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**MEMORANDUM**

ATTENTION Senate DATE February 7, 2025  
FROM Paul Kingsbury, Vice-Chair PAGES 1/2  
RE: Senate Committee on Undergraduate Studies  
New Course Proposals

## For information:

Acting under delegated authority at its meeting of February 6, 2025 SCUS approved the following curriculum revisions effective Fall 2025.

### a. Beedie School of Business (SCUS 25-15)

(i) New Course Proposals:

- BUS 313-3, Corporate Finance
- BUS 412-3, Advanced Corporate Finance

## **b. Faculty of Communication, Art and Technology**

## 1. School for the Contemporary Arts (SCUS 24-104)

(i) New Course Proposals:

- CA 110-3, Art, Performance and Cinema Studies: Introductory Seminar

## 2. School of Interactive Arts and Technology (SCUS 25-29)

(i) New Course Proposals:

- IAT 111-3, Artificial Intelligence Today and Tomorrow: Systems, Applications and Ethical Challenges
- IAT 420-4, Critical Making Senior Project

### c. Faculty of Environment

## 1. School of Resource and Environmental Management (SCUS 25-31)

(i) New Course Proposal: SD 100-3, Sustainable Futures: An Optimistic and Practical Guide

**d. Faculty of Science**

**1. Department of Mathematics (SCUS 25-32)**

(i) New Course Proposal: MATH 110-3, Precalculus for the Life Sciences and Social Sciences

**2. Department of Statistics and Actuarial Sciences (SCUS 25-33)**

(i) New Course Proposals:

- ACMA 102-3, The Science of Risk: Understanding and Managing Uncertainty
- ACMA 412-3, Advanced Models and Methods for Long-Term Insurance

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>.

COURSE SUBJECT **BUS**NUMBER **313****COURSE TITLE LONG** — for Calendar/schedule, no more than 100 characters including spaces and punctuation**Corporate Finance****COURSE TITLE SHORT** — for enrollment/transcript, no more than 30 characters including spaces and punctuation**Corporate Finance****CAMPUS** where course will be normally taught:  Burnaby  Surrey  Vancouver  Great Northern Way  Off campus**COURSE DESCRIPTION** — 50 words max. Attach a course outline. Don't include WQB or prerequisites info in this description box.**Corporate financial management decisions and valuation methods. Topics include investment decisions, financing decisions, capital structure policy, payout policy, and valuation of investment projects and firms.****REPEAT FOR CREDIT** YES NO

Total completions allowed

**2**

Within a term?

 YES NO**LIBRARY RESOURCES**

NOTE: Senate has approved (S.93-11) that no new course should be approved by Senate until funding has been committed for necessary library materials. Each new course proposal must be accompanied by the email that serves as proof of assessment. For more information, please visit [www.lib.sfu.ca/about/overview/collections/course-assessments](http://www.lib.sfu.ca/about/overview/collections/course-assessments).

**RATIONALE FOR INTRODUCTION OF THIS COURSE**

The contents of BUS313 Corporate Finance will have most of the elements of BUS413 Corporate Finance. Essentially, redesigning this course from the 4xx level to the 3xx level completes the changes to the Corporate Finance course after it was reduced to three credits and made a requirement in the Finance concentration two years ago. Creating BUS313 will solve several remaining issues.

**1. Aligning course numbers with course contents.**

Before BUS413 was reduced to three credits, it combined introductory and advanced Corporate Finance material. Now, with three credits, the Corporate Finance course covers only the introductory material, corresponding to the 3xx level, i.e., the proposed BUS313. At the same time, certain topics that were cut from BUS413 are essential to offer in a Finance program and need a 4xx course, e.g., Advanced Corporate Finance, for which we can will be using BUS 412 in the future.

**2. Logical course sequence for the overall Finance concentration.**

The finance course sequence will be clear and standard for business schools: two required 3xx courses (Investments and Corporate Finance, BUS315 and BUS313) followed by choices among 4xx courses. Currently, students incorrectly perceive BUS413 Corporate Finance as an advanced course to be taken late in the program. The move to BUS313 will eliminate this confusion. It will also enable the 3xx Corporate Finance to be listed as a prerequisite for some 4xx finance courses, if necessary, and allow students to benefit from its core material in all 4xx courses.

## SCHEDULING AND ENROLLMENT INFORMATION

Effective term and year (e.g. FALL 2016) **Fall 2025**Term in which course will typically be offered  Spring  Summer  Fall

Other (describe)

Will this be a required or elective course in the curriculum?  Required  ElectiveWhat is the probable enrollment when offered? Estimate: **150**

## UNITS

Indicate number of units: **3**Indicate no. of contact hours: **3** Lecture **0** Seminar **0** Tutorial **0** Lab **0** Other; explain below

## OTHER

**N/A**

## FACULTY

Which of your present CFL faculty have the expertise to offer this course?

**Alexander Vedrashko**

## WQB DESIGNATION

(attach approval from Curriculum Office)

**N/A**

## PREREQUISITE AND / OR COREQUISITE

**BUS 312, BUS 207 or ECON 201, all with a minimum grade of C- and 45 units.**

**EQUIVALENT COURSES** [For more information on equivalency, see Equivalency Statements under [Information about Specific Course components](#).]**1. SEQUENTIAL COURSE** [is not hard coded in the student information management system (SIMS).]

Students who have taken *(place relevant course(s) in the blank below (ex: STAT 100))* **first** may not then take this course for further credit.

N/A

**2. ONE-WAY EQUIVALENCY** [is not hard coded in SIMS.]

*(Place relevant course(s) in the blank below (ex: STAT 100))* will be accepted in lieu of this course.

N/A

**3. TWO-WAY EQUIVALENCY** [is hard coded and enforced by SIMS.]

Students with credit for *(place relevant course(s) in the blank below (ex: STAT 100))* may not take this course for further credit.

BUS 413

Does the partner academic unit agree that this is a two-way equivalency?  YES  NO

*Please also have the partner academic unit submit a course change form to update the course equivalency for their course(s).*

**4. SPECIAL TOPICS PRECLUSION STATEMENT** [is not hard coded in SIMS.]

N/A

**FEES**

Are there any proposed student fees associated with this course other than tuition fees?  YES  NO

**COURSE – LEVEL EDUCATIONAL GOALS (OPTIONAL)**

**RESOURCES**

List any outstanding resource issues to be addressed prior to implementation: space, laboratory equipment, etc:

N/A

**OTHER IMPLICATIONS**

Final exam required  YES  NO

Criminal Record Check required  YES  NO

**OVERLAP CHECK**

Checking for overlap is the responsibility of the Associate Dean.

Each new course proposal must have confirmation of an overlap check completed prior to submission to the Faculty Curriculum Committee.

**Name of Originator**

Alexander Vedrashko

COURSE SUBJECT **BUS**NUMBER **412****COURSE TITLE LONG** — for Calendar/schedule, no more than 100 characters including spaces and punctuation

Advanced Corporate Finance

**COURSE TITLE SHORT** — for enrollment/transcript, no more than 30 characters including spaces and punctuation

Advanced Corporate Finance

**CAMPUS** where course will be normally taught:  Burnaby  Surrey  Vancouver  Great Northern Way  Off campus**COURSE DESCRIPTION** — 50 words max. Attach a course outline. Don't include WQB or prerequisites info in this description box.

Corporate decisions in the context of financial markets. Topics include: mergers and acquisitions, corporate governance, real asset investments, financing alternatives, dividend policy, working capital management, and corporate securities valuation.

**REPEAT FOR CREDIT**  YES  NO Total completions allowed **2** Within a term?  YES  NO**LIBRARY RESOURCES**NOTE: Senate has approved (S.93-11) that no new course should be approved by Senate until funding has been committed for necessary library materials. Each new course proposal must be accompanied by the email that serves as proof of assessment. For more information, please visit [www.lib.sfu.ca/about/overview/collections/course-assessments](http://www.lib.sfu.ca/about/overview/collections/course-assessments).**RATIONALE FOR INTRODUCTION OF THIS COURSE**

BUS 412 is an advanced corporate finance course. Students gain basic corporate finance knowledge in BUS 313, which serves as a foundation for BUS 412. In BUS 412, students explore more specific topics such as mergers and acquisitions and corporate governance, allowing them to delve deeper into corporate finance.

## SCHEDULING AND ENROLLMENT INFORMATION

Effective term and year (e.g. FALL 2016) **Fall 2025**Term in which course will typically be offered  Spring  Summer  Fall

Other (describe)

Will this be a required or elective course in the curriculum?  Required  ElectiveWhat is the probable enrollment when offered? Estimate: **35**

## UNITS

Indicate number of units: **3**Indicate no. of contact hours: **3** Lecture  Seminar  Tutorial  Lab  Other; explain below

## OTHER

**N/A**

## FACULTY

Which of your present CFL faculty have the expertise to offer this course?

**Victor Song**

## WQB DESIGNATION

(attach approval from Curriculum Office)

## PREREQUISITE AND / OR COREQUISITE

**BUS 313, BUS 315, and BUS 360W, all with a minimum grade of C-; 60 units.**

**EQUIVALENT COURSES** [For more information on equivalency, see Equivalency Statements under [Information about Specific Course components](#).]**1. SEQUENTIAL COURSE** [is not hard coded in the student information management system (SIMS).]

Students who have taken *(place relevant course(s) in the blank below (ex: STAT 100))* **first** may not then take this course for further credit.

N/A

**2. ONE-WAY EQUIVALENCY** [is not hard coded in SIMS.]

*(Place relevant course(s) in the blank below (ex: STAT 100))* will be accepted in lieu of this course.

N/A

**3. TWO-WAY EQUIVALENCY** [is hard coded and enforced by SIMS.]

Students with credit for *(place relevant course(s) in the blank below (ex: STAT 100))* may not take this course for further credit.

N/A

Does the partner academic unit agree that this is a two-way equivalency?  YES  NO

*Please also have the partner academic unit submit a course change form to update the course equivalency for their course(s).*

**4. SPECIAL TOPICS PRECLUSION STATEMENT** [is not hard coded in SIMS.]

N/A

**FEES**

Are there any proposed student fees associated with this course other than tuition fees?  YES  NO

**COURSE – LEVEL EDUCATIONAL GOALS (OPTIONAL)**

**RESOURCES**

List any outstanding resource issues to be addressed prior to implementation: space, laboratory equipment, etc:

N/A

**OTHER IMPLICATIONS**

Final exam required  YES  NO

Criminal Record Check required  YES  NO

**OVERLAP CHECK**

Checking for overlap is the responsibility of the Associate Dean.

Each new course proposal must have confirmation of an overlap check completed prior to submission to the Faculty Curriculum Committee.

**Name of Originator**

Alexander Vedrashko

COURSE SUBJECT CA

NUMBER 110

**COURSE TITLE LONG** — for Calendar/schedule, no more than 100 characters including spaces and punctuation

Art, Performance and Cinema Studies: Introductory Seminar

**COURSE TITLE SHORT** — for enrollment/transcript, no more than 30 characters including spaces and punctuation

APCS Introductory Seminar

**CAMPUS** where course will be normally taught:  Burnaby  Surrey  Vancouver  Great Northern Way  Off campus**COURSE DESCRIPTION** — 50 words max. Attach a course outline. Don't include WQB or prerequisites info in this description box.

An introduction to the experience and analysis of contemporary arts. A combination of seminar discussions, combined with field trips to galleries, cinemas, performance venues, and public art sites, will introduce APCS majors to the disciplinary resources, methods and skills that they will continue to develop over the course of their degree.

**REPEAT FOR CREDIT** YES NO

Total completions allowed

Within a term?

 YES NO**LIBRARY RESOURCES**

NOTE: Senate has approved (S.93-11) that no new course should be approved by Senate until funding has been committed for necessary library materials. Each new course proposal must be accompanied by the email that serves as proof of assessment. For more information, please visit [www.lib.sfu.ca/about/overview/collections/course-assessments](http://www.lib.sfu.ca/about/overview/collections/course-assessments).

**RATIONALE FOR INTRODUCTION OF THIS COURSE**

At present, Art, Performance & Cinema Studies (APCS) is the only program in the School for the Contemporary Arts without an introductory course for majors; in fact, APCS has no cohort-specific courses at all. This introductory seminar course, required for majors, will contribute to this growing program by creating the conditions for recruitment and retention. The course will introduce students to the theoretical, methodological, and contextual foundations they will need to thrive in the program, in the university, the city, and their career paths. The course will provide an opportunity for cohort-community building and will contribute significantly to the overall APCS student experience. The small seminar format will be a welcoming environment for new students.

## SCHEDULING AND ENROLLMENT INFORMATION

Effective term and year (e.g. FALL 2016) **Fall 2025**Term in which course will typically be offered  Spring  Summer  Fall

Other (describe)

Will this be a required or elective course in the curriculum?  Required  ElectiveWhat is the probable enrollment when offered? Estimate: **25**

## UNITS

Indicate number of units: **3**Indicate no. of contact hours:  Lecture **3**  Seminar  Tutorial  Lab  Other; explain below

## OTHER

## FACULTY

Which of your present CFL faculty have the expertise to offer this course?

**Peter Dickinson, Claudette Lauzon, Laura Marks, Denise Oleksijczuk, Christopher Pavsek, Eldritch Priest**

## WQB DESIGNATION

(attach approval from Curriculum Office)

**n/a**

## PREREQUISITE AND / OR COREQUISITE

**Open to Art, Performance and Cinema Studies majors.**

**EQUIVALENT COURSES** [For more information on equivalency, see Equivalency Statements under [Information about Specific Course components](#).]**1. SEQUENTIAL COURSE** [is not hard coded in the student information management system (SIMS).]

Students who have taken *(place relevant course(s) in the blank below (ex: STAT 100))* **first** may not then take this course for further credit.

n/a

**2. ONE-WAY EQUIVALENCY** [is not hard coded in SIMS.]

*(Place relevant course(s) in the blank below (ex: STAT 100))* will be accepted in lieu of this course.

n/a

**3. TWO-WAY EQUIVALENCY** [is hard coded and enforced by SIMS.]

Students with credit for *(place relevant course(s) in the blank below (ex: STAT 100))* may not take this course for further credit.

n/a

Does the partner academic unit agree that this is a two-way equivalency?  YES  NO

*Please also have the partner academic unit submit a course change form to update the course equivalency for their course(s).*

**4. SPECIAL TOPICS PRECLUSION STATEMENT** [is not hard coded in SIMS.]

n/a

**FEES**

Are there any proposed student fees associated with this course other than tuition fees?  YES  NO

**COURSE – LEVEL EDUCATIONAL GOALS (OPTIONAL)**

**RESOURCES**

List any outstanding resource issues to be addressed prior to implementation: space, laboratory equipment, etc:

n/a

**OTHER IMPLICATIONS**

Final exam required  YES  NO

Criminal Record Check required  YES  NO

**OVERLAP CHECK**

Checking for overlap is the responsibility of the Associate Dean.

Each new course proposal must have confirmation of an overlap check completed prior to submission to the Faculty Curriculum Committee.

**Name of Originator**

Christopher Pavsek

COURSE SUBJECT IAT

NUMBER 111

**COURSE TITLE LONG** — for Calendar/schedule, no more than 100 characters including spaces and punctuation

Artificial Intelligence Today and Tomorrow: Systems, Applications and Ethical Challenges

**COURSE TITLE SHORT** — for enrollment/transcript, no more than 30 characters including spaces and punctuation

AI Today and Tomorrow

**CAMPUS** where course will be normally taught:  Burnaby  Surrey  Vancouver  Great Northern Way  Off campus**COURSE DESCRIPTION** — 50 words max. Attach a course outline. Don't include WQB or prerequisites info in this description box.

Provides non-technical students with a comprehensive exploration of artificial intelligence (AI) technologies, their underlying principles, societal implications, and transformative potential. Through a non-technical, interdisciplinary approach, students will develop a nuanced understanding of AI systems, examining their technological foundations, practical applications, and critical ethical considerations. Primarily for non-SIAT majors; SIAT students may take for credit, does not count for SIAT degree requirements.

**REPEAT FOR CREDIT**  YES  NO Total completions allowed  Within a term?  YES  NO**LIBRARY RESOURCES**

NOTE: Senate has approved (S.93-11) that no new course should be approved by Senate until funding has been committed for necessary library materials. Each new course proposal must be accompanied by the email that serves as proof of assessment. For more information, please visit [www.lib.sfu.ca/about/overview/collections/course-assessments](http://www.lib.sfu.ca/about/overview/collections/course-assessments).

**RATIONALE FOR INTRODUCTION OF THIS COURSE**

The contemporary technological landscape is being fundamentally reshaped by artificial intelligence, creating an unprecedented need for comprehensive understanding that extends far beyond traditional technical boundaries. As AI technologies rapidly integrate into every aspect of professional and personal life, universities must respond by providing students with a holistic, accessible approach to understanding these transformative technologies.

Modern higher education has traditionally compartmentalized AI knowledge within computer science and engineering departments, inadvertently creating significant knowledge barriers for students in other disciplines. This approach leaves the majority of graduates ill-equipped to critically engage with the technological systems increasingly governing professional and social interactions. Our proposed course represents a deliberate effort to democratize AI understanding, making complex technological concepts accessible to students across all academic backgrounds.

The interdisciplinary implications of artificial intelligence cannot be overstated. From healthcare's diagnostic innovations to business's predictive analytics, from creative industries' generative technologies to environmental science's complex modeling capabilities, AI has become a fundamental driver of innovation across sectors. By providing students with a comprehensive understanding of these technologies, we prepare them to become adaptive, informed professionals capable of leveraging AI's potential in their respective fields.

Beyond technical comprehension, the course critically addresses the ethical and societal dimensions of artificial intelligence. Understanding AI is no longer simply about recognizing technological capabilities, but about developing nuanced frameworks for evaluating technological impact. Students will explore complex issues surrounding algorithmic bias, privacy concerns, technological accountability, and the profound socioeconomic transformations triggered by AI technologies.

By demystifying AI technologies and providing accessible, critical frameworks for understanding, we aim to empower students to

## SCHEDULING AND ENROLLMENT INFORMATION

Effective term and year (e.g. FALL 2016) **Fall 2025**Term in which course will typically be offered  Spring  Summer  Fall

Other (describe)

Will this be a required or elective course in the curriculum?  Required  ElectiveWhat is the probable enrollment when offered? Estimate: **250**

## UNITS

Indicate number of units: **3**Indicate no. of contact hours: **3** Lecture **0** Seminar **0** Tutorial **0** Lab **0** Other; explain below

## OTHER

Primarily for non-SIAT majors; SIAT students may take for credit, does not count for SIAT degree requirement

## FACULTY

Which of your present CFL faculty have the expertise to offer this course?

Steve DiPaola  
Nilay Yalcin

## WQB DESIGNATION

(attach approval from Curriculum Office)

## PREREQUISITE AND / OR COREQUISITE

None

**EQUIVALENT COURSES** [For more information on equivalency, see Equivalency Statements under [Information about Specific Course components](#).]**1. SEQUENTIAL COURSE** [is not hard coded in the student information management system (SIMS).]

Students who have taken *(place relevant course(s) in the blank below (ex: STAT 100))* **first** may not then take this course for further credit.

**2. ONE-WAY EQUIVALENCY** [is not hard coded in SIMS.]

*(Place relevant course(s) in the blank below (ex: STAT 100))* will be accepted in lieu of this course.

**3. TWO-WAY EQUIVALENCY** [is hard coded and enforced by SIMS.]

Students with credit for *(place relevant course(s) in the blank below (ex: STAT 100))* may not take this course for further credit.

Does the partner academic unit agree that this is a two-way equivalency?  YES  NO

*Please also have the partner academic unit submit a course change form to update the course equivalency for their course(s).*

**4. SPECIAL TOPICS PRECLUSION STATEMENT** [is not hard coded in SIMS.]**FEES**

Are there any proposed student fees associated with this course other than tuition fees?  YES  NO

**COURSE – LEVEL EDUCATIONAL GOALS (OPTIONAL)**

- Comprehend the basic architectural principles of modern AI systems
- Critically evaluate AI technologies' potential benefits and risks
- Engage in informed discussions about AI's societal implications
- Recognize AI's role in contemporary technological ecosystems

**RESOURCES**

List any outstanding resource issues to be addressed prior to implementation: space, laboratory equipment, etc:

Large lecture hall

**OTHER IMPLICATIONS**

Final exam required  YES  NO

Criminal Record Check required  YES  NO

**OVERLAP CHECK**

Checking for overlap is the responsibility of the Associate Dean.

Each new course proposal must have confirmation of an overlap check completed prior to submission to the Faculty Curriculum Committee.

**Name of Originator**

Steve DiPaola

COURSE SUBJECT IAT

NUMBER 420

**COURSE TITLE LONG** — for Calendar/schedule, no more than 100 characters including spaces and punctuation

Critical Making Senior Project

**COURSE TITLE SHORT** — for enrollment/transcript, no more than 30 characters including spaces and punctuation

Critical Making Senior Project

**CAMPUS** where course will be normally taught:  Burnaby  Surrey  Vancouver  Great Northern Way  Off campus**COURSE DESCRIPTION** — 50 words max. Attach a course outline. Don't include WQB or prerequisites info in this description box.

Focuses on advanced practices of digital fabrication emphasizing hands-on exploration of materials, artefacts, contexts of use and situated meanings. Applies critical practices ranging from traditional craft knowledge, e-textiles to integrating computational and physical materials. Working collaboratively, course-work utilizes iterative studio-based critique and reflection culminating in professional portfolio-worthy research-creation projects.

**REPEAT FOR CREDIT** YES NO

Total completions allowed

Within a term?

 YES NO**LIBRARY RESOURCES**

NOTE: Senate has approved (S.93-11) that no new course should be approved by Senate until funding has been committed for necessary library materials. Each new course proposal must be accompanied by the email that serves as proof of assessment. For more information, please visit [www.lib.sfu.ca/about/overview/collections/course-assessments](http://www.lib.sfu.ca/about/overview/collections/course-assessments).

**RATIONALE FOR INTRODUCTION OF THIS COURSE**

THE COURSE: IAT420-4 Critical Making Senior Project: This Senior project course is the 4th year culmination course for the SIAT Critical Making Concentration, recently approved by the SIAT Undergraduate Curriculum Committee. This Critical Making Concentration is part of the SIAT Curriculum-wide rethinking and re-visioning of its Undergraduate Program that has resulted in a group of newly designed Concentrations that provide greater flexibility, interoperability, and that align more coherently with the changing values and skills required within the growing technological landscape and its impact on the local and global conditions.

A key rationale for the Critical Making Senior Project course is that it re-articulates and re-values the historical practices of making that have been fluently and robustly present within SIAT's undergraduate curriculum since its inception in 2002. These courses have included: physical computing, tangible computing, embodied computing, wearable computing, movement computing, affective computing, computational creativity, and Arduino and sensor/actuator workshops. SIAT's capacity for conceptualizing through making has been one of the central elements of our curriculum and we have embraced its relevance to creating impact in our world. The Critical Making Concentration and this Senior Project course is concerned not only with our present, but with the reMaking of our future.

**SIAT's EXPANDED INFRASTRUCTURE:**

The newly developed Undergraduate Curriculum Concentrations as a whole have re-articulated SIAT Learning Outcomes that are aligned with the expanded infrastructure capacity for sustainable digital fabrication prototyping through diverse making processes. This infrastructure is supported the innovative e-Textile 'fabriccommons' maker space in the SFU Surrey Library, and the expanded room SRYC room 3350 professional textiles fabrication space which includes the capacity for textile fabrication through weaving, knitting, embroidery, tufting, and the intersection of organic and inorganic materials with digital computation, and well as the longstanding SIAT Solidspace fabrication lab. These infrastructure spaces are supported by ongoing staffing from both the Surrey 'fabriccommons' space in the SFU Library, and also for the ongoing SIAT technical lab staff.

## SCHEDULING AND ENROLLMENT INFORMATION

Effective term and year (e.g. FALL 2016) **Fall 2025**Term in which course will typically be offered  Spring  Summer  Fall

Other (describe)

Will this be a required or elective course in the curriculum?  Required  ElectiveWhat is the probable enrollment when offered? Estimate: **24**

## UNITS

Indicate number of units: **4**Indicate no. of contact hours:  Lecture  Seminar  Tutorial  Lab **4** Other; explain below

## OTHER

Studio

## FACULTY

Which of your present CFL faculty have the expertise to offer this course?

Gabriella Aceves-Sepulveda, Alissa Antle, Jon Corbett, Chantal Gibson, Kate Hennessy, Gillian Russell, Will Odom, Philippe Pasquier, Thecla Schiphorst, Ron Wakkary, Ken Zupan

## WQB DESIGNATION

(attach approval from Curriculum Office)

## PREREQUISITE AND / OR COREQUISITE

Completion of 60 units, including IAT 320 or IAT 336, with a minimum grade of C-.

**EQUIVALENT COURSES** [For more information on equivalency, see Equivalency Statements under [Information about Specific Course components](#).]**1. SEQUENTIAL COURSE** [is not hard coded in the student information management system (SIMS).]

Students who have taken *(place relevant course(s) in the blank below (ex: STAT 100))* **first** may not then take this course for further credit.

**2. ONE-WAY EQUIVALENCY** [is not hard coded in SIMS.]

*(Place relevant course(s) in the blank below (ex: STAT 100))* will be accepted in lieu of this course.

**3. TWO-WAY EQUIVALENCY** [is hard coded and enforced by SIMS.]

Students with credit for *(place relevant course(s) in the blank below (ex: STAT 100))* may not take this course for further credit.

Does the partner academic unit agree that this is a two-way equivalency?  YES  NO

*Please also have the partner academic unit submit a course change form to update the course equivalency for their course(s).*

**4. SPECIAL TOPICS PRECLUSION STATEMENT** [is not hard coded in SIMS.]**FEES**

Are there any proposed student fees associated with this course other than tuition fees?  YES  NO

**COURSE – LEVEL EDUCATIONAL GOALS (OPTIONAL)**

By fulfilling the requirements of this concentration, students will be develop:

1. Technical Proficiency: Demonstrate competencies in material production skills of making: understanding and applying materials, their properties, aesthetics and life-cycles; gaining fluency in tools such as 3d printing; physical computing; micro-controller applications; soldering; sensor and actuator integration; IoT; crafting with physical materials and textile applications.
2. Critique and critical reflection: Cultivate a critical practice that integrates making and reflection: defined as the ability to self-assess one's critical-making processes, practices, and outcomes in pursuit of the development of a reflective practice.
5. Teamwork Collaboration: Apply strategies to work effectively in cross-disciplinary teams, demonstrating strong communication skills, ethics of care, and the ability to contribute creatively and professionally to Critical Making projects throughout various stages of development.
6. Socially Conscious: Apply value-led practices and critical frameworks to tackle meaningful problems in the context of social and cultural themes, including sustainability, health, social justice, physical bodies and ability, and education.

**RESOURCES**

List any outstanding resource issues to be addressed prior to implementation: space, laboratory equipment, etc:

All space, laboratory equipment and resource issues have been vetted and approved within SIAT. There are no outstanding resource issues.

**OTHER IMPLICATIONS**

Final exam required  YES  NO

Criminal Record Check required  YES  NO

**OVERLAP CHECK**

Checking for overlap is the responsibility of the Associate Dean.

Each new course proposal must have confirmation of an overlap check completed prior to submission to the Faculty Curriculum Committee.

**Name of Originator**

Thecla Schiphorst

COURSE SUBJECT SD

NUMBER 100

**COURSE TITLE LONG** — for Calendar/schedule, no more than 100 characters including spaces and punctuation

Sustainable Futures: An Optimistic and Practical Guide

**COURSE TITLE SHORT** — for enrollment/transcript, no more than 30 characters including spaces and punctuation

Sustainable Futures

**CAMPUS** where course will be normally taught:  Burnaby  Surrey  Vancouver  Great Northern Way  Off campus**COURSE DESCRIPTION** — 50 words max. Attach a course outline. Don't include WQB or prerequisites info in this description box.

During a time of increasing environmental and social challenges, we focus on the bright spots, the opportunities for positive change. Equips students with practical knowledge, tools and strategies to become changemakers by living more sustainably, keeping a positive outlook, and actively contributing to a fairer society.

**REPEAT FOR CREDIT** YES NO

Total completions allowed

Within a term?

 YES NO**LIBRARY RESOURCES**

NOTE: Senate has approved (S.93-11) that no new course should be approved by Senate until funding has been committed for necessary library materials. Each new course proposal must be accompanied by the email that serves as proof of assessment. For more information, please visit [www.lib.sfu.ca/about/overview/collections/course-assessments](http://www.lib.sfu.ca/about/overview/collections/course-assessments).

**RATIONALE FOR INTRODUCTION OF THIS COURSE**

Many students want to contribute to positive change in the world. Sometimes, it is just hard to know where to start. This course takes an optimistic, solutions-driven approach to sustainable, socially just solutions. We will focus on practical knowledge, tools, and strategies to help students live more sustainably, keep a positive outlook, and actively contribute to a more equitable society. Students will learn to become changemakers and make a difference in their personal lives, their communities, and beyond through workshops, case studies, and applied projects.

The course complements the existing first-year course offerings of REM 100 and PLAN 100 with practical perspectives on bringing positive change to our lives. Furthermore, the course will contribute to SFU's vision of advancing an inclusive and sustainable future by promoting sustainability and social justice across SFU's student population.

The course is designed as an attractive elective with a B-Social Science designation for a wide range of students interested in living in a more sustainable way. The course will be offered 2-3 times a year either in-person or asynchronous online to make the material as accessible as possible.

While we are initially not including this course as a required course in our programs (REM Major, REM Minor, SD Minor), we are planning to update the program requirements once we have a bit of experience with the course and how it complements our other first year offerings.

## SCHEDULING AND ENROLLMENT INFORMATION

Effective term and year (e.g. FALL 2016) **Fall 2025**Term in which course will typically be offered  Spring  Summer  Fall

Other (describe)

Will this be a required or elective course in the curriculum?  Required  ElectiveWhat is the probable enrollment when offered? Estimate: **200**

## UNITS

Indicate number of units: **3**Indicate no. of contact hours: **1** Lecture **2** Seminar **1** Tutorial **1** Lab **1** Other; explain below

## OTHER

## FACULTY

Which of your present CFL faculty have the expertise to offer this course?

Any faculty in the School for Resource and Environmental Management. Dr. Andréanne Doyon (andréanne\_doyon@sfu.ca) and Dr. Sophie Wilkinson (sophie\_wilkinson@sfu.ca) are the leads for the course.

## WQB DESIGNATION

(attach approval from Curriculum Office)

## PREREQUISITE AND / OR COREQUISITE

None

**EQUIVALENT COURSES** [For more information on equivalency, see Equivalency Statements under [Information about Specific Course components](#).]**1. SEQUENTIAL COURSE** [is not hard coded in the student information management system (SIMS).]

Students who have taken *(place relevant course(s) in the blank below (ex: STAT 100))* **first** may not then take this course for further credit.

N/A

**2. ONE-WAY EQUIVALENCY** [is not hard coded in SIMS.]

*(Place relevant course(s) in the blank below (ex: STAT 100))* will be accepted in lieu of this course.

N/A

**3. TWO-WAY EQUIVALENCY** [is hard coded and enforced by SIMS.]

Students with credit for *(place relevant course(s) in the blank below (ex: STAT 100))* may not take this course for further credit.

N/A

Does the partner academic unit agree that this is a two-way equivalency?  YES  NO

*Please also have the partner academic unit submit a course change form to update the course equivalency for their course(s).*

**4. SPECIAL TOPICS PRECLUSION STATEMENT** [is not hard coded in SIMS.]

N/A

**FEES**

Are there any proposed student fees associated with this course other than tuition fees?  YES  NO

**COURSE – LEVEL EDUCATIONAL GOALS (OPTIONAL)**

- Explore the magic and wonder of natural systems and human cultures
- Understand the core principles of sustainability and social justice
- Develop practical skills for sustainable living and social action
- Recognize leverage points for contributing to positive change
- Create actionable plans to contribute to more sustainable and just communities
- Build hope and inspiration

**RESOURCES**

List any outstanding resource issues to be addressed prior to implementation: space, laboratory equipment, etc:

None

**OTHER IMPLICATIONS**

Final exam required  YES  NO

Criminal Record Check required  YES  NO

**OVERLAP CHECK**

Checking for overlap is the responsibility of the Associate Dean.

Each new course proposal must have confirmation of an overlap check completed prior to submission to the Faculty Curriculum Committee.

**Name of Originator**

Pascal Haegeli

COURSE SUBJECT MATH

NUMBER 110

**COURSE TITLE LONG** — for Calendar/schedule, no more than 100 characters including spaces and punctuation

Precalculus for the Life Sciences and Social Sciences

**COURSE TITLE SHORT** — for enrollment/transcript, no more than 30 characters including spaces and punctuation

Precalculus-Life &amp; Social Sci.

**CAMPUS** where course will be normally taught:  Burnaby  Surrey  Vancouver  Great Northern Way  Off campus**COURSE DESCRIPTION** — 50 words max. Attach a course outline. Don't include WQB or prerequisites info in this description box.

Designed to prepare students for first year Calculus courses for Life Science and Business programs. Topics include: review of algebra and analytic geometry, algebraic, exponential and logarithmic functions. MATH 110 may not be counted towards the mathematics minor, major or honours degree requirements.

**REPEAT FOR CREDIT** YES NO

Total completions allowed

Within a term?

 YES NO**LIBRARY RESOURCES**

NOTE: Senate has approved (S.93-11) that no new course should be approved by Senate until funding has been committed for necessary library materials. Each new course proposal must be accompanied by the email that serves as proof of assessment. For more information, please visit [www.lib.sfu.ca/about/overview/collections/course-assessments](http://www.lib.sfu.ca/about/overview/collections/course-assessments).

**RATIONALE FOR INTRODUCTION OF THIS COURSE**

Our current MATH 100 course (Precalculus) offers students the chance to acquire the background for Math 150 or 151, the calculus courses taken in Applied Science and Science programs, if they have not done so in high school. However, the majority of the students who take the course are not aimed in that direction. They plan to go on in Business, Economics, Biological Sciences, Health Sciences, BPK, and so on. These students do not require approximately 1 month of the material in MATH 100. Further, they would often benefit from a more substantial review of high school material, which could be placed at the beginning of this course. The aim is to improve the success rate for incoming students.

## SCHEDULING AND ENROLLMENT INFORMATION

Effective term and year (e.g. FALL 2016) **Fall 2025**Term in which course will typically be offered  Spring  Summer  Fall

Other (describe)

Will this be a required or elective course in the curriculum?  Required  ElectiveWhat is the probable enrollment when offered? Estimate: **250 annually**

## UNITS

Indicate number of units: **3**Indicate no. of contact hours: **3** Lecture **1** Seminar **1** Tutorial **1** Lab **1** Other; explain below

## OTHER

## FACULTY

Which of your present CFL faculty have the expertise to offer this course?

**All of them.**

## WQB DESIGNATION

(attach approval from Curriculum Office)

## PREREQUISITE AND / OR COREQUISITE

Foundations of Mathematics 11 (or equivalent) with a grade of at least B, or Pre-Calculus 12 (or equivalent) with a grade of at least C and an SFU FAN credit, or SFU FAN X92 or X99 course with a grade of at least B-, or achieving a satisfactory grade on the Simon Fraser University Quantitative Placement Test.

**EQUIVALENT COURSES** [For more information on equivalency, see Equivalency Statements under [Information about Specific Course components](#).]**1. SEQUENTIAL COURSE** [is not hard coded in the student information management system (SIMS).]

Students who have taken (*place relevant course(s) in the blank below (ex: STAT 100)*) **first** may not then take this course for further credit.

Students who have taken MATH 150 or MATH 151 or MATH 154 or MATH 157 first may not take this course for further credit.

**2. ONE-WAY EQUIVALENCY** [is not hard coded in SIMS.]

(*Place relevant course(s) in the blank below (ex: STAT 100)*) will be accepted in lieu of this course.

**3. TWO-WAY EQUIVALENCY** [is hard coded and enforced by SIMS.]

Students with credit for (*place relevant course(s) in the blank below (ex: STAT 100)*) may not take this course for further credit.

Students with credit for MATH 100 may not take MATH 110 for further credit.

Does the partner academic unit agree that this is a two-way equivalency?  YES  NO

*Please also have the partner academic unit submit a course change form to update the course equivalency for their course(s).*

**4. SPECIAL TOPICS PRECLUSION STATEMENT** [is not hard coded in SIMS.]**FEES**

Are there any proposed student fees associated with this course other than tuition fees?  YES  NO

**COURSE – LEVEL EDUCATIONAL GOALS (OPTIONAL)**

**RESOURCES**

List any outstanding resource issues to be addressed prior to implementation: space, laboratory equipment, etc:

**OTHER IMPLICATIONS**

Final exam required  YES  NO

Criminal Record Check required  YES  NO

**OVERLAP CHECK**

Checking for overlap is the responsibility of the Associate Dean.

Each new course proposal must have confirmation of an overlap check completed prior to submission to the Faculty Curriculum Committee.

**Name of Originator**

Tom Archibald

COURSE SUBJECT ACMA

NUMBER 102

**COURSE TITLE LONG** — for Calendar/schedule, no more than 100 characters including spaces and punctuation

The Science of Risk: Understanding and Managing Uncertainty

**COURSE TITLE SHORT** — for enrollment/transcript, no more than 30 characters including spaces and punctuation

The Science of Risk

**CAMPUS** where course will be normally taught:  Burnaby  Surrey  Vancouver  Great Northern Way  Off campus**COURSE DESCRIPTION** — 50 words max. Attach a course outline. Don't include WQB or prerequisites info in this description box.

A practical introduction to the science of risk management, applicable in both personal and business contexts for making data-driven decisions under uncertainty. Topics include risk identification and classification, qualitative and quantitative risk assessment, risk mitigation through pooling and insurance, and emerging risks. Applications in finance, cybersecurity, healthcare.

**REPEAT FOR CREDIT** YES NO

Total completions allowed

Within a term?

 YES NO**LIBRARY RESOURCES**

NOTE: Senate has approved (S.93-11) that no new course should be approved by Senate until funding has been committed for necessary library materials. Each new course proposal must be accompanied by the email that serves as proof of assessment. For more information, please visit [www.lib.sfu.ca/about/overview/collections/course-assessments](http://www.lib.sfu.ca/about/overview/collections/course-assessments).

**RATIONALE FOR INTRODUCTION OF THIS COURSE**

Risk management is an increasingly important area of study and practice. As businesses and governments face evolving challenges such as climate change, cyber threats, the proliferation of AI, and disruptions of global supply chains, the need for skilled risk managers has risen significantly. A recent Deloitte Global Risk Management survey found that the number of organizations with Chief Risk Officer positions is increasing. At the individual level, in a more and more complex and uncertain world, being able to manage personal and professional risks is becoming an important life skill. Against this backdrop, introducing a first-year course on risk management is both timely and strategically beneficial for students, the university, and society more broadly.

ACMA 102 is designed to serve three audiences: students pursuing a degree in actuarial science, students pursuing degrees in business, economics and related fields, and the general student body.

A first-year course in risk management is a vital addition to the actuarial program, providing foundational skills for assessing, analyzing, and mitigating risks—core to actuarial theory and practice. ACMA 102 will serve as an early introduction to these key functions and will provide context for the more advanced courses within the actuarial major and honours programs.

An introductory course in risk management is also a useful elective for students in business-related degrees. ACMA 102 will complement their coursework in adjacent fields by exposing them to enterprise risk management and the quantitative measurement and management of risk in a broader business context (not just limited to the traditional actuarial realms of banking and insurance). Given the growing demand for risk-literate professionals, this course will enhance these students' career readiness and expand their opportunities in emerging and high-demand fields.

Finally, ACMA 102 invites students from all backgrounds to examine their world through a risk management lens and to develop their quantitative reasoning, critical thinking, decision-making and adaptability skills along the way: all essential for navigating uncertainty in today's complex world.

The Department of Statistics and Actuarial Science is well qualified to offer this course at SFU. Our faculty combine a deep understanding of (i) uncertainty and its quantification, and (ii) the mechanisms of risk pooling and risk transfer from both a theoretical and practical perspective. ACMA 102 provides a vehicle for making this expertise available to a broad audience within the university.

## SCHEDULING AND ENROLLMENT INFORMATION

Effective term and year (e.g. FALL 2016) **Fall 2025**Term in which course will typically be offered  Spring  Summer  Fall

Other (describe)

Will this be a required or elective course in the curriculum?  Required  ElectiveWhat is the probable enrollment when offered? Estimate: **70**

## UNITS

Indicate number of units: **3**Indicate no. of contact hours: **3** Lecture **1** Seminar **1** Tutorial **1** Lab **1** Other; explain below

## OTHER

## FACULTY

Which of your present CFL faculty have the expertise to offer this course?

**Jean-François Bégin, Barbara Sanders**

## WQB DESIGNATION

(attach approval from Curriculum Office)

## PREREQUISITE AND / OR COREQUISITE

None

**EQUIVALENT COURSES** [For more information on equivalency, see Equivalency Statements under [Information about Specific Course components](#).]**1. SEQUENTIAL COURSE** [is not hard coded in the student information management system (SIMS).]

Students who have taken (*place relevant course(s) in the blank below (ex: STAT 100)*) **first** may not then take this course for further credit.

**2. ONE-WAY EQUIVALENCY** [is not hard coded in SIMS.]

(*Place relevant course(s) in the blank below (ex: STAT 100)*) will be accepted in lieu of this course.

**3. TWO-WAY EQUIVALENCY** [is hard coded and enforced by SIMS.]

Students with credit for (*place relevant course(s) in the blank below (ex: STAT 100)*) may not take this course for further credit.

Does the partner academic unit agree that this is a two-way equivalency?  YES  NO

*Please also have the partner academic unit submit a course change form to update the course equivalency for their course(s).*

**4. SPECIAL TOPICS PRECLUSION STATEMENT** [is not hard coded in SIMS.]**FEES**

Are there any proposed student fees associated with this course other than tuition fees?  YES  NO

**COURSE – LEVEL EDUCATIONAL GOALS (OPTIONAL)**

By the end of the course, students will be able to:

1. Describe the risk management framework and apply it to a variety of personal and business/enterprise risks.
2. Apply qualitative and quantitative tools for assessing risk.
3. Describe and use quantitative risk metrics and key performance indicators.
4. Distinguish various risk mitigation strategies and select appropriate strategies for a given scenario.
5. Evaluate the impact of emerging risks (e.g., climate change, cyber risk) on the frequency and severity of personal and enterprise risks and on the cost and effectiveness of risk mitigation strategies.

**RESOURCES**

List any outstanding resource issues to be addressed prior to implementation: space, laboratory equipment, etc:

**OTHER IMPLICATIONS**

Final exam required  YES  NO

Criminal Record Check required  YES  NO

**OVERLAP CHECK**

Checking for overlap is the responsibility of the Associate Dean.

Each new course proposal must have confirmation of an overlap check completed prior to submission to the Faculty Curriculum Committee.

**Name of Originator**

Barbara Sanders

COURSE SUBJECT ACMA

NUMBER 412

**COURSE TITLE LONG** — for Calendar/schedule, no more than 100 characters including spaces and punctuation

Advanced Models and Methods for Long-Term Insurance

**COURSE TITLE SHORT** — for enrollment/transcript, no more than 30 characters including spaces and punctuation

Adv Models &amp; Methods LT Insur

**CAMPUS** where course will be normally taught:  Burnaby  Surrey  Vancouver  Great Northern Way  Off campus**COURSE DESCRIPTION** — 50 words max. Attach a course outline. Don't include WQB or prerequisites info in this description box.

A practical introduction to advanced models and methods used in the valuation and management of long-term insurance coverages. Topics include cash-flow based profit analysis of modern life insurance products (universal life insurance, equity-linked insurance, and contracts with embedded options), stochastic pricing and reserving, and stochastic longevity models.

**REPEAT FOR CREDIT** YES NO

Total completions allowed

Within a term?

 YES NO**LIBRARY RESOURCES**

NOTE: Senate has approved (S.93-11) that no new course should be approved by Senate until funding has been committed for necessary library materials. Each new course proposal must be accompanied by the email that serves as proof of assessment. For more information, please visit [www.lib.sfu.ca/about/overview/collections/course-assessments](http://www.lib.sfu.ca/about/overview/collections/course-assessments).

**RATIONALE FOR INTRODUCTION OF THIS COURSE**

We are updating our 3-course sequence on long-term coverages (life insurance, annuities, pensions). Industry trends show a steady decline in career opportunities in pensions, matched by very low interest in our pension course (ACMA 475) over the past decade. We are replacing ACMA 475, the third course in the sequence, with a new course on advanced long-term insurance topics, whose content aligns better with the professional syllabi of the Society of Actuaries and the Canadian Institute of Actuaries. This gives our students significantly greater coverage of the professional actuarial syllabus in the long-term insurance stream, better preparing them for the ACIA National Capstone Exam and for successful entry into the profession.

Importantly, the advanced content in ACMA 412 allows us to cross-list it as a required course (ACMA 802) in our MSc program, using our teaching capacity more efficiently.

## SCHEDULING AND ENROLLMENT INFORMATION

Effective term and year (e.g. FALL 2016) **Fall 2025**Term in which course will typically be offered  Spring  Summer  Fall

Other (describe)

Will this be a required or elective course in the curriculum?  Required  ElectiveWhat is the probable enrollment when offered? Estimate: **20**

## UNITS

Indicate number of units: **3**Indicate no. of contact hours: **3** Lecture **1** Seminar **1** Tutorial **1** Lab **1** Other; explain below

## OTHER

## FACULTY

Which of your present CFL faculty have the expertise to offer this course?

**Cary Tsai, Jean-François Bégin, Barbara Sanders**

## WQB DESIGNATION

(attach approval from Curriculum Office)

## PREREQUISITE AND / OR COREQUISITE

Prerequisite: ACMA 311 or ACMA 301, with a minimum grade of C.

Corequisite: ACMA 441 or ACMA 340, with a minimum grade of C.

**EQUIVALENT COURSES** [For more information on equivalency, see Equivalency Statements under [Information about Specific Course components](#).]**1. SEQUENTIAL COURSE** [is not hard coded in the student information management system (SIMS).]

Students who have taken *(place relevant course(s) in the blank below (ex: STAT 100))* **first** may not then take this course for further credit.

**2. ONE-WAY EQUIVALENCY** [is not hard coded in SIMS.]

*(Place relevant course(s) in the blank below (ex: STAT 100))* will be accepted in lieu of this course.

**3. TWO-WAY EQUIVALENCY** [is hard coded and enforced by SIMS.]

Students with credit for *(place relevant course(s) in the blank below (ex: STAT 100))* may not take this course for further credit.

ACMA 802

Does the partner academic unit agree that this is a two-way equivalency?  YES  NO

*Please also have the partner academic unit submit a course change form to update the course equivalency for their course(s).*

**4. SPECIAL TOPICS PRECLUSION STATEMENT** [is not hard coded in SIMS.]**FEES**

Are there any proposed student fees associated with this course other than tuition fees?  YES  NO

**COURSE – LEVEL EDUCATIONAL GOALS (OPTIONAL)**

**RESOURCES**

List any outstanding resource issues to be addressed prior to implementation: space, laboratory equipment, etc:

**OTHER IMPLICATIONS**

Final exam required  YES  NO

Criminal Record Check required  YES  NO

**OVERLAP CHECK**

Checking for overlap is the responsibility of the Associate Dean.

Each new course proposal must have confirmation of an overlap check completed prior to submission to the Faculty Curriculum Committee.

**Name of Originator**

Barbara Sanders