes

Rationale for change:
In response to the SIAT external review (completed Fall 2022, available at https://ah1.ca/23ext) and surveying of SIAT faculty, students and alumni as part of our self-study (in 2022) SIAT is undergoing a process of significant curriculum renewal as outlined in our action plan (available at https://ah1.ca/23ap).

The changes proposed in this document are the start of the curriculum renewal process that works in combination with concentration changes (proposed separately). This set of changes focuses on reducing restrictions on 200-level courses to enable students a bit more flexibility in selecting courses that work towards their concentrations within SIAT, or to take courses outside of SIAT enabling more interdisciplinary exploration in their degree.

As our current focus has been on the 300/400-level courses, we anticipate that there will be a later, additional round of 200-level changes proposed for Fall 2025 once we have had some time to further discuss our lower-division courses and how they can best compliment our new concentrations.

Changes to joint-major programs have been reviewed with the Communications and Business UCC Chairs to ensure there are no concerns with the revisions.

Some further details on the changes proposed in the concentration language:

- *Requiring fewer 200-level courses:* To enable students to explore more exploration beyond SIAT as well as to prepare for changes at the 200-level we are only requiring six of the originally required eight courses. We anticipate future changes to the 200-level will make use of pre-requisite chains to manage student's preparedness for the new concentrations and revised upper-division courses.

- *Removing non-SIAT three-unit requirement for IAT BSc students:* Since we are opening up the required courses at the 200-level we anticipate students pursuing a BSc will be able to explore additional courses as suits them outside of SIAT. This requirement also created a disparity in required courses between BA/BSc students, with BSc students being more locked into a set of lower-division requirements.

- *Removing 'additional' requirements for Communications Joint Majors:* The additional requirement to take one of IAT-222 or IAT-235 we feel will be covered by future adjustments to pre-requisite chains for concentrations. Removing this requirement enables more flexibility for students in the Joint Major who are typically already quite limited in their options.

As this is a larger and more complex program change please do not hesitate to reach out to SIAT UCC Chair Andrew Hawryshkewich (Andrew_h@sfu.ca) if a more in-depth presentation of these changes is required.

Effective term and year: Fall 2024

The following program(s) will be affected by these changes:
Interactive Arts and Technology Major BA
Interactive Arts and Technology Major BSc
Interactive Arts and Technology Honours BA
Interactive Arts and Technology Honours BSc
Communication and Interactive Arts and Technology Joint Major BA
Communication and Interactive Arts and Technology Joint Major BSc
Interactive Arts and Technology and Business Joint Major BA or BBA
Interactive Arts and Technology and Business Joint Major BSc

Calendar Change: "to" and "from" sections are not required. All deletions should be crossed out as follows: ~~sample.~~ All additions should be marked by a **bold.**

In the following calendar sections:

- Interactive Arts and Technology Major BA

Lower Division Requirements

Complete all of the following courses:
CMPT 120 - Introduction to Computing Science and Programming I (3) or an equivalent introductory programming course such as CMPT 102, **CMPT** 125, **CMPT** 126, **CMPT** 128, **CMPT** 130, or **CMPT** 166
MATH 130 – Geometry for Computer Graphics (3) or MACM 101 – Discrete Mathematics (3)
IAT 100 - Digital Image Design (3)
IAT 102 - Graphic Design (3)
IAT 103W - Design Communication and Collaboration (3)
IAT 106 - Spatial Thinking and Communicating (3)
IAT 167 - Digital Games: Genre, Structure, Programming and Play (3)

Complete six of the following courses:
IAT 201 - Human-Computer Interaction and Cognition (3)
IAT 202 - New Media Images (3)
IAT 206W - Media Across Cultures (3)
IAT 222 - Interactive Arts (3)
IAT 233 - Spatial Design (3)
IAT 235 - Information Design (3)
IAT 265 - Multimedia Programming for Art and Design (3) or other approved second year programming course
IAT 267 - Introduction to Technological Systems (3)
~~MATH 130 – Geometry for Computer Graphics (3)~~

– Interactive Arts and Technology Honours BA

Lower Division Requirements
Complete all of the following courses:
CMPT 120 - Introduction to Computing Science and Programming I (3) or an equivalent introductory programming course such as CMPT 102, **CMPT** 125, **CMPT** 126, **CMPT** 128, **CMPT** 130, or **CMPT** 166
MATH 130 – Geometry for Computer Graphics (3) or MACM 101 – Discrete Mathematics (3)
IAT 100 - Digital Image Design (3)
IAT 102 - Graphic Design (3)
IAT 103W - Design Communication and Collaboration (3)
IAT 106 - Spatial Thinking and Communicating (3)
IAT 167 - Digital Games: Genre, Structure, Programming and Play (3)

Complete six of the following courses:
IAT 201 - Human-Computer Interaction and Cognition (3)
IAT 202 - New Media Images (3)
IAT 206W - Media Across Cultures (3)
IAT 222 - Interactive Arts (3)
IAT 233 - Spatial Design (3)
IAT 235 - Information Design (3)
IAT 265 - Multimedia Programming for Art and Design (3) or other approved second year programming course
IAT 267 - Introduction to Technological Systems (3)
~~MATH 130 – Geometry for Computer Graphics (3)~~
~~or equivalent~~

In the following calendar sections:

- Interactive Arts and Technology Major BSc
- Interactive Arts and Technology Honours BSc

Lower Division Requirements

Complete all of the following courses:
CMPT 120 - Introduction to Computing Science and Programming I (3) or an equivalent introductory programming course such as CMPT 102, **CMPT** 125, **CMPT** 126, **CMPT** 128, **CMPT** 130, or **CMPT** 166
MACM 101 – Discrete Mathematics (3)
IAT 100 - Digital Image Design (3)
IAT 102 - Graphic Design (3)
IAT 103W - Design Communication and Collaboration (3)
IAT 106 - Spatial Thinking and Communicating (3)
IAT 167 - Digital Games: Genre, Structure, Programming and Play (3)

Complete six of the following courses:
IAT 201 - Human-Computer Interaction and Cognition (3)
IAT 202 - New Media Images (3)
IAT 206W - Media Across Cultures (3)
IAT 222 - Interactive Arts (3)
IAT 233 - Spatial Design (3)
IAT 235 - Information Design (3)
IAT 265 - Multimedia Programming for Art and Design (3) or other approved second year programming course
IAT 267 - Introduction to Technological Systems (3)
~~MACM 101 – Discrete Mathematics (3)~~

~~and one additional three-unit lower division science course from computing science (CMPT), engineering science (ENSC), biomedical physiology and kinesiology (BPK), mathematics (MATH), statistics (STAT), or physics (PHYS)~~

In the following calendar sections:

- Communication and Interactive Arts and Technology Joint Major BA

Interactive Arts and Technology

CMPT 120 - Introduction to Computing Science and Programming I (3) or an equivalent introductory programming course such as CMPT 102, **CMPT** 125, **CMPT** 126, **CMPT** 128, **CMPT** 130, or **CMPT** 166
IAT 100 - Digital Image Design (3)
IAT 102 - Graphic Design (3)
IAT 167 - Digital Games: Genre, Structure, Programming and Play (3)
IAT 201 - Human-Computer Interaction and Cognition (3)
IAT 265 - Multimedia Programming for Art and Design (3) **or other approved second year programming course**
MATH 130 - Geometry for Computer Graphics (3) or MACM 101 - Discrete Mathematics I (3)

~~and one of~~
~~IAT 222 - Interactive Arts (3)~~
~~IAT 235 - Information Design (3)~~

In addition, students are required to choose one concentration. ~~Students will take one of the courses listed below that corresponds with their desired concentration.~~

~~Media Arts~~

~~IAT 202 - New Media Images (3)~~

~~Design~~

~~IAT 233 - Spatial Design (3)~~

~~Interactive Systems~~

~~IAT 267 - Introduction to Technological Systems (3)~~

In the following calendar sections:

- Communication and Interactive Arts and Technology Joint Major BSc

Interactive Arts and Technology

CMPT 120 - Introduction to Computing Science and Programming I (3) or an equivalent introductory programming course such as CMPT 102, **CMPT** 125, **CMPT** 126, **CMPT** 128, **CMPT** 130, or **CMPT** 166
IAT 100 - Digital Image Design (3)
IAT 102 - Graphic Design (3)
IAT 167 - Digital Games: Genre, Structure, Programming and Play (3)
IAT 201 - Human-Computer Interaction and Cognition (3)
IAT 265 - Multimedia Programming for Art and Design (3) **or other approved second year programming course**
MACM 101 - Discrete Mathematics I (3)

~~and one of~~
~~IAT 222 - Interactive Arts (3)~~
~~IAT 235 - Information Design (3)~~

In addition, students are required to choose one concentration. ~~Students will take one of the courses listed below that corresponds with their desired concentration.~~

~~Media Arts~~

~~IAT 202 - New Media Images (3)~~

~~Design~~

~~IAT 233 - Spatial Design (3)~~

~~Interactive Systems~~

~~IAT 267 - Introduction to Technological Systems (3)~~

In the following calendar sections:

- Interactive Arts and Technology and Business Joint Major BA or BBA

Lower Division Interactive Arts and Technology
CMPT 120 - Introduction to Computing Science and Programming I (3) or an equivalent introductory programming course such as CMPT 102, **CMPT** 125, **CMPT** 126, **CMPT** 128, **CMPT** 130, or **CMPT** 166
IAT 100 - Digital Image Design (3)
IAT 102 - Graphic Design (3)
IAT 167 - Digital Games: Genre, Structure, Programming and Play (3)
IAT 201 - Human-Computer Interaction and Cognition (3)
IAT 235 - Information Design (3)
IAT 265 - Multimedia Programming for Art and Design (3) **or other approved second year programming course**

~~SIAT Concentrations~~

In addition, students are required to choose one concentration. ~~Students will take one of the courses listed below that corresponds with their desired concentration.~~

~~Media Arts~~

~~IAT 202 - New Media Images (3)~~

~~Design~~

~~IAT 233 - Spatial Design (3)~~

~~Interactive Systems~~

~~IAT 267 - Introduction to Technological Systems (3)~~

In the following calendar sections:

- Interactive Arts and Technology and Business Joint Major BSc

Lower Division Interactive Arts and Technology

Students complete all of

CMPT 120 - Introduction to Computing Science and Programming I (3) or an equivalent introductory programming course such as CMPT 102, **CMPT** 125, **CMPT** 126, **CMPT** 128, **CMPT** 130, or **CMPT** 166
IAT 100 - Digital Image Design (3)
IAT 102 - Graphic Design (3)
IAT 167 - Digital Games: Genre, Structure, Programming and Play (3)
IAT 201 - Human-Computer Interaction and Cognition (3)
IAT 235 - Information Design (3)
IAT 265 - Multimedia Programming for Art and Design (3) **or other approved second year programming course**

~~SIAT Concentrations~~

In addition, students are required to choose one ~~of three~~ concentration~~s~~. ~~Students will take one of the courses listed below that corresponds with their desired concentration.~~

~~Media Arts~~

~~IAT 202 - New Media Images (3)~~

~~Design~~

~~IAT 233 - Spatial Design (3)~~

~~Interactive Systems~~

~~IAT 267 - Introduction to Technological Systems (3)~~

SENATE COMMITTEE ON UNDERGRADUATE STUDIES

PROGRAM MODIFICATION TEMPLATE

Name of Program or Name of Faculty

Faculty of Health Sciences, Health Sciences Bachelor of Arts Program

Rationale for change:

We are revising our BA program to better equip our students with the skills and knowledge necessary to become effective leaders in various health-related organizations. Students currently have very few specified requirements in the BA program, particularly requirements that relate to building Bachelor of Arts expertise. We have focused on providing students with more structure and more needed requirements. More specifically, we have created a structure in which all BA students will gain exposure to different social sciences (with an emphasis on theory and methods in the social sciences), will gain exposure to the humanities and will develop solid writing skills.

We have consulted with the POL, CMNS, GEOG, and REM departments to ensure there is space for our students to take their courses.

Effective term and year: Fall 2024

The following program(s) will be affected by these changes:

Health Sciences Major BA

Calendar Change: All deletions should be crossed out as follows: ~~sample.~~ All additions should be marked in **bold font.** Do not use **"**to" and "from" sections.

Health Sciences | Faculty of Health Sciences
Simon Fraser University Calendar | Spring 2024

Health Sciences Major

BACHELOR OF ARTS

Admission Requirements

Internal Transfer

Internal transfer allows students to transfer, within Simon Fraser University, from one faculty to another. Students can apply for internal transfer into the bachelor of arts

program in the Faculty of Health Sciences with a minimum CGPA of 2.5 and the following with a minimum grade of ~~C~~: **C-:**

- HSCI 130
- HSCI 100 or BISC 101, and
- one of HSCI 204, HSCI 207, HSCI 210, HSCI 211, HSCI 212, HSCI 214, HSCI 216, **HSCI 220**, HSCI 230

Minimum Grades

Students enrolling in HSCI courses must have a grade of C- or better in prerequisite courses and in the program's required courses.

Program Requirements

For the bachelor of arts (BA) health sciences program, students complete 120 units, which includes:

- at least 45 upper division units
- at least 60 units that must be completed at Simon Fraser University
- satisfaction of the writing, quantitative, and breadth requirements
- an overall cumulative grade point average (CGPA) and upper division CGPA of at least 2.0

Lower Division Requirements

Students complete all of

HSCI 100 - Human Biology (3)
HSCI 130 - Foundations of Health Science (4)
HSCI 204 - Perspectives on Human Health and the Environment (3)
HSCI 207 - Research Methods in Health Sciences (3)
HSCI 220 - Indigenous Experiences of Health (3)
HSCI 230 - Evaluating Epidemiological Research (3)

~~and one of~~

~~BISC 101 - General Biology (4)~~
~~HSCI 100 - Human Biology (3)~~

and one of

SA 101 - Introduction to Anthropology (A) (4)
SA 150 - Introduction to Sociology (S) (4)

and at least one additional HSCI ~~100~~ **lower** division course

Students complete one of the following sets of courses in communications, ecosystems or politics

All of

CMNS 110 - Introduction to Communication Studies (3)
CMNS 130 - Communication and Social Change (3)
CMNS 202 - Design and Method in Qualitative Communication Research (4)

Or all of

GEOG 111 – Earth Systems (3)
GEOG 215 – The Biosphere (3)
REM 221 – Systems thinking and the Environment (3)

Or all of

POL 100 - Introduction to Politics and Government (3)
POL 200W - Investigating Politics: Research Design and Qualitative Methods (4)
POL 210 - Introduction to Political Philosophy (3)

and two of

CMNS 120W - Creativity and Communication Across Media (3)
CMNS 130 - Communication and Social Change (3)
ENV 100 - Great Ideas in Environment
GSWS 100 - Sex Talk: Introduction to Contemporary Issues in Sexuality Studies
GEOG 100 - Our World: Introducing Human
HUM 101W - Introduction to the Humanities
HUM 106 - Art and the Humanities
HUM 130 - Introduction to Religious Studies
INDG 101 - Introduction to Indigenous Studies (3)
INDG 110W - International Indigenous Lifewriting (4)
LBST 101 - Work and Worker's Rights: Introducing Labour Studies (3)
PHIL 120W - Moral and Legal Problems (3)
PHIL 121 - Global Justice (3)
PHIL 144 - Introduction to Philosophy of Science (3)
PHIL 150 - Great Works in the History of Philosophy (3)
PSYC 100 - Introduction to Psychology I (3)

PSYC 102 - Introduction to Psychology II (3)
WL 100 - What is World Literature?

and one of

ENGL 111W - Literary Classics in English (3)
ENGL 112W - Literature Now (3)
ENGL 113 W - Literature and Performance (3)
ENGL 114 W - Language and Purpose (3)
ENGL 115 W - Literature and Culture (3)
ENGL 199W - Writing to Persuade (3)
WL 101W - Writing in World Literature (3)
WL 103W - Early World Literatures (3)
WL 104W - Modern World Literatures (3)
WL 105W - World Literature Lab (3)

and one of

STAT 201 - Statistics for the Life Sciences (3)
STAT 203 - Introduction to Statistics for the Social Sciences (3)
STAT 205 - Introduction to Statistics (3)

and at least four of

HSCI 210 - Special Topics in Health Sciences (3)
HSCI 211 - Perspectives on Cancer, Cardiovascular, and Metabolic Diseases (3)
HSCI 212 - Perspectives on Infectious and Immunological Diseases (3)
HSCI 214 - Perspectives on Mental Health and Illness (3)
HSCI 216 - Ecological Determinants of Human Growth, Development and Health (3)

Upper Division Requirements

Students complete all of

HSCI 305 - The Canadian Health System (3)
HSCI 312 - Health Promotion: Individuals and Communities (3)
HSCI 319W - Applied Health Ethics (3)
HSCI 340 - Social Determinants of Health (3)

~~and one of~~

~~STAT 302 - Analysis of Experimental and Observational Data (3)~~

~~STAT 305 - Introduction to Biostatistical Methods for Health Sciences (3) *~~

and one of

HSCI 449 - Community and Health Service (3)
HSCI 461 - An Ecological Approach to Women's Reproductive Health (3)
HSCI 462 - Seminar in Developmental Origins of Health and Disease (3)
HSCI 481 - Senior Seminar in Social Health Science (3)
HSCI 483 - Senior Seminar in Environmental Health (3)
HSCI 484 - Senior Seminar in Population Health Research (3)
HSCI 485 - Senior Seminar in Mental Health and Addictions (3)
HSCI 486 - Senior Seminar in Global Health (3)
HSCI 495 - Applied Health Science Project (4)

and at least 30 additional upper division units, of which ~~16~~ **18** must be HSCI units.

NOTE: SFU students accepted in the accelerated master's within the Faculty of Health Sciences may apply a maximum of 10 graduate course units, taken while completing the bachelor's degree, towards the upper division electives of the bachelor's program and the requirements of the master's degree. These graduate courses must be passed with a grade of B (3.0) or better in order to be used towards the requirements of the master's degree. For more information go to: https://www.sfu.ca/gradstudies/apply/programs/accelerated-masters.html.

~~* Recommended~~

Name of Program or Name of Faculty

Health Sciences Bachelor of Arts Honors Program

Rationale for change:

We are revising our BA program to better equip our students with the skills and knowledge necessary to become effective leaders in various health-related organizations. Students currently have very few specified requirements in the BA program, particularly requirements that relate to building Bachelor of Arts expertise. We have focused on providing students with more structure and more needed requirements. More specifically, we have created a structure in which all BA students will gain exposure to different social sciences (with an emphasis on theory and methods in the social sciences), will gain exposure to the humanities and will develop solid writing skills.

We have consulted with the POL, CMNS, GEOG, and REM departments to ensure there is space for our students to take their courses.

Effective term and year: Fall 2024

The following program(s) will be affected by these changes:

Health Sciences Honours BA

Calendar Change: All deletions should be crossed out as follows: ~~sample.~~ All additions should be marked in **bold font.** Do not use "to" and "from" sections.

Health Sciences | Faculty of Health Sciences
Simon Fraser University Calendar | Spring 2024

Health Sciences Honours

BACHELOR OF ARTS

Admission Requirements

Internal Transfer

Internal transfer allows students to transfer, within Simon Fraser University, from one faculty to another~~. Students can apply for internal transfer into the Faculty of Health Sciences with a minimum CGPA of 2.5, and completion of HSCI 130 and one of the following 200-level HSCI courses: HSCI 204-3, HSCI 207-3, HSCI 210-3, HSCI 211-3, HSCI 212-3, HSCI 214-3, HSCI 216-3, or HSCI 230-3 with a minimum grade of C- in these courses.~~ **Students can apply for internal transfer into the bachelor of arts honours program in the Faculty of Health Sciences with a minimum CGPA of 2.5 and the following with a minimum grade of C-:**

- **HSCI 130**
- **HSCI 100 or BISC 101, and**
- **one of HSCI 204, HSCI 207, HSCI 210, HSCI 211, HSCI 212, HSCI 214, HSCI 216, HSCI 220, HSCI 230**

Minimum Grades

A 3.0 cumulative grade point average (CGPA) and a 3.0 upper division grade point average (GPA) is required for entry and must be maintained to graduate. Students must complete at least 120 units as specified below.

~~For a course to be accepted as fulfilling a lower or upper division requirement, or for a prerequisite to a required course, a minimum grade of C- is required.~~

Students enrolling in HSCI courses must have a grade of C- or better in prerequisite courses and in the program's required courses.

Program Requirements

For the bachelor of arts (BA) health science honours program, students complete 120 units, which includes:

- at least 60 upper division units
- at least 60 units that must be completed at Simon Fraser University
- satisfaction of the writing, quantitative, and breadth requirements
- an overall cumulative grade point average (CGPA) and upper division CGPA of at least 3.0

Lower Division Requirements

Students complete all of

HSCI 100 - Human Biology (3)
HSCI 130 - Foundations of Health Science (4)
HSCI 204 - Perspectives on Human Health and the Environment (3)
HSCI 207 - Research Methods in Health Sciences (3)
HSCI 220 - Indigenous Experiences of Health (3)
HSCI 230 - Evaluating Epidemiological Research (3)

~~and one of~~

~~BISC 101 - General Biology (4)~~
~~HSCI 100 - Human Biology (3)~~

and one of

SA 101 - Introduction to Anthropology (A) (4)
SA 150 - Introduction to Sociology (S) (4)

and at least one additional HSCI ~~100~~ **lower** division course

Students complete one of the following sets of courses in communications, ecosystems or politics

All of

CMNS 110 - Introduction to Communication Studies (3)
CMNS 130 - Communication and Social Change (3)
CMNS 202 - Design and Method in Qualitative Communication Research (4)

Or all of

GEOG 111 – Earth Systems (3)
GEOG 215 – The Biosphere (3)
REM 221 – Systems thinking and the Environment (3)

Or all of

POL 100 - Introduction to Politics and Government (3)
POL 200W - Investigating Politics: Research Design and Qualitative Methods (4)
POL 210 - Introduction to Political Philosophy (3)

and two of

CMNS 120W - Creativity and Communication Across Media (3)
CMNS 130 - Communication and Social Change (3)
ENV 100 - Great Ideas in Environment
GSWS 100 - Sex Talk: Introduction to Contemporary Issues in Sexuality Studies
GEOG 100 - Our World: Introducing Human
HUM 101W - Introduction to the Humanities
HUM 106 - Art and the Humanities
HUM 130 - Introduction to Religious Studies
INDG 101 - Introduction to Indigenous Studies (3)
INDG 110W - International Indigenous Lifewriting (4)
LBST 101 - Work and Worker's Rights: Introducing Labour Studies (3)
PHIL 120W - Moral and Legal Problems (3)
PHIL 121 - Global Justice (3)
PHIL 144 - Introduction to Philosophy of Science (3)
PHIL 150 - Great Works in the History of Philosophy (3)
PSYC 100 - Introduction to Psychology I (3)
PSYC 102 - Introduction to Psychology II (3)
WL 100 - What is World Literature?

and one of

ENGL 111W - Literary Classics in English (3)
ENGL 112W - Literature Now (3)
ENGL 113 W - Literature and Performance (3)
ENGL 114 W - Language and Purpose (3)
ENGL 115 W - Literature and Culture (3)
ENGL 199W - Writing to Persuade (3)
WL 101W - Writing in World Literature (3)
WL 103W - Early World Literatures (3)
WL 104W - Modern World Literatures (3)
WL 105W - World Literature Lab (3)

and one of

STAT 201 - Statistics for the Life Sciences (3)
STAT 203 - Introduction to Statistics for the Social Sciences (3)
STAT 205 - Introduction to Statistics (3)

and at least four of

HSCI 210 - Special Topics in Health Sciences (3)
HSCI 211 - Perspectives on Cancer, Cardiovascular, and Metabolic Diseases (3)

HSCI 212 - Perspectives on Infectious and Immunological Diseases (3)
HSCI 214 - Perspectives on Mental Health and Illness (3)
HSCI 216 - Ecological Determinants of Human Growth, Development and Health (3)

Upper Division Requirements

Students complete all of

HSCI 305 - The Canadian Health System (3)
HSCI 312 - Health Promotion: Individuals and Communities (3)
HSCI 319W - Applied Health Ethics (3)
HSCI 340 - Social Determinants of Health (3)

~~and one of~~

~~STAT 302 - Analysis of Experimental and Observational Data (3)~~
~~STAT 305 - Introduction to Biostatistical Methods for Health Sciences (3) *~~

and one of

HSCI 449 - Community and Health Service (3)
HSCI 461 - An Ecological Approach to Women's Reproductive Health (3)
HSCI 462 - Seminar in Developmental Origins of Health and Disease (3)
HSCI 481 - Senior Seminar in Social Health Science (3)
HSCI 483 - Senior Seminar in Environmental Health (3)
HSCI 484 - Senior Seminar in Population Health Research (3)
HSCI 485 - Senior Seminar in Mental Health and Addictions (3)
HSCI 486 - Senior Seminar in Global Health (3)
HSCI 495 - Applied Health Science Project (4)

and at least 36 additional upper division units, of which 27 must be HSCI units

and nine to 12 units for a research-based honours thesis, carried out under the direction of a faculty supervisor including both of

HSCI 490 - Research Proposal (3)
HSCI 492 - Honours Research Thesis (3)

and one of

HSCI 491 - Independent Research (3)
HSCI 493 - Extended Independent Research (6)

NOTE: SFU students accepted in the accelerated master's within the Faculty of Health Sciences may apply a maximum of 10 graduate course units, taken while completing the bachelor's degree, towards the upper division electives of the bachelor's program and the requirements of the master's degree. These graduate courses must be passed with a grade of B (3.0) or better in order to be used towards the requirements of the master's degree. For more information go to: https://www.sfu.ca/gradstudies/apply/programs/accelerated-masters.html.

~~* Recommended~~

Name of Program or Name of Faculty Philosophy and Health Sciences Joint Major
Rationale for change: With the recent revisions to the BA program, we need to keep our core courses consistent throughout all our programs. We have edited the requirements to maintain parity with the major, minor and honours programs. We have consulted with the PHIL department to notify them of our changes.
Effective term and year: Fall 2024
The following program(s) will be affected by these changes: Philosophy and Health Sciences Joint Major

Calendar Change: All deletions should be crossed out as follows: ~~sample.~~ All additions should be marked in **bold font.** Do not use **"**to" and "from" sections.

Department of Philosophy | Faculty of Arts and Social Sciences
Health Sciences | Faculty of Health Sciences
Simon Fraser University Calendar | Spring 2024

Philosophy and Health Sciences Joint Major

BACHELOR OF ARTS

Students may opt for a Bachelor of Arts through the Faculty of Arts and Social Sciences or a Bachelor of Arts through the Faculty of Health Sciences. Faculty degree requirements will be governed by the faculty through which the student chooses to complete the degree.

Admission Requirements

~~To be admitted to the joint major in philosophy and health sciences, students must complete (A) one of the following HSCI courses with a minimum grade of C-: HSCI 204-3, HSCI 207-3, HSCI 210-3, HSCI 211-3, HSCI 212-3, HSCI 214-3, HSCI 216-3, or HSCI 230-3;~~

~~and (B) one of the following PHIL courses with a minimum grade of C-: PHIL 201 or PHIL 203.~~

To be admitted to the joint major in philosophy and health sciences, students must complete:

(A) one of the following HSCI courses with a minimum grade of C-:

- **HSCI 130, HSCI 100 (or BISC 101), HSCI 204, HSCI 207, HSCI 210, HSCI 211, HSCI 212, HSCI 214, HSCI 216, HSCI 220, or HSCI 230**

and (B) one of the following PHIL courses with a minimum grade of C-:

- **PHIL 201 or PHIL 203.**

Program Requirements

Courses used toward the upper division philosophy requirements may not be used as part of health sciences credit requirements, and vice versa. Any lower division course that counts toward the separate requirements for philosophy and health sciences may be counted toward both.

Students are required to satisfy the prerequisites of all courses (upper and lower division) that are taken within this joint major and should consult regularly with the program advisors regarding course selection.

Students complete 120 units, as specified below.

Lower Division Health Sciences Requirements

Students complete a minimum of 15 units, including both of

HSCI 100 - Human Biology (3)
HSCI 130 - Foundations of Health Science (4)

and at least three of

HSCI 204 - Perspectives on Human Health and the Environment (3)
HSCI 207 - Research Methods in Health Sciences (3)

HSCI 210 - Special Topics in Health Sciences (3)
HSCI 211 - Perspectives on Cancer, Cardiovascular, and Metabolic Diseases (3)
HSCI 212 - Perspectives on Infectious and Immunological Diseases (3)
HSCI 214 - Perspectives on Mental Health and Illness (3)
HSCI 216 - Ecological Determinants of Human Growth, Development and Health (3)
HSCI 220 - Indigenous Experiences of Health (3)
HSCI 230 - Evaluating Epidemiological Research (3)

and one of

STAT 201 - Statistics for the Life Sciences (3)
STAT 203 - Introduction to Statistics for the Social Sciences (3)
STAT 205 - Introduction to Statistics (3)

(…)

Upper Division Health Sciences Requirements

Students complete a minimum of 21 upper division health sciences units, including all of

HSCI 305 - The Canadian Health System (3)
HSCI 319W - Applied Health Ethics (3)
HSCI 327 - Global Health Ethics (3)
HSCI 340 - Social Determinants of Health (3)
HSCI 488 - Directed Studies in Health Sciences (3)

~~and one of~~

~~STAT 302 - Analysis of Experimental and Observational Data (3)~~
~~STAT 305 - Introduction to Biostatistical Methods for Health Sciences (3) *~~

~~* Recommended~~

(…)

Name of Program or Name of Faculty

Health Sciences Minor

Rationale for change:

We are revising our BA program to better equip our students with the skills and knowledge necessary to become effective leaders in various health-related organizations. Students currently have very few specified requirements in the BA program, particularly requirements that relate to building Bachelor of Arts expertise. We have focused on providing students with more structure and more needed requirements. More specifically, we have created a structure in which all BA students will gain exposure to different social sciences (with an emphasis on theory and methods in the social sciences), will gain exposure to the humanities and will develop solid writing skills.

We have consulted with the POL, CMNS, GEOG, and REM departments to ensure there is space for our students to take their courses.

Effective term and year: Fall 2024

The following program(s) will be affected by these changes:

Health Sciences Minor

Calendar Change: All deletions should be crossed out as follows: ~~sample.~~ All additions should be marked in **bold font.** Do not use "to" and "from" sections.

Health Sciences | Faculty of Health Sciences
Simon Fraser University Calendar | Spring 2024

Health Sciences Minor

Admission Requirements

Students can apply for admission into the health sciences minor with a minimum CGPA of 2.5 and the following with a minimum grade of ~~C.~~ **C-:**

- HSCI 130
- BISC 101 or HSCI 100

- one of HSCI 204, HSCI 207, HSCI 210, HSCI 211, HSCI 212, HSCI 214, HSCI 216, **HSCI 220**, HSCI 230

Minimum Grades

Students enrolling in HSCI courses must have a grade of C- or better in prerequisite courses and in the program's required courses.

Program Requirements

Students complete a minimum total of 31 units, including **all of**

HSCI 100 - Human Biology (3)
HSCI 130 - Foundations of Health Science (4)
HSCI 204 - Perspectives on Human Health and the Environment (3)
HSCI 207 - Research Methods in Health Sciences (3)
HSCI 230 - Evaluating Epidemiological Research (3)

~~and one of~~

~~BISC 101 - General Biology (4)~~
~~HSCI 100 - Human Biology (3)~~

~~and all of~~

~~HSCI 204 - Perspectives on Human Health and the Environment (3)~~
~~HSCI 207 - Research Methods in Health Sciences (3)~~
~~HSCI 230 - Evaluating Epidemiological Research (3)~~

and two of

HSCI 210 - Special Topics in Health Sciences (3)
HSCI 211 - Perspectives on Cancer, Cardiovascular, and Metabolic Diseases (3)
HSCI 212 - Perspectives on Infectious and Immunological Diseases (3)
HSCI 214 - Perspectives on Mental Health and Illness (3)
HSCI 216 - Ecological Determinants of Human Growth, Development and Health (3)
HSCI 220 - Indigenous Experiences of Health (3)

and at least 15 upper division HSCI units, of which at least seven upper division units used toward the minor must have been completed in Simon Fraser University courses

Name of Program or Name of Faculty Faculty of Health Sciences, Health Sciences Bachelor of Science Honours Program
Rationale for change: We found inconsistencies within the internal transfer requirements across programs. We are revising all internal transfer requirements to maintain consistency across all FHS programs. We also increased the number of options for our students to obtain a W requirement for all programs. The WL department was consulted with.
Effective term and year: Fall 2024
The following program(s) will be affected by these changes: Health Sciences Honours BSc

Calendar Change: All deletions should be crossed out as follows: ~~sample.~~ All additions should be marked in **bold font.** Do not use **"**to" and "from" sections.

Health Sciences | Faculty of Health Sciences
Simon Fraser University Calendar | Spring 2024

Health Sciences Honours

BACHELOR OF SCIENCE

This bachelor of science honours (BSc) program incorporates basic science courses (biology, chemistry, molecular biology and statistics) with HSCI courses about health and disease. Building on a solid base of basic biomedical and applied health science, students will receive advanced training in pharmacology, toxicology, pathophysiology and epidemiology, as well as molecular biology and genetics.

This program requires 120 units including at least 60 in the upper division.

Admission Requirements

Internal Transfer

Internal transfer allows students to transfer, within Simon Fraser University, from one faculty to another. ~~Students can apply for internal transfer into the Faculty of Health Sciences with a minimum CGPA of 3.0 and completion of HSCI 130-4 and one of the following 200-level HSCI courses: HSCI 204-3, HSCI 207-3, HSCI 210-3, HSCI 211-3, HSCI 212-3, HSCI 214-3, HSCI 216-3, or HSCI 230-3 with a minimum grade of C- in these courses.~~ **Students can apply for internal transfer into the bachelor of science honours program in the Faculty of Health Sciences with a minimum CGPA of 3.0 and the following with a minimum grade of C-:**

- **HSCI 130**
- **BISC 101 or BISC 102**
- **one of HSCI 204, HSCI 207, HSCI 210, HSCI 211, HSCI 212, HSCI 214, HSCI 216, HSCI 220, HSCI 230 and**
- **MATH 100 or equivalent. Students with only BC Pre-Calculus 12 require a grade of B or satisfactory grade on Calculus Readiness Test.**

Minimum Grades

A 3.0 cumulative grade point average (CGPA) and a 3.0 upper division grade point average (GPA) is required for entry and must be maintained to graduate. Students must complete at least 120 units as specified below.

~~For a course to be accepted as fulfilling a lower or upper division requirement, or for a prerequisite to a required course, a minimum grade of C- is required.~~

Students enrolling in HSCI courses must have a grade of C- or better in prerequisite courses and in the program's required courses.

(...)

Life Sciences Concentration Lower Division Requirements

(...)

and one of

ENGL 111W - Literary Classics in English (3)

ENGL 112W - Literature Now (3)
ENGL 113W - Literature and Performance (3)
ENGL 114W - Language and Purpose (3)
ENGL 115W - Literature and Culture (3)
ENGL 199W - Writing to Persuade (3)
WL 101W - Writing in World Literature (3)
WL 103W - Early World Literatures (3)
WL 104W - Modern World Literatures (3)
WL 105W - World Literature Lab (3)

(…)

Public Health and Data Concentration Lower Division Requirements

(…)

and one of

ENGL 111W - Literary Classics in English (3)
ENGL 112W - Literature Now (3)
ENGL 113W - Literature and Performance (3)
ENGL 114W - Language and Purpose (3)
ENGL 115W - Literature and Culture (3)
ENGL 199W - Writing to Persuade (3)
WL 101W - Writing in World Literature (3)
WL 103W - Early World Literatures (3)
WL 104W - Modern World Literatures (3)
WL 105W - World Literature Lab (3)

(…)

Name of Program or Name of Faculty Faculty of Health Sciences, Health Sciences Bachelor of Science Program
Rationale for change: We found inconsistencies within the internal transfer requirements across programs. We are revising all internal transfer requirements to maintain consistency across all FHS programs. We also increased the number of options for our students to obtain a W requirement for all programs. The WL department was consulted with.
Effective term and year: Fall 2024
The following program(s) will be affected by these changes: Health Sciences Major BSc

Calendar Change: All deletions should be crossed out as follows: ~~sample.~~ All additions should be marked in **bold font.** Do not use **"**to" and "from" sections.

Health Sciences | Faculty of Health Sciences
Simon Fraser University Calendar | Spring 2024

Health Sciences Major

BACHELOR OF SCIENCE

This bachelor of science (BSc) program incorporates basic science courses (biology, chemistry, molecular biology and statistics) with HSCI courses about health and disease. Building on a solid base of basic biomedical and applied health science, students will receive advanced training in pharmacology, toxicology, pathophysiology and epidemiology, as well as molecular biology and genetics.

Admission Requirements

Internal Transfer

Internal transfer allows students to transfer, within Simon Fraser University, from one faculty to another. Students can apply for internal transfer into the bachelor of science program in the Faculty of Health Sciences with a minimum CGPA of 2.5 and the following with a minimum grade of ~~C~~: **C-:**

- HSCI 130
- BISC 101 or BISC 102
- one of HSCI 204, HSCI 207, HSCI 210, HSCI 211, HSCI 212, HSCI 214, HSCI 216, **HSCI 220,** HSCI 230 and
- MATH 100 or equivalent. Students with only BC Pre-Calculus 12 require a grade of B or satisfactory grade on Calculus Readiness Test.

Minimum Grades

Students enrolling in HSCI courses must have a grade of C- or better in prerequisite courses and in the program's required courses.

Program Requirements

For the bachelor of science (BSc) health sciences program, students complete 120 units, which includes:

- at least 44 upper division units including a minimum of 28 HSCI units
- at least 60 units that must be completed at Simon Fraser University
- satisfaction of the writing, quantitative, and breadth requirements
- an overall cumulative grade point average (CGPA) and upper division CGPA of at least 2.0

Life Sciences Concentration Lower Division Requirements

(...)

and one of

ENGL 111W - Literary Classics in English (3)
ENGL 112W - Literature Now (3)
ENGL 113W - Literature and Performance (3)
ENGL 114W - Language and Purpose (3)
ENGL 115W - Literature and Culture (3)

ENGL 199W - Writing to Persuade (3)
WL 101W - Writing in World Literature (3)
WL 103W - Early World Literatures (3)
WL 104W - Modern World Literatures (3)
WL 105W - World Literature Lab (3)

(…)

Public Health and Data Concentration Lower Division Requirements

(…)

and one of

ENGL 111W - Literary Classics in English (3)
ENGL 112W - Literature Now (3)
ENGL 113W - Literature and Performance (3)
ENGL 114W - Language and Purpose (3)
ENGL 115W - Literature and Culture (3)
ENGL 199W - Writing to Persuade (3)
WL 101W - Writing in World Literature (3)
WL 103W - Early World Literatures (3)
WL 104W - Modern World Literatures (3)
WL 105W - World Literature Lab (3)

(…)

SFU SENATE COMMITTEE ON UNDERGRADUATE STUDIES

PROGRAM MODIFICATION TEMPLATE

Name of Program or Name of Faculty Biological Sciences
Rationale for change: The proposed changes ensure the program is up-to-date, accessible, and free of course bottlenecks. We anticipate these changes will reinvigorate enrolment of BISC and non-BISC students in the program. Specifically, the changes: (1) update the program description and admission requirements (2) align the lower division requirements with recent changes to our BISC Major (3) improve accessibility to non-BISC Majors by adding lower division options (4) ensure the upper division courses are current, relevant, and avoid course bottlenecks.
Effective term and year: Fall 2024
The following program(s) will be affected by these changes: Environmental Toxicology Minor

Calendar Change: All deletions should be crossed out as follows: ~~sample.~~ All additions should be marked in **bold font.** Do not use **"**to" and "from" sections.

Environmental Toxicology Minor

~~This program provides a thorough overview of environmental toxicology. Students who complete this program will be more qualified and eligible for employment with various businesses, governmental and non-governmental agencies, and academia engaged in environmental monitoring, assessment, and research.~~

~~Students who are interested in an environmental toxicology minor should contact the department early.~~

Environmental Toxicology is a multidisciplinary field that investigates the fate and adverse effects of chemicals on living organisms. Students will explore the impacts of environmental contaminants, pharmaceuticals, and other agents on wildlife, humans, and the environment.

Admission Requirements

Completion of the Lower Division Requirements (details below) with a minimum overall GPA of 2.00.

Program Requirements

~~A 2.00 or higher grade point average (GPA) is required.~~

Students must obtain a C- or better on all Upper Division Requirements.

Lower Division Requirements

~~The following courses are required. Most students who are pursuing science degree programs will already have credit for most of these courses.~~

Students complete all of

BISC 101 - General Biology (4)
BISC 102 - General Biology (4)
~~BISC 204 - Ecology (3)~~
~~BISC 205 - Principles of Physiology (3)~~
CHEM 121 - General Chemistry and Laboratory I (4)
CHEM 122 - General Chemistry II (2)
CHEM 126 - General Chemistry Laboratory II (2)
CHEM 281 - Organic Chemistry and Laboratory I (4)
MBB 222 - Molecular Biology and Biochemistry (3)
MBB 231 - Cellular Biology and Biochemistry (3)
~~STAT 201 - Statistics for the Life Sciences (3)~~

and one of

BISC 204 – Ecology (3)
GEOG 215 – The Biosphere (3)

and one of

BISC 205 – Principles of Physiology (3)
BPK 205 – Introduction to Human Physiology (3)
HSCI 321 – Human Pathophysiology (3)

and one of

CHEM 282 - Organic Chemistry II (2)
CHEM 283 - Organic Chemistry IIb (3)

and one of

MATH 150 - Calculus I with Review (4)
MATH 151 - Calculus I (3)
MATH 154 - Mathematics for the Life Sciences I (3)

~~and one of~~

~~MATH 152 - Calculus II (3)~~
~~MATH 155 - Mathematics for the Life Sciences II (3)~~

and one of

PHYS 101 - Physics for the Life Sciences I (3)
PHYS 120 - Mechanics and Modern Physics (3)
PHYS 125 - Mechanics and Special Relativity (3)
PHYS 140 - Studio Physics - Mechanics and Modern Physics (4)

~~and one of~~

~~PHYS 102 - Physics for the Life Sciences II (3)~~
~~PHYS 121 - Optics, Electricity and Magnetism (3)~~
~~PHYS 126 - Electricity, Magnetism and Light (3)~~
~~PHYS 141 - Studio Physics - Optics, Electricity and Magnetism (4)~~

and one of

STAT 201 – Statistics for Life Sciences (3)
STAT 270 – Introduction to Probability and Statistics (3)

Upper Division Requirements

Students complete both of

BISC 308 - Environmental Toxicology: An Ecological Perspective (3)
BISC 313 - Environmental Toxicology: A Mechanistic Perspective (3)

~~and one of~~

~~BISC 305 - Animal Physiology (3)~~
~~BISC 366 - Plant Physiology (3)~~
~~BPK 305 - Human Physiology I (3)~~
~~BPK 306 - Human Physiology II (3)~~

and three of

BISC 309 - Conservation Biology (3)
BISC 433 - Environmental Microbiology (3)
BISC 445 - Environmental Physiology of Animals (3)
BPK 431 - Integrative Cancer Biology (3)
CHEM 371 - Chemistry of the Aqueous Environment (3)
HSCI 323 - Principles of Pharmacology and Toxicology (3)
~~REM 311 - Applied Population Ecology (3)~~
~~REM 350 - Energy Management for a Sustainable Climate and Society (4)~~
REM 412 - Environmental Modeling (4)
REM 445 - Environmental Risk Assessment (4)

and their prerequisites. Students missing REM prerequisites for REM courses may apply to the REM undergraduate program assistant for a waiver. **Students may substitute one undergraduate research course (e.g., BISC 497W, 498, 499) with an Environmental Toxicology focus, subject to approval of the department.**

Name of Program or Name of Faculty Biological Sciences
Rationale for change: The BISC Major and Honours provide some flexibility in allowing students to take courses outside our department, and/or substitute a limited number of upper division stream electives. Our undergraduate program advisor notes that students are sometimes confused by this and seek to substitute unsuitable courses. The updated language is intended to clarify the requirements for students, primarily by referring them to the departmental website where they can find a detailed list of pre-approved courses. Also includes minor formatting edits.
Effective term and year: Fall 2024
The following program(s) will be affected by these changes: Biological Sciences Major Biological Sciences Honours

Calendar Change: All deletions should be crossed out as follows: ~~sample.~~ All additions should be marked in **bold font.** Do not use **"**to" and "from" sections.

Biological Sciences Major Upper Division Requirements … Cells, Molecules, and Physiology (CMP) Concentration … and two upper division elective**s** ~~courses~~ (minimum of six units) from BISC, BPK, HSCI, MBB, PHYS, or STAT, subject to approval by the department. **Students are encouraged to see the departmental website for a list of pre-approved non-BISC CMP electives.** Normally no more than two research intensive courses (such as BISC 497W, 498, or 499) may be used to satisfy stream requirements. Students complete a total of five lab courses (which may include one of BISC 497W, 498, 499) among their upper division courses. A minimum of ~~3~~ **three** CMP stream ~~courses~~ **electives** must be at the 400 level.

Ecology, Evolution, and Conservation (EEC) Concentration

…

~~Courses from other units such as the Faculty of Environment and MASC courses may count as options toward these stream electives, subject to approval by the department.~~ **Students may substitute up to two upper division stream electives from the Faculty of the Environment, Bamfield (MASC courses), or other relevant unit, subject to approval by the department. Students are encouraged to see the departmental website for a list of pre-approved EEC substitute stream electives.** Students complete a total of five lab courses (which may include one of BISC 497W, 498, 499) among their upper division courses. A minimum of three EEC stream ~~courses~~ **electives** must be at the 400-level.

Open Concentration

…

and an additional ~~8~~ **eight** upper division BISC courses (totaling a minimum of 24 units). Students may substitute up to ~~2~~ **two** upper division courses from other units (e.g., BPK, FENV, HSCI, MASC, MBB, PHYS, or STAT), subject to approval by the department. **Students are encouraged to see the departmental website for a list of pre-approved Open concentration electives.** Normally no more than two research intensive courses (such as BISC 497W, 498, or 499) may be used to satisfy stream requirements. Students complete a total of five lab courses (which may include one of BISC 497W, 498, 499) among their upper division courses. A minimum of ~~3~~ **three** BISC courses must be at the 400 level.

Biological Sciences Honours

Upper Division Requirements

…

Cells, Molecules, and Physiology (CMP) Concentration

…

and two upper division elective**s** ~~courses~~ (minimum of six units) from BISC, BPK, HSCI, MBB, PHYS, or STAT, subject to approval by the department. **Students are encouraged to see the departmental website for a list of pre-approved non-BISC CMP electives.**

Normally no more than two research intensive courses (such as BISC 497W, 498, or 499) may be used to satisfy stream requirements. Students complete a total of five lab courses (which may include one of BISC 497W, 498, 499) among their upper division courses. A minimum of ~~3~~ **three** CMP stream ~~courses~~ **electives** must be at the 400 level.

Ecology, Evolution, and Conservation (EEC) Concentration

…

~~Courses from other units such as the Faculty of Environment and MASC courses may count as options toward these stream electives, subject to approval by the department.~~ **Students may substitute up to two upper division stream electives from the Faculty of the Environment, Bamfield (MASC courses), or other relevant unit, subject to approval by the department. Students are encouraged to see the departmental website for a list of pre-approved EEC substitute stream electives.** Students complete a total of five lab courses (which may include BISC 491 and one of BISC 497W, 498, 499) among their upper division courses. A minimum of three EEC stream ~~courses~~ **electives** must be at the 400-level.

Open Concentration

…

and an additional ~~8~~ **eight** upper division BISC courses (totaling a minimum of 24 units). Students may substitute up to ~~2~~ **two** upper division courses from other units (e.g., BPK, FENV, HSCI, MASC, MBB, PHYS, or STAT), subject to approval by the department. **Students are encouraged to see the departmental website for a list of pre-approved Open concentration electives.** Normally no more than two research intensive courses (such as BISC 497W, 498, or 499) may be used to satisfy stream requirements. Students complete a total of five lab courses (which may include one of BISC 497W, 498, 499) among their upper division courses. A minimum of ~~3~~ **three** BISC courses must be at the 400 level.

Name of Program or Name of Faculty Department of Mathematics
Rationale for change: CMPT 129 has been replaced by CMPT 125.
Effective term and year: Fall 2024
The following program(s) will be affected by these changes: Applied Mathematics Major

Calendar Change: All deletions should be crossed out as follows: ~~sample.~~ All additions should be marked in **bold font.** Do not use **"**to" and "from" sections.

Program Requirements

[…]

Lower Division Requirements

Students complete the following:

both of

CMPT 120 - Introduction to Computing Science and Programming I (3)
~~CMPT 129 - Introduction to Computing Science and Programming for Mathematics and Statistics (3)~~

CMPT 125 - Introduction to Computing Science and Programming II (3)

(Students transferring into a math program should contact the math undergraduate advisor if they have already completed equivalent courses.)

or both of

CMPT 130 - Introduction to Computer Programming I (3)
CMPT 135 - Introduction to Computer Programming II (3)

[…]

Name of Program or Name of Faculty Department of Mathematics
Rationale for change: CMPT 129 has been replaced by CMPT 125.
Effective term and year: Fall 2024
The following program(s) will be affected by these changes: Applied Mathematics Honours

Calendar Change: All deletions should be crossed out as follows: ~~sample.~~ All additions should be marked in **bold font.** Do not use **"**to" and "from" sections.

Program Requirements

[…]

Lower Division Requirements

Students complete 40 units, including either

both of

CMPT 120 - Introduction to Computing Science and Programming I (3)
~~CMPT 129 - Introduction to Computing Science and Programming for Mathematics and Statistics (3)~~

CMPT 125 - Introduction to Computing Science and Programming II (3)

(Students transferring into a math program should contact the math undergraduate advisor if they have already completed equivalent courses.)

or both of

CMPT 130 - Introduction to Computer Programming I (3)
CMPT 135 - Introduction to Computer Programming II (3)

[…]

Name of Program or Name of Faculty Department of Mathematics
Rationale for change: CMPT 129 has been replaced by CMPT 125.
Effective term and year: Fall 2024
The following program(s) will be affected by these changes: Mathematics Major

Calendar Change: All deletions should be crossed out as follows: ~~sample.~~ All additions should be marked in **bold font.** Do not use **"**to" and "from" sections.

Program Requirements

[…]

Lower Division Requirements

Students complete

both of

CMPT 120 - Introduction to Computing Science and Programming I (3)
~~CMPT 129 - Introduction to Computing Science and Programming for Mathematics and Statistics (3)~~
CMPT 125 - Introduction to Computing Science and Programming II (3)

(Students transferring into a math program should contact the math undergraduate advisor if they have already completed equivalent courses.)

or both of

CMPT 130 - Introduction to Computer Programming I (3)
CMPT 135 - Introduction to Computer Programming II (3)

And all of

[…]

Name of Program or Name of Faculty Department of Mathematics
Rationale for change: CMPT 129 has been replaced by CMPT 125
Effective term and year: Fall 2024
The following program(s) will be affected by these changes: Mathematics Honours

Calendar Change: All deletions should be crossed out as follows: ~~sample.~~ All additions should be marked in **bold font.** Do not use **"**to" and "from" sections.

Program Requirements

[…]

Lower Division Requirements

Students complete either

both of

CMPT 120 - Introduction to Computing Science and Programming I (3)
~~CMPT 129 - Introduction to Computing Science and Programming for Mathematics and Statistics (3)~~
CMPT 125 - Introduction to Computing Science and Programming II (3)

(Students transferring into a math program should contact the math undergraduate advisor if they have already completed equivalent courses.)

or both of

CMPT 130 - Introduction to Computer Programming I (3)
CMPT 135 - Introduction to Computer Programming II (3)

and all of

[…]

Name of Program or Name of Faculty Department of Mathematics
Rationale for change: CMPT 129 has been replaced by CMPT 125
Effective term and year: Fall 2024
The following program(s) will be affected by these changes: Mathematical Physics Honours

Calendar Change: All deletions should be crossed out as follows: ~~sample.~~ All additions should be marked in **bold font.** Do not use **"**to" and "from" sections.

Program Requirements

Lower Division Requirements

Complete all of

[…]

And one of

CMPT 125 - Introduction to Computing Science and Programming II (3)
~~CMPT 129 - Introduction to Computing Science and Programming for Mathematics and Statistics (3)~~
PHYS 395-Computational Physics (3)

And one of

MATH 150 - Calculus I with Review (4)
MATH 151 - Calculus I (3)

and one of

~~[…]~~

Name of Program or Name of Faculty Department of Mathematics
Rationale for change: CMPT 129 has been replaced by CMPT 125.
Effective term and year: Fall 2024
The following program(s) will be affected by these changes: Operations Research Major

Calendar Change: All deletions should be crossed out as follows: ~~sample.~~ All additions should be marked in **bold font.** Do not use **"**to" and "from" sections.

Program Requirements

[…]

Lower Division Requirements

Students complete

both of

CMPT 120 - Introduction to Computing Science and Programming I (3)
~~CMPT 129 - Introduction to Computing Science and Programming for Mathematics and Statistics (3)~~
CMPT 125 - Introduction to Computing Science and Programming II (3)

(Students transferring into a math program should contact the math undergraduate advisor if they have already completed equivalent courses.)

or both of

CMPT 130 - Introduction to Computer Programming I (3)
CMPT 135 - Introduction to Computer Programming II (3)

[…]

Name of Program or Name of Faculty Department of Mathematics
Rationale for change: CMPT 129 has been replaced by CMPT 125.
Effective term and year: Fall 2024
The following program(s) will be affected by these changes: Operations Research Honours

Calendar Change: All deletions should be crossed out as follows: ~~sample.~~ All additions should be marked in **bold font.** Do not use **"**to" and "from" sections.

Program Requirements

[…]

Lower Division Requirements

Students complete

both of

CMPT 120 - Introduction to Computing Science and Programming I (3)
~~CMPT 129 - Introduction to Computing Science and Programming for Mathematics and Statistics (3)~~
CMPT 125 - Introduction to Computing Science and Programming II (3)

(Students transferring into a math program should contact the math undergraduate advisor if they have already completed equivalent courses.)

or both of

CMPT 130 - Introduction to Computer Programming I (3)
CMPT 135 - Introduction to Computer Programming II (3)

and all of

[…]

Name of Program or Name of Faculty: Department of Mathematics
Rationale for change: CMPT 300 [3] is being replaced by two courses, one upper- and one lower-division CMPT courses. The lower-division lab CMPT 201 [4] is being added to the Lower Division Requirements. To preserve overall course balance, the upper-division CMPT course requirements are reduced by 3 credits
Effective term and year: Fall 2024
The following program(s) will be affected by these changes: Mathematics and Computing Science Joint Major Program

Calendar Change: All deletions should be crossed out as follows: ~~sample.~~ All additions should be marked in **bold font.** Do not use **"**to" and "from" sections.

Program Requirements

[…]

Lower Division Requirements

[…]

and all of

CMPT 201 – Systems Programming (4)
CMPT 225 - Data Structures and Programming (3)
CMPT 295 - Introduction to Computer Systems (4)
MACM 101 - Discrete Mathematics I (3)
MACM 201 - Discrete Mathematics II (3)
MATH 242 - Introduction to Analysis I (3)
MATH 251 - Calculus III (3)

Upper Division Requirements

~~Students complete at least 45 units, including all of~~

Students complete at least 42 units, including all of

[…]

and one of

~~CMPT 300 - Operating Systems I (3)~~
CMPT 371 - Data Communications and Networking (3)
CMPT 379 – Principles of Compiler Design (3)

and one of

MATH 308 - Linear Optimization (3)
MATH 309 - Continuous Optimization (3)
MATH 345 - Introduction to Graph Theory (3)
MATH 348 - Introduction to Probabilistic Models (3)

~~and additional work is required to total 21 upper division MATH and 24 upper division CMPT units.~~

and additional work is required to total 21 upper division MATH and 21 upper division CMPT units. MACM are counted in an alternating fashion toward the MATH and CMPT requirements, starting with the first MACM course completed, counting toward either MATH or CMPT. 12 units must be at the 400 division or higher, including at least three units each of CMPT and MATH.

Name of Program or Name of Faculty : Department of Mathematics
Rationale for change: CMPT 300 [3] is being replaced by two courses, one upper- and one lower-division CMPT courses. The lower-division lab CMPT 201 [4] is being added to the Lower Division Requirements. To preserve overall course balance, the upper-division CMPT course requirements are reduced by 3 credits
Effective term and year: Fall 2024
The following program(s) will be affected by these changes: Mathematics and Computing Science Joint Honours Program

Calendar Change: All deletions should be crossed out as follows: ~~sample.~~ All additions should be marked in **bold font.** Do not use **"**to" and "from" sections.

Program Requirements

~~Students complete at least 43-47 units, including both of~~

~~CMPT 120 - Introduction to Computing Science and Programming I (3) *~~
~~CMPT 125 - Introduction to Computing Science and Programming II (3) *~~

Complete both of

CMPT 120 - Introduction to Computing Science and Programming I (3)
CMPT 125 - Introduction to Computing Science and Programming II (3)

or both of

[…]

[…]

and all of

CMPT 201 – Systems Programming (4)
CMPT 225 - Data Structures and Programming (3)
CMPT 276 - Introduction to Software Engineering (3)
CMPT 295 - Introduction to Computer Systems (4)
MACM 101 - Discrete Mathematics I (3)
MACM 201 - Discrete Mathematics II (3)
MACM 203 - Computing with Linear Algebra (2) +
MACM 204 - Computing with Calculus (2) +
MATH 242 - Introduction to Analysis I (3)
MATH 251 - Calculus III (3)
STAT 270 - Introduction to Probability and Statistics (3)

[…]

Upper Division Requirements

~~Students complete 54 units, including all of~~

Students complete 51 units, including all of

~~[…]~~

~~and one of~~

~~CMPT 300 - Operating Systems I (3)~~
~~CMPT 371 - Data Communications and Networking (3)~~

~~and one of~~

and two of

CMPT 361 - Introduction to Visual Computing (3)
CMPT 371 - Data Communications and Networking (3)
CMPT 379 - Principles of Compiler Design (3)

and one of

MATH 309 - Continuous Optimization (3)
MATH 348 - Introduction to Probabilistic Models (3)
MATH 360 - Modeling with Ordinary Differential Equations (3)

~~and additional course work to total 27 upper division MATH units and 27 upper division CMPT units including core requirements.~~

and additional course work to total 27 upper division MATH units and 24 upper division CMPT units including core requirements. MACM courses are counted in an alternating fashion towards the MATH and CMPT requirements, starting with the first MACM course completed counting towards either MATH or CMPT. 18 units must be completed at the 400 division or higher, including at least six units each of CMPT and MATH.

[…]

Name of Program or Name of Faculty Molecular Biology & Biochemistry
Rationale for change: A course in Physics with significance relevance to MBB, should be added to the MBB upper-division course option; A 300-level special topics course should be added to allow for new course development; to increase consistency with how special topics courses are offered, minor changes in the title of several courses is being proposed.
Effective term and year: Fall 2024
The following program(s) will be affected by these changes: Molecular Biology and Biochemistry Major

Calendar Change: All deletions should be crossed out as follows: ~~sample.~~ All additions should be marked in **bold font.** Do not use **"**to" and "from" sections.

Upper Division Requirements

Students complete all of

MBB 308 - Molecular Biology Laboratory (3)
MBB 309W - Biochemistry Laboratory (4)
MBB 321 - Intermediary Metabolism (3)
MBB 322 - Molecular Physiology (3)
MBB 331 - Molecular Biology (4)

and a minimum of six courses chosen from the following list, three of which must be 400-level courses. There is no upper limit on the quantity in this list that can be completed.

HSCI 442 - Immunology Laboratory (4)
MBB 323 - Introduction to Physical Biochemistry (3)
MBB 324 - Protein Biochemistry (3)
MBB 326 - Introduction to the Immune System (3)

MBB 328 - Introduction to Microbial Pathogenesis (3)
MBB 342 - Introductory Genomics and Bioinformatics (3)
MBB 402 - Cell Signalling in Development and Disease (3)
MBB 420 - ~~Selected~~ **Special** Topics in ~~Contemporary~~ Biochemistry (3)
MBB 421 - Nucleic Acids (3)
MBB 422 - Biomembranes (3)
MBB 423 - Protein Structure and Function (3)
MBB 424 - Membrane Transport Mechanisms (3)
MBB 427 - Immune Responses in Health and Disease (3)
MBB 429 - RNA-mediated Gene Regulation (3)
MBB 430 - Mechanisms of Secretory Transport (3)
MBB 431 - Cells and the Environment (3)
MBB 432 - Advanced Molecular Biology Techniques (4)
MBB 433 - Epithelial Cell Biology (3)
MBB 436 - Gene Expression (3)
MBB 438 - Human Molecular Genetics (3)
MBB 440 - ~~Selected~~ **Special** Topics in ~~Contemporary~~ Molecular Biology (3)
MBB 441 - Bioinformatics (3)
MBB 443 - Protein Biogenesis and Degradation (3)
MBB 445 - Advanced Microbial Pathogenesis (3)
MBB 446 - The Molecular Biology of Cancer (3)
MBB 447 - Stem Cells - Current Trends (3)
MBB 460 - ~~Selected~~ **Special** Topics in Bioinformatics and Genomics (3)
MBB 461 - Comparative Genomics (3)
MBB 462 - Human Genomics (3)
MBB 463 - Forensic Genomics (3)
MBB 464 - From Genome to System (3)
MBB 465 - Cancer Genomics (3)
MBB 478 - Seminar in Molecular Epidemiology of Infectious Diseases (3)
PHYS 347 – Introduction to Biological Physics (3)

Name of Program or Name of Faculty Molecular Biology & Biochemistry
Rationale for change: A course in Physics with significance relevance to MBB, should be added to the MBB upper-division course option; A 300-level special topics course should be added to allow for new course development; to increase consistency with how special topics courses are offered, minor changes in the title of several courses is being proposed.
Effective term and year: Fall 2024
The following program(s) will be affected by these changes: Molecular Biology and Biochemistry Honours

Calendar Change: All deletions should be crossed out as follows: ~~sample.~~ All additions should be marked in **bold font.** Do not use **"**to" and "from" sections.

Upper Division Requirements

Students complete all of

MBB 308 - Molecular Biology Laboratory (3)
MBB 309W - Biochemistry Laboratory (4)
MBB 321 - Intermediary Metabolism (3)
MBB 322 - Molecular Physiology (3)
MBB 331 - Molecular Biology (4)

and a minimum of six courses chosen from the following list, three of which must be 400-level courses. There is no upper limit on the quantity in this list that can be completed.

HSCI 442 - Immunology Laboratory (4)
MBB 323 - Introduction to Physical Biochemistry (3)
MBB 324 - Protein Biochemistry (3)
MBB 326 - Introduction to the Immune System (3)

MBB 328 - Introduction to Microbial Pathogenesis (3)
MBB 342 - Introductory Genomics and Bioinformatics (3)
MBB 402 - Cell Signalling in Development and Disease (3)
MBB 420 - ~~Selected~~ **Special** Topics in ~~Contemporary~~ Biochemistry (3)
MBB 421 - Nucleic Acids (3)
MBB 422 - Biomembranes (3)
MBB 423 - Protein Structure and Function (3)
MBB 424 - Membrane Transport Mechanisms (3)
MBB 427 - Immune Responses in Health and Disease (3)
MBB 429 - RNA-mediated Gene Regulation (3)
MBB 430 - Mechanisms of Secretory Transport (3)
MBB 431 - Cells and the Environment (3)
MBB 432 - Advanced Molecular Biology Techniques (4)
MBB 433 - Epithelial Cell Biology (3)
MBB 436 - Gene Expression (3)
MBB 438 - Human Molecular Genetics (3)
MBB 440 - ~~Selected~~ **Special** Topics in ~~Contemporary~~ Molecular Biology (3)
MBB 441 - Bioinformatics (3)
MBB 443 - Protein Biogenesis and Degradation (3)
MBB 445 - Advanced Microbial Pathogenesis (3)
MBB 446 - The Molecular Biology of Cancer (3)
MBB 447 - Stem Cells - Current Trends (3)
MBB 460 - ~~Selected~~ **Special** Topics in Bioinformatics and Genomics (3)
MBB 461 - Comparative Genomics (3)
MBB 462 - Human Genomics (3)
MBB 463 - Forensic Genomics (3)
MBB 464 - From Genome to System (3)
MBB 465 - Cancer Genomics (3)
MBB 478 - Seminar in Molecular Epidemiology of Infectious Diseases (3)
PHYS 347 – Introduction to Biological Physics (3)

and one additional upper division course from any department in the Faculty of Science (including MBB)

and either all of the following, which are taken in a single term (option A)

MBB 481 - Directed Research - Honours Thesis (5)
MBB 482 - Directed Research - Honours Research Performance (5)
MBB 483 - Directed Research - Honours Thesis Defense (5)

or both of the following, to be taken in two consecutive terms (option B)

MBB 491 - Directed Research I (5)
MBB 492 - Directed Research II (10)
(...)

Name of Program or Name of Faculty Molecular Biology & Biochemistry
Rationale for change: CMPT 210 and STAT 271 are now program requirements for the CMPT major, and this change is to align the joint MBB-CMPT degree requirements.
Effective term and year: Fall 2024
The following program(s) will be affected by these changes: Molecular Biology and Biochemistry and Computing Science Joint Major BACHELOR OF SCIENCE

Calendar Change: "to" and "from" sections are not required. All deletions should be crossed out as follows: ~~sample.~~ All additions should be marked by a **bold.**

Lower Division Requirements […] and **both** ~~one~~ of CMPT 210 - Probability and Computing (3) ~~MACM 201 - Discrete Mathematics II (3)~~ ~~and one of~~ ~~STAT 270 - Introduction to Probability and Statistics (3)~~ STAT 271 - Probability and Statistics for Computing Science (3) […]

Name of Program or Name of Faculty Molecular Biology & Biochemistry
Rationale for change: CMPT 210 and STAT 271 would now be program requirements. The choice to take MACM 201 or STAT 270 are to be removed.
Effective term and year: Fall 2024
The following program(s) will be affected by these changes: Molecular Biology and Biochemistry and Computing Science Joint Honours BACHELOR OF SCIENCE

Calendar Change: "to" and "from" sections are not required. All deletions should be crossed out as follows: ~~sample.~~ All additions should be marked by a **bold.**

Lower Division Requirements […] and all of […] and **both** ~~one~~ of CMPT 210 - Probability and Computing (3) ~~MACM 201 - Discrete Mathematics II (3)~~ ~~and one of~~ ~~STAT 270 - Introduction to Probability and Statistics (3)~~ STAT 271 - Probability and Statistics for Computing Science (3) […]

Name of Program or Name of Faculty Actuarial Science
Rationale for change: The educational goals of the actuarial science major were recently updated to better align with the expectations of the professional actuarial bodies (the Society of Actuaries, the Canadian Institute of Actuaries, and the Casualty Actuarial Society) and to reflect evolving actuarial practice. In terms of actuarial content, we are revising our short-insurance sequence, switching from ACMA 355/455/470 to ACMA 321/421/422. The first two courses in the sequence will still be required, and the third will remain a selective. A new course, ACMA 231, is added to the program requirements to increase students' proficiency with key analytical tools; consequently, the wording about the recommended timing of computing experience is no longer needed. The requirement for two ENGL or PHIL courses is replaced with BUS 217W – Critical Thinking in Business, which aligns better with the major's educational goals for critical thinking and communication.
Effective term and year: Fall 2024
The following program(s) will be affected by these changes: Actuarial Science Major (BSc)

Calendar Change: All deletions should be crossed out as follows: ~~sample.~~ All additions should be marked in **bold font.** Do not use **"**to" and "from" sections.

Actuarial Science Major

Bachelor of Science

The Department of Statistics and Actuarial Science offers a bachelor of science (BSc) program in actuarial science within the Faculty of Science.

Frequently asked questions about the program and contact information for the Undergraduate Advisor for the department can be found here. Students should seek advice early in their academic careers about program planning from the department's advisors.

Admission Requirements

Students may be admitted by direct entry on their university application, or by application to the Department of Statistics and Actuarial Science, after they have been admitted.

Visit this website to view admission requirements.

Courses for Further Credit

No student may complete, for further credit, any course offered by the Department of Statistics and Actuarial Science which is a prerequisite for a course the student has already completed with a grade of C- or higher without permission of the department.

~~Computing Recommendation~~

~~Some experience with a high-level programming language is recommended by the beginning of the second year.~~

Prerequisite Grade Requirement

Students must have a grade of C- or better in prerequisites for STAT courses. Students must have a grade of C or better in prerequisites for ACMA courses.

GPA Required for Continuation

To continue in the program, students must maintain at least a 2.25 grade point average in ACMA, CMPT, MACM, MATH, and STAT courses.

Graduation Requirement

Students are required to complete a minimum of 44 upper division units including a minimum of 28 units in the major subject or field and achieve a CGPA of 2.5 or better to graduate.

Program Requirements

Students complete 120 units, as specified below.

Graduation Grade Point Averages

Lower Division Requirements

Students complete all of

ACMA 101 - Introduction to Insurance (3)
ACMA 201 - Interest Theory and Applications (3)
ACMA 231 - Tools for Data-Driven Decision Making (3)
BUS 217W - Critical Thinking in Business (3)
BUS 251 - Financial Accounting I (3)
BUS 254 - Managerial Accounting I (3)
CMPT 120 - Introduction to Computing Science and Programming I (3)
ECON 103 - Principles of Microeconomics (4)

ECON 105 - Principles of Macroeconomics (4)
MATH 152 - Calculus II (3)
MATH 251 - Calculus III (3)
STAT 260 - Introductory R for Data Science (3)
STAT 270 - Introduction to Probability and Statistics (3)
STAT 285 - Intermediate Probability and Statistics (3)

and one of

MATH 150 - Calculus I with Review (4)
MATH 151 - Calculus I (3) *
and one of

MATH 232 - Applied Linear Algebra (3)
MATH 240 - Algebra I: Linear Algebra (3) *
~~and two ENGL or PHIL courses~~.

* Recommended

Upper Division Requirements

Students complete the following courses

all of

ACMA 301 - Long-Term Actuarial Mathematics I (3)
ACMA 321 - Fundamentals of Short-Term Insurance (3)
ACMA 340 - Financial Economics for Actuaries (3)
~~ACMA 355 - Loss Models I (3)~~
ACMA 401 - Long-Term Actuarial Mathematics II (3)
ACMA 421 - Advanced Models for Short-Term Insurance (3)
~~ACMA 455 - Loss Models II (3)~~
STAT 330 - Introduction to Mathematical Statistics (3)
STAT 350 - Linear Models in Applied Statistics (3)
STAT 452 - Statistical Learning and Prediction (3)

and one of

ACMA 465 - Demography and Mortality Models (3)
~~ACMA 470 - Property and Casualty Insurance (3)~~
ACMA 422 - Short-Term Insurance Practice (3)
ACMA 475 - Theory of Pension (3)

and three of

ACMA 360W - Actuarial Communication (3)

ACMA 395 - Special Topics in Actuarial Science (3)
ACMA 490 - Selected Topics in Actuarial Science (3)
BUS 312 - Introduction to Finance (3)
BUS 315 - Investments (3)
ECON 302 - Microeconomic Theory II: Strategic Behavior (4)
ECON 305 - Intermediate Macroeconomic Theory (4)
MACM 316 - Numerical Analysis I (3)
MATH 309 - Continuous Optimization (3)
STAT 342 - Introduction to Statistical Computing and Exploratory Data Analysis - SAS (2)
STAT 360 - Advanced R for Data Science (3)
STAT 380 - Introduction to Stochastic Processes (3)
STAT 440 - Learning from Big Data (3)
STAT 445 - Applied Multivariate Analysis (3)
STAT 450 - Statistical Theory (3)
STAT 460 - Bayesian Statistics (3)
STAT 475 - Applied Discrete Data Analysis (3)
STAT 485 - Applied Time Series Analysis (3)

Certain elective courses are pre-approved courses for Validation by Educational Experience (VEE) units from the Society of Actuaries. Information is available here.

Name of Program or Name of Faculty

Actuarial Science

Rationale for change:
The actuarial science honours program is updated to better align with the expectations of the professional actuarial bodies (the Society of Actuaries, the Canadian Institute of Actuaries, and the Casualty Actuarial Society) and to reflect evolving actuarial practice. In terms of actuarial content, we are revising our short-insurance sequence, switching from ACMA 355/455/470 to ACMA 321/421/422. The first two courses in the sequence will still be required, and the third will remain a selective. A new course, ACMA 231, is added to the program requirements to increase students' proficiency with key analytical tools early on; consequently, the wording about the recommended timing of computing experience is no longer needed. The requirement for two ENGL or PHIL courses is replaced with BUS 217W – Critical Thinking in Business, reflecting an increased emphasis on critical thinking and communication skills.

Effective term and year: Fall 2024

The following program(s) will be affected by these changes:

Actuarial Science Honours (BSc)

Calendar Change: All deletions should be crossed out as follows: ~~sample.~~ All additions should be marked in **bold font.** Do not use "to" and "from" sections.

Actuarial Science Honours
Bachelor of Science

The Department of Statistics and Actuarial Science offers a bachelor of science (BSc) honours program in actuarial science within the Faculty of Science.

Frequently asked questions about the program and contact information for the Undergraduate Advisor for the department can be found here. Students should seek advice early in their academic careers about program planning from the department's advisors.

Courses for Further Credit

No student may complete, for further credit, any course offered by the Department of Statistics and Actuarial Science which is a prerequisite for a course the student has already completed with a grade of C- or higher without permission of the department.

~~Computing Recommendation~~

~~Some experience with a high-level programming language is recommended by the beginning of the second year.~~

Prerequisite Grade Requirement

Students must have a grade of C- or better in prerequisites for STAT courses. Students must have a grade of C or better in prerequisites for ACMA courses.

GPA Required for Continuation

To continue in the program, students must maintain at least a 3.0 grade point average in ACMA, CMPT, MACM, MATH, and STAT courses.
Graduation Requirement

Students are required to complete a minimum of 60 upper division units including a minimum of 48 units in the honours subject or field and achieve a CGPA of 3.0 or better to graduate.
Program Requirements

Students complete 120 units, as specified below.

Graduation Grade Point Averages

Lower Division Requirements

Students complete all of
ACMA 101 - Introduction to Insurance (3)
ACMA 201 - Interest Theory and Applications (3)
ACMA 231 - Tools for Data-Driven Decision Making (3)
BUS 217W - Critical Thinking in Business (3)
BUS 251 - Financial Accounting I (3)
BUS 254 - Managerial Accounting I (3)
CMPT 120 - Introduction to Computing Science and Programming I (3)
ECON 103 - Principles of Microeconomics (4)
ECON 105 - Principles of Macroeconomics (4)
MATH 152 - Calculus II (3)
MATH 251 - Calculus III (3)
STAT 260 - Introductory R for Data Science (3)
STAT 270 - Introduction to Probability and Statistics (3)
STAT 285 - Intermediate Probability and Statistics (3)

and one of
MATH 150 - Calculus I with Review (4)
MATH 151 - Calculus I (3) *

and one of

MATH 232 - Applied Linear Algebra (3)
MATH 240 - Algebra I: Linear Algebra (3) *

~~and two ENGL or PHIL courses~~.

* Recommended
Upper Division Requirements

Students complete the following courses

all of
ACMA 301 - Long-Term Actuarial Mathematics I (3)
ACMA 321 - Fundamentals of Short-Term Insurance (3)
ACMA 340 - Financial Economics for Actuaries (3)
~~ACMA 355 - Loss Models I (3)~~
ACMA 401 - Long-Term Actuarial Mathematics II (3)
ACMA 421 - Advanced Models for Short-Term Insurance (3)
~~ACMA 455 - Loss Models II (3)~~
STAT 330 - Introduction to Mathematical Statistics (3)
STAT 350 - Linear Models in Applied Statistics (3)
STAT 450 - Statistical Theory (3)
STAT 452 - Statistical Learning and Prediction (3)

and two of
ACMA 422 - Short-Term Insurance Practice (3)
ACMA 465 - Demography and Mortality Models (3)
~~ACMA 470 - Property and Casualty Insurance (3)~~
ACMA 475 - Theory of Pension (3)

and two of
ACMA 360W - Actuarial Communication (3)
ACMA 395 - Special Topics in Actuarial Science (3)
ACMA 490 - Selected Topics in Actuarial Science (3)
BUS 312 - Introduction to Finance (3)
BUS 315 - Investments (3)
ECON 302 - Microeconomic Theory II: Strategic Behavior (4)
ECON 305 - Intermediate Macroeconomic Theory (4)
MACM 316 - Numerical Analysis I (3)
MATH 309 - Continuous Optimization (3)
STAT 342 - Introduction to Statistical Computing and Exploratory Data Analysis - SAS (2)
STAT 360 - Advanced R for Data Science (3)
STAT 380 - Introduction to Stochastic Processes (3)
STAT 440 - Learning from Big Data (3)
STAT 445 - Applied Multivariate Analysis (3)
STAT 460 - Bayesian Statistics (3)

STAT 475 - Applied Discrete Data Analysis (3)
STAT 485 - Applied Time Series Analysis (3)

Certain elective courses are pre-approved courses for Validation by Educational Experience (VEE) units from the Society of Actuaries. Information is available here.

Name of Program or Name of Faculty Statistics minor
Rationale for change: We would like to change the minimum number of UD units required for the Statistics minor from 15 to 14. This is because one of the main STAT courses available to students to take for the Statistics minor, STAT 342, is a 2-unit course. By changing the minimum number of UD units to 14, it would enable any student to complete the Statistics minor with a total of 5 UD courses.
Effective term and year: Fall 2024
The following program(s) will be affected by these changes: Statistics minor

Calendar Change: All deletions should be crossed out as follows: ~~sample.~~ All additions should be marked in **bold font.** Do not use **"**to" and "from" sections.

Program Requirements

Lower Division Requirements

Students complete one of

MATH 150 - Calculus I with Review (4)
MATH 151 - Calculus I (3)
MATH 154 - Mathematics for the Life Sciences I (3)
MATH 157 - Calculus I for the Social Sciences (3)

and one of

MATH 152 - Calculus II (3)
MATH 155 - Mathematics for the Life Sciences II (3)
MATH 158 - Calculus II for the Social Sciences (3)
MATH 232 - Applied Linear Algebra (3)
MATH 240 - Algebra I: Linear Algebra (3)

and one of

BUS 232 - Business Statistics (3)
ECON 233 - Introduction to Economic Data and Statistics (3)
STAT 201 - Statistics for the Life Sciences (3)
STAT 203 - Introduction to Statistics for the Social Sciences (3)
STAT 205 - Introduction to Statistics (3)
STAT 270 - Introduction to Probability and Statistics (3)

and

STAT 260 - Introductory R for Data Science (3)

Upper Division Requirements

Students complete a ~~total of 15~~ **minimum of 14** units, including exactly one of

ECON 333 - Statistical Analysis of Economic Data (4)
STAT 302 - Analysis of Experimental and Observational Data (3)
STAT 305 - Introduction to Biostatistical Methods for Health Sciences (3)
STAT 350 - Linear Models in Applied Statistics (3)

A minimum of 11 of the ~~15~~ **14** upper division units must be completed using STAT courses other than STAT 310 and STAT 320. The remaining 4 units may be substituted with upper division non-STAT units that focus on statistical inference, study design, or quantitative reasoning, such as BUS 336. The eligibility of other non-STAT courses will be at the discretion of departmental advisors. Recommended STAT courses are listed below.

STAT 342 - Introduction to Statistical Computing and Exploratory Data Analysis - SAS (2)
STAT 360 - Advanced R for Data Science (3)
STAT 403 - Intermediate Sampling and Experimental Design (3)
STAT 445 - Applied Multivariate Analysis (3)
STAT 452 - Statistical Learning and Prediction (3)
STAT 475 - Applied Discrete Data Analysis (3)
STAT 485 - Applied Time Series Analysis (3)

SFU SENATE COMMITTEE ON UNDERGRADUATE STUDIES

PROGRAM MODIFICATION TEMPLATE

Name of Program or Name of Faculty Data Science major
Rationale for change: To reduce the number of required units for the Data Science major: - Removal of BUS 200, BUS 251, and CMPT 276 as required courses To eliminate the requirement for two lower division W courses and to increase course flexibility: - Add MACM 203 as a course option instead of MATH 208W
Effective term and year: Fall 2024
The following program(s) will be affected by these changes: Data Science major

Calendar Change: "to" and "from" sections are not required. All deletions should be crossed out as follows: ~~sample.~~ All additions should be marked by a **bold.**

Lower Division Requirements

Business Administration

Students complete ~~all~~ **both** of

~~BUS 200 - Business Fundamentals (3)~~
BUS 217W - Critical Thinking in Business (3)
~~BUS 251 - Financial Accounting I (3)~~
BUS 272 - Behaviour in Organizations (3)

Computing Science

Students complete all of

CMPT 120 - Introduction to Computing Science and Programming I (3)
CMPT 125 - Introduction to Computing Science and Programming II (3)
CMPT 225 - Data Structures and Programming (3)
~~CMPT 276 - Introduction to Software Engineering (3)~~

Mathematics and Computing Science

Students complete both of

MACM 101 - Discrete Mathematics I (3)
MACM 201 - Discrete Mathematics II (3)

Data Science

Students complete

DATA 180 - Undergraduate Seminar in Data Science (1)

Mathematics

Students complete one of

MATH 150 - Calculus I with Review (4)
MATH 151 - Calculus I (3)
MATH 154 - Mathematics for the Life Sciences I (3)
MATH 157 - Calculus I for the Social Sciences (3)

and ~~both of~~

MATH 152 - Calculus II (3)
~~MATH 208W - Introduction to Operations Research (3)~~

and one of

MATH 232 - Applied Linear Algebra (3)
MATH 240 - Algebra I: Linear Algebra (3)

and one of

MATH 208W - Introduction to Operations Research (3)
MACM 203 – Computing with Linear Algebra (2)

Statistics

Students complete both of

STAT 240 - Introduction to Data Science (3)
STAT 260 - Introductory R for Data Science (3)

and one of

BUS 232 - Business Statistics (3)
STAT 201 - Statistics for the Life Sciences (3)
STAT 203 - Introduction to Statistics for the Social Sciences (3)
STAT 205 - Introduction to Statistics (3)
STAT 270 - Introduction to Probability and Statistics (3) **

** **Recommended**

Name of Program or Name of Faculty Data Science honours
Rationale for change: To reduce the number of required units for the Data Science honours: - Removal of BUS 200, BUS 251, and CMPT 276 as required courses (from all concentrations) To eliminate the requirement for two lower division W courses and to increase course flexibility: - Add MACM 203 as a course option instead of MATH 208W (to the Open concentration and the Statistics concentration only)
Effective term and year: Fall 2024
The following program(s) will be affected by these changes: Data Science honours: Math concentration, Statistics concentration, and Open concentration

Calendar Change: "to" and "from" sections are not required. All deletions should be crossed out as follows: ~~sample.~~ All additions should be marked by a **bold.**

Mathematics Concentration Requirements

Lower Division Requirements

Business Administration

Students complete ~~all~~ **both** of

~~BUS 200 - Business Fundamentals (3)~~
BUS 217W - Critical Thinking in Business (3)
~~BUS 251 - Financial Accounting I (3)~~
BUS 272 - Behaviour in Organizations (3)

Computing Science

Students complete all of

CMPT 120 - Introduction to Computing Science and Programming I (3)
CMPT 125 - Introduction to Computing Science and Programming II (3)
CMPT 225 - Data Structures and Programming (3)
~~CMPT 276 - Introduction to Software Engineering (3)~~

(...)

Open Concentration Requirements

Lower Division Requirements

Business Administration

Students complete ~~all~~ **both** of

~~BUS 200 - Business Fundamentals (3)~~
BUS 217W - Critical Thinking in Business (3)
~~BUS 251 - Financial Accounting I (3)~~
BUS 272 - Behaviour in Organizations (3)

Computing Science

Students complete all of

CMPT 120 - Introduction to Computing Science and Programming I (3)
CMPT 125 - Introduction to Computing Science and Programming II (3)
CMPT 225 - Data Structures and Programming (3)
~~CMPT 276 - Introduction to Software Engineering (3)~~

Mathematics and Computing Science

Students complete both of

MACM 101 - Discrete Mathematics I (3)
MACM 201 - Discrete Mathematics II (3)

Data Science

Students complete

DATA 180 - Undergraduate Seminar in Data Science (1)

Mathematics

Students complete one of

MATH 150 - Calculus I with Review (4) *
MATH 151 - Calculus I (3) *
MATH 154 - Mathematics for the Life Sciences I (3)
MATH 157 - Calculus I for the Social Sciences (3)

and ~~both of~~

MATH 152 - Calculus II (3)
~~MATH 208W - Introduction to Operations Research (3)~~

and one of

MATH 232 - Applied Linear Algebra (3)
MATH 240 - Algebra I: Linear Algebra (3) *

and one of

MATH 208W - Introduction to Operations Research (3)
MACM 203 – Computing with Linear Algebra (2)

Statistics

Students complete both of

STAT 240 - Introduction to Data Science (3)
STAT 260 - Introductory R for Data Science (3)

and one of

BUS 232 - Business Statistics (3)
STAT 201 - Statistics for the Life Sciences (3)
STAT 203 - Introduction to Statistics for the Social Sciences (3)
STAT 205 - Introduction to Statistics (3)
STAT 270 - Introduction to Probability and Statistics (3) *

* Recommended

(...)

Statistics Concentration Requirements

Lower Division Requirements

Business Administration

Students complete ~~all~~ **both** of

~~BUS 200 - Business Fundamentals (3)~~
BUS 217W - Critical Thinking in Business (3)
~~BUS 251 - Financial Accounting I (3)~~
BUS 272 - Behaviour in Organizations (3)

Computing Science

Students complete all of

CMPT 120 - Introduction to Computing Science and Programming I (3)
CMPT 125 - Introduction to Computing Science and Programming II (3)
CMPT 225 - Data Structures and Programming (3)
~~CMPT 276 - Introduction to Software Engineering (3)~~

Mathematics and Computing Science

Students complete both of

MACM 101 - Discrete Mathematics I (3)
MACM 201 - Discrete Mathematics II (3)

Data Science

Students complete

DATA 180 - Undergraduate Seminar in Data Science (1)

Mathematics

Students complete one of

MATH 150 - Calculus I with Review (4) *
MATH 151 - Calculus I (3) *
MATH 154 - Mathematics for the Life Sciences I (3)
MATH 157 - Calculus I for the Social Sciences (3)

and ~~all~~ **both** of

MATH 152 - Calculus II (3)
~~MATH 208W - Introduction to Operations Research (3)~~
MATH 251 - Calculus III (3)

and one of

MATH 232 - Applied Linear Algebra (3)
MATH 240 - Algebra I: Linear Algebra (3) *

and one of

MATH 208W - Introduction to Operations Research (3)
MACM 203 – Computing with Linear Algebra (2)

Statistics

Students complete all of

STAT 240 - Introduction to Data Science (3)
STAT 260 - Introductory R for Data Science (2)
STAT 270 - Introduction to Probability and Statistics (3)
STAT 285 - Intermediate Probability and Statistics (3)

* Recommended