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MEMORANDUM

ATTENTION Senate
FROM Wade Parkhouse, Chair
Senate Committee on
Undergraduate Studies
RE: Program Modifications

DATE June 7, 2019
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For information:

Acting under delegated authority at its meeting of June 6, 2019 SCUS approved the following curriculum revisions effective Spring 2020.

a. Beedie School of Business (SCUS 19-41)

- (i) Requirement changes to the Strategic Analysis Concentration for the:
- Business Administration Major
 - Business Administration Honours
 - Business and Economics Joint Major
 - Business and Economics Joint Honours
 - Mechatronics Systems Engineering & Business Double degree Program Major
- (ii) Requirement changes to the Business Analytics and Decision Making Certificate
- (iii) Requirement changes to the Corporate Environmental and Social Sustainability Certificate
- (iv) Requirement changes to the Innovation & Entrepreneurship Certificate

b. Faculty of Environment (SCUS 19-42)**1. Department of Archaeology**

- (i) Upper division requirement changes to the:
- Archaeology Major
 - Archaeology Honours
 - Archaeology Minor
 - Archaeology Extended Minor
 - Anthropology and Archaeology Joint Major
 - Archaeology and First Nations Studies Joint Major
- (ii) Requirement changes to the Certificate in Cultural Resource Management

c. Faculty of Health Sciences (SCUS 19-43)

(i) Upper division requirement changes to the Bachelor of Science, Health Sciences Major and Honours (Life Sciences Concentration)

d. Faculty of Science (SCUS 19-44)

1. Department of Molecular Biology and Biochemistry

(i) Upper and lower division requirement changes to the MBB Major and Honours programs

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>.



Calendar Entry Change Beedie School of Business Undergraduate Program

Rationale for change:

The Strategic Analysis concentration has been reviewed and course numbering and prerequisites are changing to guide students through the concentration more appropriately.

BUS 470 will change to BUS 307 to indicate that students can take it earlier in the concentration.

Effective term and year:

Spring 2020

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

Business Administration Major

Mechatronics Systems Engineering & Business Double Degree Program Major

Business Administration Honours

Business and Economics Joint Major

Business and Economics Joint 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**.

Strategic Analysis

For this concentration, students complete

BUS 478 - Strategy (3)
and three of

BUS 307 - Business Applications of Game Theory (3)

BUS 371 - Critical Thinking Through Business Case Analysis (3)

~~BUS 470 - Business Applications of Game Theory (3)~~

BUS 471 - Strategic Decision Making (3)

BUS 479 - Strategy Analysis Practicum (3)

BUS 490 - Selected Topics in Business Administration (3) **

BUS 491 - Selected Topics in Business Administration (3) **

BUS 492 - Selected Topics in Business Administration (3) **

BUS 493 - Selected Topics in Business Administration (3) **

BUS 494 - Selected Topics in Business Administration (3) **

BUS 495 - Selected Topics in Business Administration (3) **

BUS 496 - Selected Topics in Business Administration (5) **



Students concentrating in Strategic Analysis are strongly advised to consider combining it with another business concentration.

** When offered as a selected topics course in Strategic Analysis.



**Calendar Entry Change
Beedie School of Business**

Rationale for change:

Updating GPA language on the certificate page to be consistent with GPA requirements listed elsewhere in the calendar.

Effective term and year:

Spring 2020

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

Business Analytics and Decision Making Certificate – Grade Requirements section.

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**.

Grade Requirements

In addition to normal university grade point average requirements, the Beedie School of Business requires a minimum 2.30 overall SFU Business course grade point average for entry into all 300 and 400 division business courses.

For a course to be accepted as fulfilling a prerequisite, or for a lower division requirement, or for a core course to be accepted in a student's program in business, a student must have obtained a minimum grade of C- (C minus).

A minimum grade point average of 2.00 calculated on all courses applied towards the certificate is required for graduation from a business certificate.

**Calendar Entry Change
Beedie School of Business Undergraduate Program**

<p>Rationale for change: There are three changes here:</p> <ol style="list-style-type: none"> 1. Adding language about which majors are eligible to complete this certificate will clarify this information for students. The CESS was created to be available to Bachelor of Environment or Business students, but that is not clear in the current calendar language. 2. Because we have grade requirements for prerequisites and core courses, we are more clearly labelling the core courses for this certificate. 3. A small typo in the name of the certificate in the first paragraph is also being corrected.
<p>Effective term and year: Spring 2020</p>
<p>The following program(s) will be affected by these changes: Corporate Environmental and Social Sustainability certificate</p>

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**.

<p>Corporate Environmental and Social Sustainability</p> <p>CERTIFICATE</p> <p>Limitations This certificate is available to students in a Business Major, Joint Major, Honours, or Joint Honours program and to students in a Bachelor of Environment program.</p> <p>Students may complete either the certificate in Corporate Environmental and Social Sustainability or the Sustainable Business joint major program, but not both the certificate and the joint major program.</p> <p>Grade Requirements In addition to normal university grade point average requirements, the Beedie School of Business requires a minimum 2.30 overall SFU Business course grade point average for entry into all 300 and 400 division business courses.</p> <p>For a course to be accepted as fulfilling a prerequisite, or for a lower division requirement, or for a core course to be accepted in a student's program in business, a student must have obtained a minimum grade of C- (C minus).</p>

A minimum grade point average of 2.00 calculated on all courses applied towards the certificate is required for graduation from a business certificate.

Program Requirements

Students complete a minimum total of 24 units by completing one of each pair*

Core Courses

BUS 303 - Business, Society and Ethics (3) or ENV 320W - Ethics and the Environment (3)
 BUS 393 - Commercial Law (3) or REM 319 - Environmental Law (3)
 EVSC 100 - Introduction to Environmental Science (3) or GEOG 111 - Earth Systems (3)
 and one of

GEOG 100 - Our World: Introducing Human Geography (3)
 GEOG 102 - World Problems in Geographic Perspective (3)
 REM 100 - Global Change (3)
 and two of*

BUS 449 - Ethical Issues in Marketing (3)
 BUS 453 - Sustainable Innovation (3)
 BUS 475 - Sustainable Operations (3)
 BUS 489 - Management Practices for Sustainability (3)

*Registration in upper division Business Administration courses required for this certificate are open only to approved BBA students or Faculty of Environment students who are enrolled in this certificate.

and a minimum of two of **the following non-Business elective courses****

ARCH 386 - Archaeological Resource Management (3)
 CMNS 349 - Environment, Media and Communication (4)
 ENSC 412 - Technologies, Cultures and a Sustainable World (3) or ENV 412 - Technologies, Cultures and a Sustainable World (3)
 GEOG 221 - Economic Worlds (3)
 GEOG 321 - Geographies of Global Capitalism (4)
 GEOG 322 - World Resources (4) or GEOG 322W - World Resources (4)
 GEOG 323 - Industrial Location (4)
 GEOG 325 - Geographies of Consumption (4)
 PHYS 346 - Energy and the Environment (3)
 POL 452W - Energy Policy (4)
 REM 350 - Sustainable Energy and Materials Management (4)
 REM 356 - Institutional Arrangements for Sustainable Environmental Management (3)
 REM 412 - Environmental Modeling (3)

SD 281 - Sustainable Communities, Sustainable World (3) or REM 281 - Sustainable Communities, Sustainable World (3)

SD 381 - Building Sustainable Communities: Concepts and Cases (4) or REM 381 - Building Sustainable Communities: Concepts and Cases (4)

SD 401 - Sustainable Development Goals Studio (4)

**Substitutions with appropriate course content may be possible with permission from the Beedie School of Business.

and completion of a minimum of one of the following approved experiential or service learning components

co-operative education work term focused on areas related to corporate environmental and social sustainability

25 hours minimum of voluntary or salaried work within a social enterprise, charitable organization, company, corporation, or non-profit organization in a role related to corporate environmental and social sustainability

25 hours minimum as a research assistant for a professor focusing on areas related to corporate environmental and social sustainability

25 hours minimum in other Business Faculty-approved activity areas related to corporate environmental and social sustainability

Before beginning this requirement, it is recommended that students seek prior approval from the Beedie School of Business' Academic Director - Business Major by submitting a detailed outline of their activity.

Upon completion of the experiential component, students will submit to the Academic Director - Business Major:

a description (written by either the student or the organization) of the organization and the student's role in the organization, signed and validated by the employer/supervisor

a reflective 500 word essay about the student's work/volunteer experience that identifies key corporate environmental and social sustainability experiences and how that influenced their current thinking about the implications of business practice on society and the environment. The essay will be graded pass/fail.

**Calendar Entry Change
Beedie School of Business Undergraduate Program**

<p>Rationale for change: There are two changes below: 1. Adding GPA requirements for certificate completion. This language already exists in the grade requirement page of the calendar, but this makes it easier for students to find the right information for the certificate, particularly if they are not Business Majors. 2. We have certain grade requirements (C- or higher) on “core” courses for students but it is unclear which courses are “core” for this certificate. The changes below clarify which courses are considered “core” and therefore require a C- or higher.</p>
<p>Effective term and year: Spring 2020</p>
<p>The following program(s) will be affected by these changes: Innovation & Entrepreneurship Certificate</p>

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**.

<p>Innovation and Entrepreneurship</p> <p>CERTIFICATE</p> <p>Admission Requirements A student in any faculty at SFU may declare this certificate through the Beedie School of Business.</p> <p>Limitations Students may complete only one of the Certificate in Business Analytics and Decision Making, the Certificate in Business Technology Management, or the Certificate in Innovation and Entrepreneurship.</p> <p>Additionally, units applied to one certificate may not be applied to another Simon Fraser University certificate or diploma, as noted here.</p> <p>Grade Requirements In addition to normal university grade point average requirements, the Beedie School of Business requires a minimum 2.30 overall SFU Business course grade point average for entry into all 300 and 400 division business courses.</p>

For a course to be accepted as fulfilling a prerequisite, or for a lower division requirement, or for a core course to be accepted in a student's program in business, a student must have obtained a minimum grade of C- (C minus).

A minimum grade point average of 2.00 calculated on all courses applied towards the certificate is required for graduation from a business certificate.

Program Requirements

Students must complete the following, including foundational business courses, a capstone course, and additional coursework from a variety of disciplines.

Core Courses

Students will complete all of:

BUS 238 - Introduction to Entrepreneurship and Innovation (3)

BUS 314 - Resourcing New Ventures (3)

BUS 338 - Foundations of Innovation (3)

BUS 361 - Project Management (3)

And one of*:

BUS 477 - Startup Experience (4)

ENV 495 - Environmental Capstone (4) **

HSCI 495 - Applied Health Science Project (4)

IAT 430 - Business of Design III: Refinement and Production (3) ^ and BUS 476 - Business of Design IV - Promotion, Packaging and Launch - Launching a Design-Led Business (4) ^

IAT 499 - Graduation Project (6)

MSE 410 - Capstone Design Technical Project I (3) ^^ and MSE 411W - Capstone Design Technical Project II (3) ^^

Elective Coursework

Students# will complete two of*:

BISC 373 - Brewing Science (2) or BISC 374 - Brewing Science with Lab (3)

BUS 339 - Business of Design II - Iteration and Prototyping (4)

BUS 406 - Startup Accelerator (3)

BUS 443 - New Product Development and Design (3)

BUS 450 - Managing Emerging Opportunities (3)

BUS 453 - Sustainable Innovation (3)

BUS 490 - Selected Topics in Business Administration (3) ***

BUS 491 - Selected Topics in Business Administration (3) ***

BUS 492 - Selected Topics in Business Administration (3) ***

BUS 493 - Selected Topics in Business Administration (3) ***



BUS 494 - Selected Topics in Business Administration (3) ***
BUS 495 - Selected Topics in Business Administration (3) ***
BUS 496 - Selected Topics in Business Administration (5) ***
CA 381 - Thriving as a Cultural Entrepreneur (3)
CMNS 425 - Applied Communication for Social Issues (4)
CMPT 120 - Introduction to Computing Science and Programming I (3)
CMPT 320 - Social Implications - Computerized Society (3)
HSCI 130 - Foundations of Health Science (4)
HSCI 305 - The Canadian Health System (3)
HSCI 312 - Health Promotion: Individuals and Communities (3)
IAT 330 - Business of Design I: Introduction (3)
IAT 333 - Interaction Design Methods (3)
IAT 431 - Speculative Design (3)
IAT 481 - Special Topics in Interactive Arts and Technology (Science) (3)
MSE 110 - Mechatronics Design I (3) or MSE 111 - Mechatronics for non-Engineers (3)
POL 150 - Science, Policy, and Innovation (3)
POL 457W - Technology and Innovation Policy (4)
PUB 101 - Publication of Self in Everyday Life (3)
PUB 201 - The Publication of Professional Self (3)
PUB 212 - Public Relations and Public Engagement (3)
PUB 456 - Institutional and International Event Planning and Management (4)
Students completing a Bachelor of Business Administration may not use business courses to meet the requirements of this section.

* Substitutions with appropriate course content may be possible with permission from the Beedie School of Business.

** ENV 495 will only count toward this certificate when offered as part of Change Lab. Students are to consult with a Faculty of Environment advisor before enrolling in this course.

*** When offered as a selected topics course in Innovation and Entrepreneurship.

^ Business of Design

^^ Technology Entrepreneurship @ SFU

**Calendar Entry Change****Name of Program or Name of Faculty : Archaeology**

Rationale for change:

Addition of ARCH 376Q to Group 1.

ARCH 376Q used to be required, but was dropped from the Major requirements (recommended for our Majors, required for Honours) as it created a bottleneck in our program because it wasn't offered very often. Moreover, many students continued to go outside the department for quantitative courses. Finally, a BA in archaeology should include a strong background in quantitative methods and this course provides that with a focus specifically on archaeological data.

Effective term and year: Spring 2020

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

Archaeology Major

Archaeology Minor

Extended Minor

Joint Major, First Nations Studies

Joint Major, Anthropology

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**.

Upper Division Requirements

Students complete at least 32 upper division archaeology units, which must include

All Group I courses (ARCH 372, **376**, 471W)

at least one Group II course

at least one Group III course

at least two Group IV courses, of which one must be ARCH 312, 313, 321, 331 or 378

Course Groupings



Upper division archaeology courses are divided into the following groups.

GROUP I - CORE COURSES

ARCH 372 - Material Culture Analysis (5)

ARCH 376 - Quantitative Methods in Archaeology (4)

ARCH 471W - Archaeological Theory (5)

GROUP IV - TOPICAL COURSES

ARCH 301 - Ancient Visual Art (3)

ARCH 312 - Greek Art and Archaeology (4)

ARCH 313 - Roman Art and Archaeology (4)

ARCH 321 - Select Regions in World Archaeology I (3)

ARCH 331 - Select Regions in World Archaeology II (3)

ARCH 332 - Special Topics in Archaeology I (3)

ARCH 333 - Special Topics in Archaeology II (3)

ARCH 348 - Archaeological Conservation (5)

ARCH 349 - Management of Archaeological Collections (5)

~~ARCH 376 - Quantitative Methods in Archaeology (5)~~

ARCH 377 - Historical Archaeology (5)

ARCH 378 - Pacific Northwest North America (3)

ARCH 434 - Archaeological Field Methods (3)

ARCH 485 - Lithic Technology (5)

Recommended Courses

The following courses are recommended.

~~ARCH 376 (required for honours, recommended for majors and those intending to go on to post-graduate work in archaeology)~~

Calendar Entry Change

Name of Program or Name of Faculty : **Archaeology**

Rationale for change:

Reduction of unit requirements for CRM certificate.

The UEC recognizes that the requirements for our CRM certificate are too heavy in comparison to other certificates at SFU.

Effective term and year: Spring 2020

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

Certificate in Cultural Resources Management

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**.

Program Requirements

Students complete at least ~~38~~ **33** units, of which ~~30~~ **25** units are required core courses and the remaining 8 units are selected from the additional courses list. Students must complete a minimum of 15 units at Simon Fraser University.

Students are responsible for meeting the prerequisite requirements for courses used toward the certificate.

Core Courses

Students complete a minimum of ~~30~~ **25** units, including all of

FNST 201W - Canadian Aboriginal Peoples' Perspectives on History (3)

ARCH 286 - Cultural Heritage Management ~~(4)~~ **(3)**

ARCH 372 - Material Culture Analysis ~~(5)~~ **(4)**

ARCH 378 - Pacific Northwest North America (3) *

ARCH 386 - Archaeological Resource Management (3)

ARCH 434 - Archaeological Field Methods (3) **

ARCH 435 - Field Work Practicum ~~(6)~~**(3-6)** **



Calendar Entry Change
Faculty of Health Sciences

Rationale for change: HSCI 426, has been replaced by a 300-level course, HSCI 326.
Effective term and year: Spring 2020
The following program(s) will be affected by these changes: Health Sciences Major – Bachelor of Science, Life Sciences Concentration (Upper Division Requirements) Health Sciences Honours – Bachelor of Science, Life Sciences Concentration (Upper Division Requirements)

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**.

and one of HSCI 323 - Principles of Pharmacology and Toxicology (3) HSCI 338 - Animal Virology (3) HSCI 426 – Immune System I: Basis of Innate and Adaptive Immunity (4) HSCI 326 - Introduction to the Immune System (3)

Calendar Entry Change: increase required number of UD electives, limit number of 300-level electives, update course names on electives list

Name of Program or Name of Faculty: MBB

Rationale for change: As part of their upper division requirements MBB Major and Honours students select five courses from a list of 28 courses. Three of the courses on this list are 300-level and the remainder are 400-level.

1. MBB recently converted one of the courses on this list, MBB 426-4 (Immune System I: Basis of Innate and Adaptive Immunity) into a 300-level course, MBB 326-3 (Introduction to the Immune System). Thus, we wish to replace MBB 426 on this list with MBB 326.

2. With this change, there will now be four 300-level courses on this list. Students could in theory take all four of the 300-level courses and only a single 400-level course to fulfill their degree requirements. To ensure that students take 400 level courses, we wish to (a) increase the number of courses required from this list to six, and (b) require that at least three of the courses selected from this list be 400-level courses.

Effective term and year: Spring 2020

The following program(s) will be affected by these changes: Major, 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**.

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 ~~five~~ **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 342 - Introductory Genomics and Bioinformatics (3)

MBB 402 - Developmental Biology of Cell Signalling (3)

MBB 420 - Selected 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 426 - Immune System I: Basis of Innate and Adaptive Immunity (4)~~
- MBB 427 - Immune System II: Immune Responses in Health and Disease (3)
- MBB 428 - Microbial Pathogenesis (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 Topics in Contemporary Molecular Biology (3)
- MBB 441 - Bioinformatics (3)
- MBB 443 - Protein Biogenesis and Degradation (3)
- MBB 446 - The Molecular Biology of Cancer (3)
- MBB 461 - Comparative Genomics (3)
- MBB 462 - Human Genomics (3)
- MBB 463 - Forensic Genomics (3)
- MBB 464 - From Genome to System (3)



Calendar Entry Change: make MBB 243 a recommended course

Name of Program or Name of Faculty: Molecular Biology and Biochemistry (MBB)

Rationale for change: MBB students must choose between MBB 243 (Data Analysis for Molecular Biology and Biochemistry) and five CMPT courses to meet their computing science requirement. MBB 243 is the most appropriate choice as it is tailored to analysis of MBB data, yet it is the last course on this list, which is ordered alphabetically. Thus, we have indicated that this course is recommended.

Effective term and year: Spring 2020

The following program(s) will be affected by these changes: Major, 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**.

Lower Division Requirements

Students complete all of

BISC 101 - General Biology (4)

BISC 102 - General Biology (4)

BISC 202 - Genetics (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 I (4)

CHEM 286 - Organic Chemistry Laboratory II (2)

MBB 222 - Molecular Biology and Biochemistry (3)

MBB 231 - Cellular Biology and Biochemistry (3)

and both of

CHEM 215 - Introduction to Analytical Chemistry (4)

CHEM 282 - Organic Chemistry II (2)

or both of

CHEM 215 - Introduction to Analytical Chemistry (4)

CHEM 283 - Organic Chemistry IIb (3)

or both of

CHEM 283 - Organic Chemistry IIb (3)

CHEM 380 - Chemical and Instrumental Methods of Identification of Organic Compounds (4)



and one of

CMPT 102 - Introduction to Scientific Computer Programming (3)

CMPT 110 - Programming in Visual Basic (3)

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

CMPT 126 - Introduction to Computing Science and Programming (3)

CMPT 130 - Introduction to Computer Programming I (3)

MBB 243 - Data Analysis for Molecular Biology and Biochemistry (3) *

*** Recommended**