

SENATE MEETING PUBLIC SESSION AGENDA

August 24, 2016
3:30 – 5:30 PM

Senate Chambers (Room 1079 Administration Building)

1.0 **S-201608.01**

Approval of the Agenda †

Page 1

That the agenda for the August 24, 2016 Public Session of Senate be approved as presented.

† **NOTE:** *The Senate Agenda for the public session consists of two parts, a consent agenda and a regular agenda. The consent agenda contains items that are deemed to be routine or noncontroversial and are approved by the Steering Committee of Senate for placement on that agenda. Any Senator wishing to discuss any item on the consent agenda may ask the Chair of Senate that the item be removed from the consent agenda and placed on the regular agenda. Items removed from the consent agenda will be placed on the regular agenda and dealt with in the order in which they appear on the full agenda. Senators wishing to ask a question regarding an item on the consent agenda, without necessarily removing that item from the consent agenda, are strongly encouraged to direct questions to the Secretary of Senate in advance of the meeting.*

2.0 **Information**

2.1 Truth and Reconciliation Commission Recommendations (45 minutes)

A presentation by Dr. Paulette Regan and Dr. Rheanna Robinson on the Truth and Reconciliation Commission recommendations.

3.0 **Business Arising from Previous Minutes of Senate**

3.1 Steering Committee of Senate

Dr. Weeks

“For Information” Item

Page 5 **SCS201608.06**

Discussion on the Integration of First Nations Content into Degree Programs

That discussion on the inclusion of First Nations content in degree programs be referred to the Senate Committee on First Nations and Aboriginal Peoples (SCFNAP). In addition to committee level discussions, SCFNAP will engage in discussions with: the College of Science and Management; the College of Arts, Social and Health Sciences; and the Office of Graduate Programs. SCFNAP will provide a report and put forth a recommendation regarding the inclusion of First Nations content in UNBC’s degree programs at the November 23, 2016 Senate Meeting. Effective Date: August 18, 2016

4.0 **S-201608.02**

Approval of Senate Minutes

Page 7

That the minutes of the June 22, 2016 Public Session of Senate be approved as presented.

5.0 **President’s Report**

Dr. Weeks

6.0 **Report of the Provost**

Dr. Ryan

7.0	Report of the Registrar	Ms. McKenzie
8.0	Question Period	Dr. Weeks
9.0	Removal of Motions from the Consent Agenda	Dr. Weeks
10.0	Committee Reports	
10.1	Senate Committee on Academic Affairs	Dr. Ryan

“For Approval” Items:

Regular	<u>S-201608.03</u> Changes to Program Requirements - Minor in Atmospheric Science
Page 18	That, on the recommendation on the Senate Committee on Academic Affairs, the changes to the Minor in Atmospheric Science, on page 116 of the 2015/2016 undergraduate calendar, be approved as proposed. Effective date: September 2016
Regular	<u>S-201608.04</u> Changes to Program Requirements - BSc- Biochemistry and Molecular Biology
Page 21	That, on the recommendation on the Senate Committee on Academic Affairs, the change(s) to the program requirements for the BSc- Biochemistry and Molecular Biology, on pages 63-64 of the 2015/2016 undergraduate calendar, be approved as proposed. Effective date: September 2016
Consent	<u>S-201608.05</u> Changes to Course Prerequisite - BCMB 405-3
Page 28	That, on the recommendation on the Senate Committee on Academic Affairs, the change(s) to the course prerequisite for BCMB 405-3 Topics in Biochemistry and Molecular Biology, on page 200 of the 2015/2016 undergraduate calendar, be approved as proposed. Effective date: September 2016
Regular	<u>S-201608.06</u> Change to Program Requirements – 400 Level for the Major in Computer Science
Page 30	That, on the recommendation on the Senate Committee on Academic Affairs, the change to the Program Requirements – 400 Level for the Major in Computer Science, on the PDF calendar accessible on the UNBC web page of the 2015/2016 undergraduate calendar, be approved as proposed. Effective date: September 2016
Regular	<u>S-201608.07</u> Change in Credit hours - BSc Honours Environmental Science
Page 32	That, on the recommendation on the Senate Committee on Academic Affairs, the changes to the BSc Honours – Environmental Science, on page 115 of the 2015/2016 undergraduate calendar, be approved as proposed. Effective date: September 2016
Regular	<u>S-201608.08</u> Changes to Program Requirements - BSc Major Environmental Science
Page 34	That, on the recommendation on the Senate Committee on Academic Affairs, the changes to the BSc Major – Environmental Science, on page 114 of the 2015/2016 undergraduate calendar, be approved as proposed. Effective date: September 2016
Regular	<u>S-201608.09</u> Course Deletion - ENSC 460-3
Page 42	That, on the recommendation on the Senate Committee on Academic Affairs, ENSC 460-3 Soil Chemical Processes and the Environment on page 237 of the 2015/2016 Undergraduate Calendar, be deleted. Effective date: September 2016

Regular **S-201608.10**
Changes to Program Requirements - Minor in Soils and the Environment
 Page 44 That, on the recommendation on the Senate Committee on Academic Affairs, the changes to the Minor in Soils and the Environment, on page 117 of the 2015/2016 undergraduate calendar, be approved as proposed.
 Effective date: September 2016

Regular **S-201608.11**
New Course Approval - FSTY 605-3
 Page 47 That, on the recommendation on the Senate Committee on Academic Affairs, the new course (FSTY 605-3, Forest Growth and Yield) be approved as proposed.
 Proposed semester of first offering: September, 2016

- 10.2 **Senate Committee on Admissions and Degrees** *(no material)* Dr. Owen
- 10.3 **Senate Committee on First Nations and Aboriginal Peoples** *(no material)* Dr. Ryan
- 10.4 **Senate Committee on Scholarships and Bursaries** *(no material)* Dr. Owen
- 10.5 **Senate Committee on Nominations** Dr. Casperson

“For Approval” Item:

Regular **S-201608.12**
Recommendation of Senate Committee Members to Senate
 That, on the recommendation of the Senate Committee on Nominations, the following candidates, who have met all eligibility requirements to serve on Senate committees as indicated, be appointed as proposed.
 Effective date: Immediately upon approval by Senate

<u>SENATE COMMITTEE POSITION TO BE FILLED</u> (except as otherwise noted, all terms begin immediately)	<u>CANDIDATE</u>
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SENATE COMMITTEE ON ACADEMIC APPEALS

Faculty Member (03/31/2017)	Dr. Stan Beeler
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SENATE COMMITTEE ON FIRST NATIONS AND ABORIGINAL PEOPLES

Lheidli T'enneh Nation Representative	Mr. Vincent Joseph
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“For Information” Item:

Student Senator Elected to Senate for a position beginning immediately:

Student Senator – Graduate (until March 31, 2017)	Ms. Audrey Fordjour
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Lay Senator Appointed for Term of Office Commencing Immediately:

Lay Senator (until March 31, 2018)	Ms. Lisa Handfield
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Academic Planning Action Planning Group appointment beginning immediately:

Academic Administrative Organization Collaborative Team Vice President Finance and Business Operations Appointment	Ms. Barb Daigle
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- 10.6 **Senate Committee on the University Budget** *(no material)* Dr. Whitcombe

- 10.7 Ad Hoc Committee of Senate Considering Motion S-201603.16 - Ms. McKenzie**
Recommendations for Changes to Undergraduate Regulations 50 and 51 (*no material*)
- 11.0 S-201608.13 Dr. Weeks**
Approval of Motions on the Consent Agenda
That the motions on the consent agenda, except for those removed for placement on the regular agenda, be approved as presented.
- 12.0 Other Business**
- 12.1 Letter from NUGSS and NBCGSS – Dr. Weeks**
Academic Planning Action Planning Groups
- Page 52 A letter from NUGSS and NBCGSS regarding student representation on the Academic Planning Action Planning Groups has been included for information.
- 13.0 Move to In Camera Session (*no material*)**
- 14.0 S-201608.14**
Adjournment
That the Senate meeting be adjourned.



Motion Number (assigned by SCS): SCS201608.06

STEERING COMMITTEE OF SENATE (SCS)

PROPOSED MOTION

Motion: That discussion on the inclusion of First Nations content in degree programs be referred to the Senate Committee on First Nations and Aboriginal Peoples (SCFNAP). In addition to committee level discussions, SCFNAP will engage in discussions with: the College of Science and Management; the College of Arts, Social and Health Sciences; and the Office of Graduate Programs. SCFNAP will provide a report and put forth a recommendation regarding the inclusion of First Nations content in UNBC’s degree programs at the November 23, 2016 Senate Meeting.

Effective Date: August 18, 2016

Proposed by: Shelley McKenzie, Interim Secretary of Senate

Faculty / Academic Department: Office of the Registrar

Implications for Other

Programs / Faculties: Yes, discussions will be about the possible University wide implementation of First Nations content in the degree programs.

Rationale: On June 22, 2016 Senate passed the following motion:

That Senate ask the Steering Committee of Senate to determine a policy or procedure in which Senate will have discussions around the inclusion of First Nations content in degree programs and whether that should be through a form of having SCFNAP and SCAAF look after it or whether it is an open forum of Senate. The Steering Committee of Senate will ensure such discussions take place before the end of August 2016.

The Steering Committee of Senate has determined that the Senate Committee on First Nations and Aboriginal Peoples should lead the discussions as the subject aligns under the purview the committee’s terms of reference.

Faculty Council /

Committee Motion: N/A **Date:** N/A

Date: August 18, 2016

TO BE COMPLETED AFTER SCS MEETING

Brief Summary of Committee Debate:

Motion No.: SCS201608.06

Moved by: P. Sanborn

Seconded by: D. Weeks

Committee Decision: CARRIED

Attachments: n/a

Approved by SCS: August 18, 2016
Date



Chair's Signature

For recommendation to _____, or information of Senate.

Motion Number (assigned by
Steering Committee of Senate): S-201608.03

SENATE COMMITTEE ON ACADEMIC AFFAIRS

PROPOSED REVISION OF CALENDAR ENTRY

Motion: That the changes to the Minor in Atmospheric Science, on page 116 of the 2015/2016 undergraduate calendar, be approved as proposed.

1. **Effective date:** September 2016

2. **Rationale for the proposed revisions:**

Changes are made to remove the requirement for GEOG 100-3 *Environments and People: The Geography of Natural Hazards*, and to reduce the number of credits for the minor from 35 to 32. The content related to the atmosphere in GEOG 100 is already covered in other required courses, and removing the first-year requirement makes the Minor more accessible to students.

3. **Implications of the changes for other programs, etc., if applicable:** Students taking the Minor will no longer take GEOG 100. The Geography program has been consulted by an email to the Chair.

4. **Reproduction of current Calendar entry for the item to be revised:**

Minor in Atmospheric Science

The minor in Atmospheric Science provides students with an opportunity to focus on atmospheric processes.

Atmospheric Science, or meteorology, is the study of Earth's atmosphere, weather and climate. The minor in Atmospheric Science provides students with an opportunity to focus on atmospheric processes that occur near Earth's surface. Emphasis is given to physical and chemical processes that govern the development of weather systems on timescales of days and that regulate Earth's climate on timescales of decades.

Students are required to take 35 credit hours. Of these, 17 credit hours are foundational courses in Chemistry, Geography, Mathematics, and Physics; 12 credit hours are required atmospheric science courses; and 6 credit hours are selected from a list of suggested elective courses. In addition to the 17 credit hours of foundational courses at the 100 level, an additional 6 credit hours of upper-division courses can also be used to meet the requirements of a major or another minor. NOTE: Some upper-division courses may be taught in alternate years; students should consider this when planning their course schedules.

Required Courses

CHEM 100-3	General Chemistry I
CHEM 120-1	General Chemistry Laboratory I
ENSC 201-3	Weather and Climate
ENSC 312-3	Biometeorology
ENSC 408-3	Storms
ENSC 425-3	Climate Change and Global Warming
GEOG 100-3	Environments and People: The Geography of Natural Hazards
MATH 100-3	Calculus I
MATH 101-3	Calculus II
PHYS 100-4	Introduction to Physics I

or PHYS 110-4 Introductory Physics I: Mechanics
(PHYS 110-4 is strongly recommended.)

Elective Courses*

Six credit hours from the following list:

- ENSC 412-3 Air Pollution
- ENSC 450-3 Environmental and Geophysical Data Analysis
- ENSC 454-3 Snow and Ice
- GEOG 310-3 Hydrology
- or NREM 410-3 Watershed Management

*Students must ensure that all prerequisites are fulfilled prior to registering in any course.

5. Proposed revision with changes underlined and deletions indicated clearly using “~~strikethrough~~”:

Minor in Atmospheric Science

The minor in Atmospheric Science provides students with an opportunity to focus on atmospheric processes. Atmospheric Science, or meteorology, is the study of Earth’s atmosphere, weather and climate. The minor in Atmospheric Science provides students with an opportunity to focus on atmospheric processes that occur near Earth’s surface. Emphasis is given to physical and chemical processes that govern the development of weather systems on timescales of days and that regulate Earth’s climate on timescales of decades.

Students are required to take 32 ~~35~~ credit hours. Of these, 14 ~~17~~ credit hours are foundational courses in Chemistry, ~~Geography~~, Mathematics, and Physics; 12 credit hours are required atmospheric science courses; and 6 credit hours are selected from a list of suggested elective courses. In addition to the 14 ~~17~~ credit hours of foundational courses at the 100 level, an additional 6 credit hours of ~~upper-division~~ courses can also be used to meet the requirements of a major or another minor.

NOTE: Some upper-division courses are may ~~be~~ taught in alternate years; students should consider this when planning their course schedules.

Required Courses

- CHEM 100-3 General Chemistry I
- CHEM 120-1 General Chemistry Laboratory I
- ENSC 201-3 Weather and Climate
- ENSC 312-3 Biometeorology
- ENSC 408-3 Storms
- ENSC 425-3 Climate Change and Global Warming
- ~~GEOG 100-3 Environments and People: The Geography of Natural Hazards-~~
- MATH 100-3 Calculus I
- MATH 101-3 Calculus II
- PHYS 100-4 Introduction to Physics I
- or PHYS 110-4 Introductory Physics I: Mechanics
- (PHYS 110-4 is strongly recommended.)

Elective Courses*

Six credit hours from the following list:

- ENSC 412-3 Air Pollution
- ENSC 450-3 Environmental and Geophysical Data Analysis

ENSC 454-3 Snow and Ice
GEOG 310-3 Hydrology
or NREM 410- Watershed Management
3

*Students must ensure that all prerequisites are fulfilled prior to registering in any course.

6. Authorization: (Please ignore — Section to be completed by Committee Recording Secretaries)

Program / Academic / Administrative Unit: Environmental Science

College: CSAM

College Council Motion Number: CSAMCC 2016:06:09:05

College Council Approval Date: Not Applicable

Senate Committee on First Nations and Aboriginal Peoples Motion Number: Not Applicable

Senate Committee on First Nations and Aboriginal Peoples Meeting Date: Not Applicable

7. Other Information

Attachment Pages: # pages

INFORMATION TO BE COMPLETED AFTER SENATE COMMITTEE ON ACADEMIC AFFAIRS MEETING

Brief Summary of Committee Debate:

Motion No.: SCAAF201607.04

Moved by: T. Whitcombe

Seconded by: K. Smith

Committee Decision: CARRIED, with editorial revisions as recommended by the SCCC.

Approved by SCAAF: July 6, 2016

Date

Chair's Signature



For recommendation to ✓ , or information of Senate.

SENATE COMMITTEE ON ACADEMIC AFFAIRS

PROPOSED REVISION OF CALENDAR ENTRY

Motion: That the change(s) to the program requirements for the BSc- Biochemistry and Molecular Biology, on pages 63-64 of the 2015/2016 undergraduate calendar, be approved as proposed.

1. **Effective date:** September 2016

2. **Rationale for the proposed revisions:** The HHSC program updated the course offerings, deleting HHSC 401 and changing the Human Physiology courses. These changes are to update the BSc-BCMB subject requirements to accurately reflect the current courses that can be used to fulfil this requirement.

3. **Implications of the changes for other programs, etc., if applicable:**

- Discussion took place with the chair of the BSc-HHSC(Biomed) curriculum committee, Luke Harris, regarding the appropriateness of the newly designated HHSC 305 and 306. No changes to current levels of students are anticipated, this makes it clear that the courses are acceptable as currently offered.

4. **Reproduction of current Calendar entry for the item to be revised:**

Biochemistry & Molecular Biology (BSc Program)

Kathy Lewis, Professor and Co-Chair
Todd Whitcombe, Associate Professor and Co-Chair
Keith Egger, Professor
Dezene Huber, Professor
Chow Lee, Professor
Geoffrey Payne, Professor
Stephen Rader, Professor
Kerry Reimer, Professor
Mark Shrimpton, Professor
Andrea Gorrell, Associate Professor
Brent Murray, Associate Professor
Daniel Erasmus, Senior Lab Instructor

Website: www.unbc.ca/biochemistry

Biochemistry and Molecular Biology (BCMB) investigates how molecules work in living systems. There is no clear line dividing living from non-living systems; rather, there is a gradual increase in complexity from clearly inanimate molecules up to obviously complex organisms. The goal of biochemistry and molecular biology is to understand how simple, inanimate molecular interactions support life and how living systems are shaped by their molecular foundation.

The BCMB degree has two main components: learning about

molecules, and learning about the scientific method. The former involves acquiring expertise in the foundations of biochemistry, such as organic and physical chemistry, and then exploring biological molecules and how they operate in living systems. The latter involves exploring how science asks questions to understand the workings of nature, while developing competence in laboratory skills and analysis. These two aspects are linked in that understanding how information is acquired is as important as the information itself, since different experimental systems can yield different insights into complex biological problems.

BCMB majors continue on to successful careers in a diverse range of fields, notably medicine, teaching, pharmacy, the biotechnology industry, science policy, and law. BCMB majors acquire strong skills in laboratory techniques, and are therefore qualified for many kinds of research positions, including graduate programs such as immunology, molecular genetics, and developmental biology. For students with interests in human health but not necessarily its molecular basis, UNBC also offers a degree in Health Science (the BHSc degree), which focuses on the social determinants of health and how health care is delivered. BCMB majors are encouraged to pursue their interests by combining the BCMB degree with minors in other fields, such as computer science, physics, business, or education.

Major in Biochemistry and Molecular Biology

The major in Biochemistry and Molecular Biology requires students to take at least 74 credit hours of Biochemistry and Molecular Biology oriented courses, of which 33 credit hours must be upper division (i.e., 300 or 400 level). The minimum requirement for completion of a Bachelor of Science with a major in Biochemistry and Molecular Biology is 127 credit hours.

Program Requirements

Lower-Division Requirement

100 Level

BIOL 103-3 Introductory Biology I
BIOL 104-3 Introductory Biology II
BIOL 123-1 Introductory Biology I Laboratory
BIOL 124-1 Introductory Biology II Laboratory
CHEM 100-3 General Chemistry I
CHEM 101-3 General Chemistry II
CHEM 120-1 General Chemistry Lab I
CHEM 121-1 General Chemistry Lab II
PHYS 100-4 Introduction to Physics I
or PHYS 110-4 Introductory Physics I: Mechanics
PHYS 101-4 Introduction to Physics II
or PHYS 111-4 Introductory Physics II: Waves & Electricity

One of the following three options:

MATH 100-3 Calculus I
and MATH 101-3 Calculus II
or
MATH 105-3 Enriched Calculus
and MATH 101-3 Calculus II
or

MATH 150-3 Finite Mathematics for Business and Economics
and MATH 152-3 Calculus for Non-majors

Students are strongly encouraged to take MATH 100-3 or
MATH 105-3, and MATH 101-3, for the first-year Mathematics
requirement.

200 Level

BCMB 255-2 Biochemistry Lab I
BIOL 203-3 Microbiology
BIOL 210-3 Genetics
CHEM 201-3 Organic Chemistry I
CHEM 203-3 Organic Chemistry II
CHEM 204-3 Introductory Biochemistry
CHEM 250-1 Organic Chemistry Lab I
CHEM 251-1 Organic Chemistry Lab II
STAT 240-3 Basic Statistics
or STAT 371-3 Probability and Statistics for Scientists
and Engineers

Upper-Division Requirement

300 Level

BCMB 306-3 Intermediary Metabolism
BCMB 308-3 Biochemistry Lab II
BCMB 340-3 Physical Biochemistry
BIOL 311-3 Cell and Molecular Biology
400 Level
BCMB 404-3 Proteins and Enzymology

Four of:

BCMB 401-3 Basic Science of Oncology
BCMB 402-3 Macromolecular Structure
BCMB 403-3 Advanced Nucleic Acids
BCMB 405-3 Special Topics in Biochemistry
BIOL 312-3 Molecular Cell Physiology
BIOL 323-3 Evolutionary Biology
BIOL 423-3 Molecular Evolution and Ecology
BIOL 425-3 Applied Genetics and Biotechnology

Subject Requirements

Twelve additional credit hours chosen from the following, of which at
least 6 credit hours must be at the 300 or 400 level:

Any 200-level or above BCMB, BIOL or CHEM courses
CPSC 450-3 Bioinformatics
HHSC 301-3 Pathophysiology
PSYC 317-3 Psychobiology
PSYC 318-3 Sensation and Perception
PSYC 419-3 Neuropsychology

Note: NRES 430-6 can count towards this requirement with
permission of the Program Chair.

Elective and Academic Breadth

Elective credit hours as necessary to ensure completion of 127
credit hours including any additional credit hours necessary to meet
the Academic Breadth requirement of the University (see Academic
Regulation 15). Note: no more than 3 credit hours of continuing
education courses may be used towards the BCMB major.

5. Proposed revision with changes underlined and deletions indicated clearly using “~~strikethrough~~”:

Biochemistry & Molecular Biology (BSc Program)

Kathy Lewis, Professor and Co-Chair
Todd Whitcombe, Associate Professor and Co-Chair
Keith Egger, Professor
Dezene Huber, Professor
Chow Lee, Professor
Geoffrey Payne, Professor
Stephen Rader, Professor
Kerry Reimer, Professor
Mark Shrimpton, Professor
Andrea Gorrell, Associate Professor
Brent Murray, Associate Professor
Daniel Erasmus, Senior Lab Instructor

Website: www.unbc.ca/biochemistry

Biochemistry and Molecular Biology (BCMB) investigates how molecules work in living systems. There is no clear line dividing living from non-living systems; rather, there is a gradual increase in complexity from clearly inanimate molecules up to obviously complex organisms. The goal of biochemistry and molecular biology is to understand how simple, inanimate molecular interactions support life and how living systems are shaped by their molecular foundation.

The BCMB degree has two main components: learning about molecules, and learning about the scientific method. The former involves acquiring expertise in the foundations of biochemistry, such as organic and physical chemistry, and then exploring biological molecules and how they operate in living systems. The latter involves exploring how science asks questions to understand the workings of nature, while developing competence in laboratory skills and analysis. These two aspects are linked in that understanding how information is acquired is as important as the information itself, since different experimental systems can yield different insights into complex biological problems.

BCMB majors continue on to successful careers in a diverse range of fields, notably medicine, teaching, pharmacy, the biotechnology industry, science policy, and law. BCMB majors acquire strong skills in laboratory techniques, and are therefore qualified for many kinds of research positions, including graduate programs such as immunology, molecular genetics, and developmental biology. For students with interests in human health but not necessarily its molecular basis, UNBC also offers a degree in Health Science (the BHSc degree), which focuses on the social determinants of health and how health care is delivered. BCMB majors are encouraged to pursue their interests by combining the BCMB degree with minors in other fields, such as computer science, physics, business, or education.

Major in Biochemistry and Molecular Biology

The major in Biochemistry and Molecular Biology requires students to take at least 74 credit hours of Biochemistry and Molecular Biology-oriented courses, of which 33 credit hours must be upper division (i.e., 300 or 400 level). The minimum requirement for completion of a Bachelor of Science with a major in Biochemistry and Molecular Biology is 127_credit hours.

Program Requirements

Lower-Division Requirements

100 Level

BIOL 103-3 Introductory Biology I
BIOL 104-3 Introductory Biology II
BIOL 123-1 Introductory Biology I Laboratory
BIOL 124-1 Introductory Biology II Laboratory
CHEM 100-3 General Chemistry I
CHEM 101-3 General Chemistry II
CHEM 120-1 General Chemistry Lab I
CHEM 121-1 General Chemistry Lab II
PHYS 100-4 Introduction to Physics I
or PHYS 110-4 Introductory Physics I: Mechanics
PHYS 101-4 Introduction to Physics II
or PHYS 111-4 Introductory Physics II: Waves & Electricity
One of the following three options:
MATH 100-3 Calculus I
and MATH 101-3 Calculus II
or
MATH 105-3 Enriched Calculus
and MATH 101-3 Calculus II
or
MATH 150-3 Finite Mathematics for Business and Economics
and MATH 152-3 Calculus for Non-majors
Students are strongly encouraged to take MATH 100-3 or
MATH 105-3, and MATH 101-3, for the first-year Mathematics
requirement.

200 Level

BCMB 255-2 Biochemistry Lab I
BIOL 203-3 Microbiology
BIOL 210-3 Genetics
CHEM 201-3 Organic Chemistry I
CHEM 203-3 Organic Chemistry II
CHEM 204-3 Introductory Biochemistry
CHEM 250-1 Organic Chemistry Lab I
CHEM 251-1 Organic Chemistry Lab II
STAT 240-3 Basic Statistics
or STAT 371-3 Probability and Statistics for Scientists
and Engineers

Upper-Division Requirements

300 Level

BCMB 306-3 Intermediary Metabolism
BCMB 308-3 Biochemistry Lab II
BCMB 340-3 Physical Biochemistry
BIOL 311-3 Cell and Molecular Biology

400 Level

BCMB 404-3 Proteins and Enzymology

Four of the following:

BCMB 401-3 Basic Science of Oncology
BCMB 402-3 Macromolecular Structure
BCMB 403-3 Advanced Nucleic Acids
BCMB 405-3 Special Topics in Biochemistry
BIOL 312-3 Molecular Cell Physiology
BIOL 323-3 Evolutionary Biology
BIOL 423-3 Molecular Evolution and Ecology
BIOL 425-3 Applied Genetics and Biotechnology

Subject Requirements

Twelve additional credit hours chosen from the following, of which at least 6 credit hours must be at the 300 or 400 level:

Any 200-level or above BCMB, BIOL or CHEM courses
CPSC 450-3 Bioinformatics
~~HHSC 301-3 Pathophysiology~~
HHSC-305-3 Human Physiology I
HHSC-306-3 Human Physiology II
PSYC 317-3 Psychobiology
PSYC 318-3 Sensation and Perception
PSYC 419-3 Neuropsychology

Note: NRES 430-6 can count towards this requirement with permission of the Program Chair.

Elective and Academic Breadth

Elective credit hours as necessary to ensure completion of 127 credit hours including any additional credit hours necessary to meet the Academic Breadth requirement of the University (see Academic Regulation 15). Note: no more than 3 credit hours of continuing education courses may be used towards the BCMB major.

6. Authorization: (Please ignore — Section to be completed by Committee Recording Secretaries)

Program / Academic / Administrative Unit: BCMB

College: CSAM

College Council Motion Number: CSAMCC Consent 2016:06:09:03

College Council Approval Date: Not Applicable

Senate Committee on First Nations and Aboriginal Peoples Motion Number: Not Applicable

Senate Committee on First Nations and Aboriginal Peoples Meeting Date: Not Applicable

7. Other Information

Attachment Pages: # pages

INFORMATION TO BE COMPLETED AFTER SENATE COMMITTEE ON ACADEMIC AFFAIRS MEETING

Brief Summary of Committee Debate:

Motion No.: SCAAF201607.05

Moved by: G. Payne **Seconded by:** I. Hartley

Committee Decision: CARRIED, with editorial revisions



Approved by SCAAF: July 6, 2016
Date

Chair's Signature

For recommendation to ✓, **or information of** _____ **Senate.**

Motion Number (assigned by
Steering Committee of Senate): S-201608.05

SENATE COMMITTEE ON ACADEMIC AFFAIRS

PROPOSED REVISION OF CALENDAR ENTRY

Motion: That the change(s) to the course prerequisite for BCMB 405-3 Topics in Biochemistry and Molecular Biology, on page 200 of the 2015/2016 undergraduate calendar, be approved as proposed.

1. **Effective date:** September 2016
2. **Rationale for the proposed revisions:** BCMB 330-3 and BCMB 307-3 were removed from the calendar in a previous change to the BCMB degree, and revision of the Topics course pre-requisites was missed in the revisions. This is to align the course with the current course offerings.
3. **Implications of the changes for other programs, etc., if applicable:**
None.
4. **Reproduction of current Calendar entry for the item to be revised**

BCMB 405-3 Topics in Biochemistry and Molecular

Biology This course considers selected advanced topics in biochemistry. Topics depend on instructor and student interest and normally focus on material not dealt with in other courses. Note: Credit may be granted for both 400- and 600-level offerings of Topics in Biochemistry and Molecular Biology courses, and either the 400- or 600-level courses or a combination of both may be repeated to a maximum of 6 credit hours, provided the content of the independent offerings of the courses is sufficiently different (as determined by the Program Chair or College Dean).

Prerequisites: BCMB 330-3, BCMB 307-3, BCMB 340-3 with a minimum grade C in all prerequisite courses

5. **Proposed revision with changes underlined and deletions indicated clearly using "strikethrough":**

BCMB 405-3 Topics in Biochemistry and Molecular

Biology This course considers selected advanced topics in biochemistry. Topics depend on instructor and student interest and normally focus on material not dealt with in other courses. Note: Credit may be granted for both 400- and 600-level offerings of Topics in Biochemistry and Molecular Biology courses, and either the 400- or 600-level courses or a combination of both may be repeated to a maximum of 6 credit hours, provided the content of the independent offerings of the courses is sufficiently different (as determined by the Program Chair or College Dean).

Prerequisites: ~~BCMB 330-3, BCMB 307-3, BCMB 340-3~~ with a minimum grade C, ~~in all prerequisite courses~~

6. **Authorization:** (Please ignore — Section to be completed by Committee Recording Secretaries)

Program / Academic / Administrative Unit: BCMB

College: CSAM

College Council Motion Number: CSAMCC Consent 2016:06:09:03

College Council Approval Date: Not Applicable

Senate Committee on First Nations and Aboriginal Peoples Motion Number: Not Applicable

Senate Committee on First Nations and Aboriginal Peoples Meeting Date: Not Applicable

7. **Other Information**

Attachment Pages: # pages

INFORMATION TO BE COMPLETED AFTER SENATE COMMITTEE ON ACADEMIC AFFAIRS MEETING

Brief Summary of Committee Debate:

Motion No.: SCAAF201607.06

Moved by: G. Payne

Seconded by: K. Smith

Committee Decision: CARRIED, with editorial revisions as recommended by the SCCC.



Approved by SCAAF: July 6, 2016
Date

Chair's Signature

For recommendation to ✓ , **or information of** **Senate.**

Motion Number (assigned by
Steering Committee of Senate): S-201608.06

SENATE COMMITTEE ON ACADEMIC AFFAIRS

PROPOSED REVISION OF CALENDAR ENTRY

Motion: That the change to the Program Requirements – 400 Level for the Major in Computer Science, on the PDF calendar accessible on the UNBC web page of the 2015/2016 undergraduate calendar, be approved as proposed.

1. **Effective date:** September 2016
2. **Rationale for the proposed revisions:** Signature of College Dean not required for alternate courses.
3. **Implications of the changes for other programs, etc., if applicable:** None
4. **Reproduction of current Calendar entry for the item to be revised:**

400 Level

At least 12 credit hours of Computer Science courses must be taken at the 400 level, and at least nine of these credit hours must be outside the seminar, project course (other than CPSC 400-3), research course, or special topics course category.

Alternate courses may be substituted for the above with the written permission of the Program Chair and Dean of the College.

5. **Proposed revision with changes underlined and deletions indicated clearly using “~~strikethrough~~”:**

400 Level

At least 12 credit hours of Computer Science courses must be taken at the 400 level, and at least nine of these credit hours must be outside the seminar course, project course (other than CPSC 400-3), research course, or special topics course category.

Alternate courses may be substituted for the above with the written permission of the Program Chair, ~~and Dean of the College.~~

6. **Authorization:**

Program / Academic / Administrative Unit: Computer Science Department

College: CSAM

College Council Motion Number: CSAMCC Consent 2016:06:09:03

College Council Approval Date: June 16, 2016

Senate Committee on First Nations and Aboriginal Peoples Motion Number: N/A

Senate Committee on First Nations and Aboriginal Peoples Meeting Date: N/A

7. Other Information

Attachment Pages: _____ pages

INFORMATION TO BE COMPLETED AFTER SENATE COMMITTEE ON ACADEMIC AFFAIRS MEETING

Brief Summary of Committee Debate:

Motion No.: SCAAF201607.07

Moved by: A. Blanding **Seconded by:** E. Searle

Committee Decision: CARRIED, with editorial revisions as recommended by the SCCC.



Approved by SCAAF: July 6, 2016
Date

Chair's Signature

For recommendation to ✓, **or information of** _____ **Senate.**

Motion Number (assigned by
Steering Committee of Senate): S-201608.07

SENATE COMMITTEE ON ACADEMIC AFFAIRS

PROPOSED REVISION OF CALENDAR ENTRY

Motion: That the changes to the BSc Honours – Environmental Science, on page 115 of the 2015/2016 undergraduate calendar, be approved as proposed.

1. **Effective date:** September 2016

2. **Rationale for the proposed revisions:**

Changes are made to alter the total number of credits required for the Honours degree that resulted from a new course being added to the BSc Major – Environmental Science (ENSC 250-2 *Introduction to Environmental Data Analysis*).

3. **Implications of the changes for other programs, etc., if applicable:** None.

4. **Reproduction of current Calendar entry for the item to be revised:**

BSc Honours-Environmental Science

The BSc Honours-Environmental Science provides a higher level of specialization and research experience, especially for students planning to proceed to postgraduate work.

Honours students are required to complete the degree requirements for the BSc Environmental Science Major, with the exception that Honours students must complete an undergraduate thesis chosen from ENSC 430-6 (Undergraduate Thesis), or NRES 430-6 (Undergraduate Thesis) in place of the requirement for ENSC 440-3 (Internship) or ENSC 499-3 (Independent Study). ENSC 440-3 or ENSC 499-3 may be taken by Honours students, but they are not required for the Honours degree. The undergraduate thesis must be conducted under the supervision of a faculty member.

The minimum requirement for a BSc Honours degree is 127 credit hours. Students are responsible to find their own undergraduate thesis research supervisor. Faculty members are under no obligation to supervise Honours students. To be admitted to the Honours degree program, students must have completed 60 credit hours and obtained a minimum Cumulative GPA of 3.33. Attaining the minimum requirement will not guarantee admission into the Honours program, which will be at the discretion of the Environmental Science Program. Maintenance of a Cumulative GPA of 3.33 is required to remain in the Honours program.

5. **Proposed revision with changes underlined and deletions indicated clearly using “~~strikethrough~~”:**

BSc Honours-Environmental Science

The BSc Honours-Environmental Science provides a higher level of specialization and research experience, especially for students planning to proceed to postgraduate work.

Honours students are required to complete the degree requirements for the BSc Environmental Science Major, with the exception that Honours students must complete an undergraduate thesis chosen from ENSC 430-6 (Undergraduate Thesis), or NRES 430-6 (Undergraduate Thesis) in place of the requirement for ENSC 440-3 (Internship) or ENSC 499-3 (Independent Study). ENSC 440-3 or ENSC 499-3 may be taken by Honours students, but they are not required for the Honours degree. The undergraduate thesis must be conducted under the supervision of a faculty member.

The minimum requirement for a BSc Honours degree is 129 ~~127~~ credit hours. Students are responsible to find their own undergraduate thesis research supervisor. Faculty members are under no obligation to supervise Honours students.

To be admitted to the Honours degree program, students must have completed 60 credit hours and obtained a minimum Cumulative GPA of 3.33. Attaining the minimum requirement will not guarantee admission into the Honours program, which will be at the discretion of the Environmental Science Program. Maintenance of a Cumulative GPA of 3.33 is required to remain in the Honours program.

6. Authorization: (Please ignore — Section to be completed by Committee Recording Secretaries)

Program / Academic / Administrative Unit: Environmental Science

College: CSAM

College Council Motion Number: CSAMCC OMNIBUS 2016:06:09:06

College Council Approval Date: Not Applicable

Senate Committee on First Nations and Aboriginal Peoples Motion Number: Not Applicable

Senate Committee on First Nations and Aboriginal Peoples Meeting Date: Not Applicable

7. Other Information

Attachment Pages: # pages

INFORMATION TO BE COMPLETED AFTER SENATE COMMITTEE ON ACADEMIC AFFAIRS MEETING

Brief Summary of Committee Debate:

Motion No.: SCAAF201607.08

Moved by: T. Whitcombe

Seconded by: K. Smith

Committee Decision: CARRIED.



Approved by SCAAF: July 6, 2016
Date

Chair's Signature

For recommendation to ✓ , **or information of** **Senate.**

Motion Number (assigned by
Steering Committee of Senate): S-201608.08

SENATE COMMITTEE ON ACADEMIC AFFAIRS

PROPOSED REVISION OF CALENDAR ENTRY

Motion: That the changes to the BSc Major – Environmental Science, on page 114 of the 2015/2016 undergraduate calendar, be approved as proposed.

1. **Effective date:** September 2016

2. **Rationale for the proposed revisions:**

Changes are made: to integrate a recently created course (ENSC 250-2 *Introduction to Environmental Data Analysis*) into the degree, to update some of the degree course options to reflect new and changed course offerings in other programs, to clarify wording regarding the Academic Breadth requirement, to add more flexibility for students and scheduling by removing a requirement to choose six credits from a long list of upper-division courses, and to correct minor typographical errors in the calendar description.

3. **Implications of the changes for other programs, etc., if applicable:** None to minimal. There could be a few extra students in GEOG 307; the Geography program has been consulted by email to the Chair.

4. **Reproduction of current Calendar entry for the item to be revised:**

Environmental Science (BSc Program)

Todd Whitcombe, Associate Professor and Chair
Joselito Arocena, Professor
Stephen Déry, Professor
Peter Jackson, Professor
Jianbing Li, Professor
Philip Owens, Associate Professor and Endowed Research Chair in Landscape Ecology
Michael Rutherford, Professor
Jueyi Sui, Professor
Youmin Tang, Professor
Ron Thring, Professor
Steve Helle, Associate Professor
Gerald Kutney, Adjunct Professor
Jean Wang, Senior Lab Instructor

Website: <http://www.unbc.ca/environmental-science>

Major in Environmental Science

The Environmental Science Bachelor of Science degree is an interdisciplinary degree in which students take a core curriculum along with an area of specialization. The core curriculum is designed to provide students with knowledge of the fundamental biological, chemical, physical and applied aspects integral to the field of environmental science. In addition, students receive exposure to many of the human dimensions that underlie environmental issues. This approach ensures a uniform preparation among students and allows for the development of a diversity of expertise necessary to address the complexity of present environmental problems and future unanticipated ones.

The degree has been designed in part to address educational components of the National Occupational Standards (NOS)

for Environmental Employment set out by Environmental Careers Organization (ECO Canada). The NOS forms the basis of the Canadian Certified Environmental Practitioner (CCEP) accreditation process of the Canadian Environmental Certification Approvals Board (CECAB).

Undergraduate students are required to take a total of 97 credit hours of program core requirements in addition to an Area of Specialization as indicated below. The Area of Specialization allows students to develop expertise within an area of their interest. The major requires elective credit hours as necessary to ensure completion of a minimum of 124 credit hours, including any additional credit hours necessary to meet the Academic Breadth requirement of the University (see Undergraduate Academic Regulation 15).

Program Core Requirements

Lower Division Requirement

BIOL 103-3	Introductory Biology I
BIOL 104-3	Introductory Biology II
BIOL 123-1	Introductory Biology I Laboratory
BIOL 124-1	Introductory Biology II Laboratory
CHEM 100-3	General Chemistry I
CHEM 101-3	General Chemistry II
CHEM 120-1	General Chemistry Laboratory I
CHEM 121-1	General Chemistry Laboratory II
ENSC 111-1	Introduction to Environmental Science
MATH 100-3	Calculus I
MATH 101-3	Calculus II
PHYS 100-4	Introduction to Physics I
and PHYS 101-4	Introduction to Physics II
OR **	
PHYS 110-4	Introductory Physics I: Mechanics
and PHYS 111-4	Introductory Physics II: Waves and Electricity

** PHYS 110-4 and PHYS 111-4 are strongly recommended.

BIOL 201-3	Ecology
BIOL 203-3	Microbiology
ENSC 201-3	Weather and Climate
FSTY 205-3	Introduction to Soil Science
GEOG 205-3	Cartography and Geomatics
GEOG 210-3	Geomorphology
STAT 240-3	Basic Statistics
or STAT 371-3	Probability and Statistics for Scientists and Engineers

3 credit hours of any 200-level CHEM courses.

Students who are interested in pursuing professional designations should contact the program advisor regarding the correct course sequences required for individual program as well as the appropriate choice of electives.

Upper Division Requirement

ENPL 305-3	Environmental Impact Assessment
ENPL 401-3	Environmental Law

ENSC 308-3	Northern Contaminated Environments
ENSC 406-3	Environmental Modelling
ENSC 418-3	Environmental Measurement and Analysis
ENSC 440-3	Internship*
or ENSC 499-3	Independent Study
ENSC 450-3	Environmental and Geophysical Data Analysis
ENVS 414-3	Environmental and Professional Ethics

One of:

ENVS 325-3	Global Environmental Change: Science and Policy
GEOG 401-3	Resource Geography
INTS 307-3	Global Resources

OR 3 credit hours of any upper-division ENVS courses.

Two of:

ENSC 404-3	Waste Management
ENSC 412-3	Air Pollution
ENSC 451-3	Groundwater Hydrology
ENSC 452-3	Reclamation and Remediation of Disturbed Environments

And 6 credit hours from the following (if not already taken above):

ENSC 302-3	Energy Development
ENSC 312-3	Biometeorology
ENSC 325-3	Soil Physical Properties and the Environment
ENSC 350-3	Fluid Mechanics
ENSC 404-3	Waste Management
ENSC 408-3	Storms
ENSC 412-3	Air Pollution
ENSC 425-3	Climate Change and Global Warming
ENSC 435-3	Soil Biological Processes and the Environment
ENSC 440-3	Internship
ENSC 451-3	Groundwater Hydrology
ENSC 452-3	Reclamation and Remediation of Disturbed Environments
ENSC 454-3	Snow and Ice
ENSC 460-3	Soil Chemical Processes and the Environment
ENSC 498-(1-6)	Special Topics
ENSC 499-3	Independent Study
FSTY 415-3	Forest Soils
FSTY 425-3	Soil Formation and Classification
GEOG 300-3	Geographic Information Systems (GIS)
GEOG 310-3	Hydrology
or NREM 410-3	Watershed Management
GEOG 311-3	Drainage Basin Geomorphology
GEOG 312-3	Geography of Cold Regions

GEOG 320-3	Sedimentology
GEOG 405-3	Fluvial Geomorphology
GEOG 411-3	Quaternary and Surficial Geology
GEOG 413-3	Advanced GIS
GEOG 414-3	Weathering Processes
GEOG 432-3	Remote Sensing
GEOG 457-3	Advanced Remote Sensing

*Students with extensive experience related to the environment may be waived from this degree requirement with approval from the Program.

Area of Specialization Requirement for BSc (Major) in Environmental Science

Environmental Science majors are required to complete an area of specialization satisfying the requirements of any available minor at UNBC as part of their degree. A minor allows students to specialize in a subject area relevant to the advancement, utilization and dissemination of environmental knowledge. Some minors may result in students taking more than the required 124 credit hours in order to obtain the Environmental Science Major. Many minors allow 100-level prerequisite courses and an additional 6 credit hours of other courses to be used for meeting the requirements of both the major and minor. Check the current UNBC undergraduate calendar for the requirements of minors available at UNBC.

5. Proposed revision with changes underlined and deletions indicated clearly using “~~strikethrough~~”:

Environmental Science (BSc Program)

Todd Whitcombe, Associate Professor and Chair

~~Joselito Arocena, Professor~~

Stephen Déry, Professor

Peter Jackson, Professor

Jianbing Li, Professor

Philip Owens, Associate Professor and Endowed Research Chair in Landscape Ecology

Michael Rutherford, Professor

Jueyi Sui, Professor

Youmin Tang, Professor

Ron Thring, Professor

Steve Helle, Associate Professor

~~Gerald Kutney, Adjunct Professor~~

Nikolaus Gantner, Adjunct Professor

Tricia Stadnyk, Adjunct Professor

You Qin ~~Jean~~ Wang, Senior Lab Instructor

Website: <http://www.unbc.ca/environmental-science>

Major in Environmental Science

The Environmental Science Bachelor of Science degree is an interdisciplinary degree in which students take a core curriculum along with an area of specialization. The core curriculum is designed to provide students with knowledge of the fundamental biological, chemical, physical and applied aspects integral to the field of environmental science. In addition, students receive exposure to many of the human dimensions that underlie environmental issues. This approach ensures a uniform preparation among students and allows for the development of a diversity of expertise necessary to address the complexity of present environmental problems and future unanticipated ones.

The degree has been designed in part to address educational components of the National Occupational Standards (NOS)

for Environmental Employment set out by Environmental Careers Organization (ECO Canada). The NOS forms the basis of the Canadian Certified Environmental Practitioner (CCEP) accreditation process of the Canadian Environmental Certification Approvals Board (CECAB).

Undergraduate students are required to take a total of ~~93~~ ⁹⁷ credit hours of program core requirements in addition to an Area of Specialization as indicated below. The Area of Specialization allows students to develop expertise within an area of their interest. The major requires elective credit hours as necessary to ensure completion of a minimum of ~~126~~ ¹²⁴ credit hours, including any additional credit hours necessary to meet the Academic Breadth requirement of the University (see Undergraduate Academic Regulation 15). Students needing to improve their communication skills should take ENGL 170-3 Writing and Communication Skills or NRES 100-3 Communication in NRES as an elective. Note that ENGL 170-3 also fulfills the Academic Breadth requirement for Arts and Humanities, while courses from the remaining three quadrants are required in the Major. Other areas of Academic Breadth are covered in the major.

Program Core Requirements

Lower-Division Requirements

BIOL 103-3	Introductory Biology I
BIOL 104-3	Introductory Biology II
BIOL 123-1	Introductory Biology I Laboratory
BIOL 124-1	Introductory Biology II Laboratory
CHEM 100-3	General Chemistry I
CHEM 101-3	General Chemistry II
CHEM 120-1	General Chemistry Laboratory I
CHEM 121-1	General Chemistry Laboratory II
ENSC 111-1	Introduction to Environmental Science
MATH 100-3	Calculus I
MATH 101-3	Calculus II
PHYS 100-4	Introduction to Physics I
and PHYS 101-4	Introduction to Physics II
OR **	
PHYS 110-4	Introductory Physics I: Mechanics
and PHYS 111-4	Introductory Physics II: Waves and Electricity

** PHYS 110-4 and PHYS 111-4 are strongly recommended.

BIOL 201-3	Ecology
BIOL 203-3	Microbiology
ENSC 201-3	Weather and Climate
ENSC 202-3	Introduction to Aquatic Systems
<u>ENSC 250-2</u>	<u>Introduction to Environmental Data Analysis</u>
FSTY 205-3	Introduction to Soil Science
GEOG 205-3	Cartography and Geomatics
GEOG 210-3	Geomorphology
STAT 240-3	Basic Statistics
or STAT 371-3	Probability and Statistics for Scientists and Engineers

3 credit hours of any 200-level CHEM courses.

Students who are interested in pursuing professional designations should contact the program advisor regarding the correct course sequences required for the individual program as well as the appropriate choice of electives.

Upper-Division Requirements

ENPL 305-3	Environmental Impact Assessment
ENPL 401-3	Environmental Law
ENSC 308-3	Northern Contaminated Environments
ENSC 406-3	Environmental Modelling
ENSC 418-3	Environmental Measurement and Analysis
ENSC 440-3	Internship*
or ENSC 499-3	Independent Study
ENSC 450-3	Environmental and Geophysical Data Analysis
ENVS 414-3	Environmental and Professional Ethics

One of the following:

ENVS 325-3 <u>225-3</u>	Global Environmental Change: Science and Policy
FNST 304-3	<u>Indigenous Environmental Philosophy</u> <small>First Nations Environmental Philosophy and Knowledge</small>
<u>GEOG 307-3</u>	<u>Changing Arctic: Human and Environmental Systems</u>
GEOG 401-3	<u>Tenure, Conflict, and Resource Geography</u>
INTS 307-3	Global Resources

OR 3 credit hours of any upper-division ENVS courses.

Two of the following:

ENSC 404-3	Waste Management
ENSC 412-3	Air Pollution
<u>ENGR-ENSC 451-3</u>	Groundwater Hydrology
ENSC 452-3	Reclamation and Remediation of Disturbed Environments

~~And 6 credit hours from the following (if not already taken above):~~

ENSC 302-3	Energy Development
ENSC 312-3	Biometeorology
ENSC 325-3	Soil Physical Properties and the Environment
ENSC 350-3	Fluid Mechanics
ENSC 404-3	Waste Management
ENSC 408-3	Storms
ENSC 412-3	Air Pollution
ENSC 425-3	Climate Change and Global Warming
ENSC 435-3	Soil Biological Processes and the Environment
ENSC 440-3	Internship
ENSC 451-3	Groundwater Hydrology
ENSC 452-3	Reclamation and Remediation of Disturbed Environments
ENSC 454-3	Snow and Ice
ENSC 460-3	Soil Chemical Processes and the Environment
ENSC 498 (1-6)	Special Topics

ENSC 499 3	Independent Study
FSTY 415 3	Forest Soils
FSTY 425 3	Soil Formation and Classification
GEOG 300 3	Geographic Information Systems (GIS)
GEOG 310 3	Hydrology
—or NREM 410 3	Watershed Management
GEOG 311 3	Drainage Basin Geomorphology
GEOG 312 3	Geography of Cold Regions
GEOG 320 3	Sedimentology
GEOG 405 3	Fluvial Geomorphology
GEOG 411 3	Quaternary and Surficial Geology
GEOG 413 3	Advanced GIS
GEOG 414 3	Weathering Processes
GEOG 432 3	Remote Sensing
GEOG 457 3	Advanced Remote Sensing

*Students with extensive experience related to the environment may be waived from this degree requirement with approval from the Program.

Area of Specialization Requirement for BSc (Major) in Environmental Science

Environmental Science majors are required to complete an Area of sSpecialization satisfying the requirements of any available minor at UNBC as part of their degree. A minor allows students to specialize in a subject area relevant to the advancement, utilization and dissemination of environmental knowledge. Some minors may result in students taking more than the required 126 124 credit hours in order to obtain the Environmental Science Major. Many minors allow 100-level prerequisite courses and an additional 6 credit hours of other courses to be used for meeting the requirements of both the major and minor. Check Consult the current UNBC uUndergraduate eCalendar for the requirements of minors available at UNBC.

6. Authorization: (Please ignore — Section to be completed by Committee Recording Secretaries)

Program / Academic / Administrative Unit: Environmental Science

College: CSAM

College Council Motion Number: CSAMCC 2016:06:09:04

College Council Approval Date: Not Applicable

Senate Committee on First Nations and Aboriginal Peoples Motion Number: Not Applicable

Senate Committee on First Nations and Aboriginal Peoples Meeting Date: Not Applicable

7. Other Information

Attachment Pages: # pages

INFORMATION TO BE COMPLETED AFTER SENATE COMMITTEE ON ACADEMIC AFFAIRS MEETING

Brief Summary of Committee Debate:

Motion No.: SCAAF201607.09

Moved by: A. Blanding

Seconded by: T. Whitcombe

Committee Decision: CARRIED, with editorial revisions as recommended by the SCCC.

Approved by SCAAF: July 6, 2016
Date



Chair's Signature

For recommendation to ✓, or information of _____ Senate.

Motion Number (assigned by
Steering Committee of Senate): S-201608.09

SENATE COMMITTEE ON ACADEMIC AFFAIRS

PROPOSED REVISION OF CALENDAR ENTRY

Motion: That ENSC 460-3 *Soil Chemical Processes and the Environment* on page 237 of the 2015/2016 Undergraduate Calendar, be deleted.

1. **Effective date:** September 2016

2. **Rationale for the proposed revisions:**

A few years ago ENSC 307-3 *Introduction to Geochemistry* was introduced. Subsequently it was found that there was sufficient content overlap between ENSC 307-3 *Introduction to Geochemistry* and ENSC 460-3 that we did not need to offer both. Therefore, a decision was made by the Soil Science instructors in Environmental Science and in Ecosystem Science and Management, to delete ENSC 460-3.

3. **Implications of the changes for other programs, etc., if applicable:** None. The instructors involved in teaching some Soil Science courses in the Ecosystem Science and Management Program have been consulted.

4. **Reproduction of current Calendar entry for the item to be revised:**

ENSC 460-3 Soil Chemical Processes and the Environment

Reactions at the interface of the atmosphere, biosphere, hydrosphere and lithosphere play key roles in regulating environmental quality on Earth. This course focuses on the key chemical processes in soils, in the Earth's "Critical Zone." The fundamental concepts of chemistry and mineralogy are applied to help students understand the soil system and its relevance to processes in natural ecosystems and environments impacted by human activity.

Prerequisites: FSTY 205-3 or permission of the instructor

Precluded: FSTY 455-3; NREM 655-3; ENSC 660-3

5. **Proposed revision with changes underlined and deletions indicated clearly using "strikethrough":**

~~ENSC 460-3 Soil Chemical Processes and the Environment~~

~~Reactions at the interface of the atmosphere, biosphere, hydrosphere and lithosphere play key roles in regulating environmental quality on Earth. This course focuses on the key chemical processes in soils, in the Earth's "Critical Zone." The fundamental concepts of chemistry and mineralogy are applied to help students understand the soil system and its relevance to processes in natural ecosystems and environments impacted by human activity.~~

~~Prerequisites: FSTY 205-3 or permission of the instructor~~

~~Precluded: FSTY 455-3; NREM 655-3; ENSC 660-3~~

6. **Authorization:** (Please ignore — Section to be completed by Committee Recording Secretaries)

Program / Academic / Administrative Unit: Environmental Science

College: CSAM

College Council Motion Number: CSAMCC OMNIBUS 2016:06:09:06

College Council Approval Date: Not Applicable

Senate Committee on First Nations and Aboriginal Peoples Motion Number: Not Applicable

Senate Committee on First Nations and Aboriginal Peoples Meeting Date: Not Applicable

7. Other Information

Attachment Pages: # pages

INFORMATION TO BE COMPLETED AFTER SENATE COMMITTEE ON ACADEMIC AFFAIRS MEETING

Brief Summary of Committee Debate:

Motion No.: SCAAF201607.10

Moved by: I. Hartley

Seconded by: E. Searle

Committee Decision: CARRIED.

Approved by SCAAF: July 6, 2016
Date



Chair's Signature

For recommendation to ✓ , **or information of** **Senate.**

Motion Number (assigned by
Steering Committee of Senate): S-201608.10

SENATE COMMITTEE ON ACADEMIC AFFAIRS

PROPOSED REVISION OF CALENDAR ENTRY

Motion: That the changes to the Minor in Soils and the Environment, on page 117 of the 2015/2016 undergraduate calendar, be approved as proposed.

1. **Effective date:** September 2016

2. **Rationale for the proposed revisions:**

Changes are made to remove ENSC 460-3 *Soil Chemical Processes and the Environment*, a course which will be deleted, and replace it with ENSC 307-3 *Introduction to Geochemistry*. ENSC 307 was more recently introduced, and the instructors involved in teaching both courses feel that there is sufficient overlap that only ENSC 307 needs to be retained.

3. **Implications of the changes for other programs, etc., if applicable:** None. The instructors involved in teaching some Soil Science courses in the Ecosystem Science and Management Program have been consulted.

4. **Reproduction of current Calendar entry for the item to be revised:**

Minor in Soils and the Environment

Processes and their dynamics at the interface between the biosphere, atmosphere, hydrosphere and lithosphere are critical to the regulation of environmental quality from the micro-scale of millimetres to macro-scale climatic conditions. The minor in Soils and the Environment provides students with an opportunity to focus on the Earth's "Critical Zone," the thin outer layer which supports terrestrial life on the planet. The emphasis is on key biological, chemical and physical processes active in soils, and how they influence environmental conditions.

Students are required to take 34 credit hours. Of these, 16 credit hours are prerequisites to FSTY 205 and ENSC 435, 15 credit hours are required soils courses, and 3 credit hours are selected from a list of suggested elective courses. In addition to the 16 credit hours of prerequisite courses at the 100 level, an additional 6 credit hours can also be used to meet the requirements of a major or another minor.

Required Courses

BIOL 103-3	Introductory Biology I
BIOL 104-3	Introductory Biology II
BIOL 123-1	Introductory Biology I Laboratory
BIOL 124-1	Introductory Biology II Laboratory
CHEM 100-3	General Chemistry I
CHEM 101-3	General Chemistry II
CHEM 120-1	General Chemistry Laboratory I
CHEM 121-1	General Chemistry Laboratory II
ENSC 325-3	Soil Physical Processes and the Environment
ENSC 435-3	Soil Biological Processes and the Environment
ENSC 460-3	Soil Chemical Processes and the Environment

FSTY 205-3	Introductory Soil Science
FSTY 425-3	Soil Formation and Classification
Elective Courses*	
Three credit hours from the following list:	
ENSC 404-3	Waste Management
ENSC 451-3	Groundwater Hydrology
ENSC 452-3	Reclamation and Remediation of Disturbed Environments
FSTY 415-3	Forest Soils

*Students must ensure they have the appropriate prerequisites to take these courses.

5. Proposed revision with changes underlined and deletions indicated clearly using “~~strikethrough~~”:

Minor in Soils and the Environment

Processes and their dynamics at the interface between the biosphere, atmosphere, hydrosphere and lithosphere are critical to the regulation of environmental quality from the micro-scale of millimetres to macro-scale climatic conditions. The minor in Soils and the Environment provides students with an opportunity to focus on the Earth’s “Critical Zone,” the thin outer layer which supports terrestrial life on the planet. The emphasis is on key biological, chemical and physical processes active in soils, and how they influence environmental conditions.

Students are required to take 34 credit hours. Of these, 16 credit hours are prerequisites to FSTY 205 and ENSC 435, 15 credit hours are required soils courses, and 3 credit hours are selected from a list of suggested elective courses. In addition to the 16 credit hours of prerequisite courses at the 100 level, an additional 6 credit hours can also be used to meet the requirements of a major or another minor.

Required Courses

BIOL 103-3	Introductory Biology I
BIOL 104-3	Introductory Biology II
BIOL 123-1	Introductory Biology I Laboratory
BIOL 124-1	Introductory Biology II Laboratory
CHEM 100-3	General Chemistry I
CHEM 101-3	General Chemistry II
CHEM 120-1	General Chemistry Laboratory I
CHEM 121-1	General Chemistry Laboratory II
<u>ENSC 307-3</u>	<u>Introduction to Geochemistry</u>
ENSC 325-3	Soil Physical Processes and the Environment
ENSC 435-3	Soil Biological Processes and the Environment
ENSC 460-3	Soil Chemical Processes and the Environment
FSTY 205-3	Introductory Soil Science
FSTY 425-3	Soil Formation and Classification

Elective Courses*

Three credit hours from the following list:

ENSC 404-3	Waste Management
<u>ENGR</u> ENSC 451-3	Groundwater Hydrology
ENSC 452-3	Reclamation and Remediation of Disturbed Environments
FSTY 415-3	Forest Soils

*Students must ensure they have the appropriate prerequisites to take these courses.

Motion Number (assigned by
Steering Committee of Senate): S-201608.11

SENATE COMMITTEE ON ACADEMIC AFFAIRS

NEW COURSE APPROVAL MOTION FORM

Motion: That the new course (FSTY 605-3, Forest Growth and Yield) be approved as follows:

A. Description of the Course This course explores factors influencing forest yields, traditional prediction methods, and growth and yield simulation. The course also explores stand dynamics, quantitative implications of management treatments and environmental limitations to tree and stand growth.

- 1. Proposed semester of first offering:** September 2016
- 2. Academic Program:** NRES Graduate Program
- 3. Course Subject, Number*, and Credit hours (e.g. CHEM 210-3):** FSTY 605-3
- 4. Course Title:** Forest Growth and Yield
- 5. Goal(s) of Course:** Graduate level version of FSTY 405-3 of the same title
- 6. Calendar Course Description:** This course explores factors influencing forest yields, traditional prediction methods, and growth and yield simulation. The course also explores stand dynamics, quantitative implications of management treatments, and environmental limitations to tree and stand growth.
- 7. Credit Hours:** 3 credit hours (Normally, UNBC courses are 3 credit hours and may not be repeated for additional credit. If this course falls outside the norm, please complete sections "a)" and "b)" below).

a) Can the course be repeated for credit if the subject matter differs substantially?

Yes* _____ No X

* If "yes," please indicate the maximum number** of credit hours which may be applied to a student's degree using this course: #

** If the course may be taken more than once but will only ever be offered for 3 credit hours, for example, per offering, the credit hours are simply expressed as "3" and the following notation (with the correct number of credit hours noted) is included within the Calendar Course Description:
"This course may be repeated to a maximum of XX credit hours if the material is substantially different."

b) Is variable credit available for this course? Yes ___ No X

Variable credit is denoted by the following examples:

6. **Course required or recommended by an accrediting agency:** none
7. **Toward what degrees will the course be accepted for credit?** MSc NRES, MNRES, PhD NRES
8. **What other courses are being proposed within the Program this year?** none
9. **What courses are being deleted from the Program this year?** none

C. Relation to Other Program Areas none

1. **Identify courses in other UNBC Programs that overlap with this course; describe the overlap and comment on its significance:**
2. **Is a preclusion required?** Yes No
3. **If there is an overlap, and no preclusion is required, please explain why not:**
4. **Has this overlap been discussed with the Program concerned?** Yes No
5. **In offering this course, will UNBC require facilities or staff at other institutions?**
Yes No

If yes, please describe requirements:

6. **Is this course replacing an existing course that is included in one or more transfer agreements with external institutions?**
Yes No

If "yes," please contact the Articulation Officer in the Office of the Registrar.

D. Resources required: none

1. **Please describe ADDITIONAL resources required over the next five years to offer this course.**
 - i. **College Staffing:**
 - ii. **Space (classroom, laboratory, storage, etc.):**
 - iii. **Library Holdings:** See attached form
 - iv. **Computer (time, hardware, software):**

E. Additional Attached Materials

F. Other Considerations

1. **First Nations Content*:** Yes** _____ No X
* *Whether a new course has First Nations content is to be determined by the relevant College Council(s).*

**If “yes,” refer the motion to the Senate Committee on First Nations and Aboriginal Peoples prior to SCAAF.

2. **Other Information:**
3. **Attachment Pages (in addition to required “Library Holdings” Form):** _____ pages 0

G. Authorization (Please ignore — Section to be completed by Committee Recording Secretaries)

1. **College(s):** Science & Management
2. **College Council Motion Number(s):** CSAMCC Consent 2016:06:09:03
3. **College Council Approval Date(s):** June 9, 2016
4. **Senate Committee on First Nations and Aboriginal Peoples Motion Number:** Not Applicable
5. **Senate Committee on First Nations and Aboriginal Peoples Meeting Date:** Not Applicable

INFORMATION TO BE COMPLETED BY RECORDING SECRETARY AFTER SENATE COMMITTEE ON ACADEMIC AFFAIRS MEETING

Brief Summary of Committee Debate:

Motion No.: SCAAF201607.12
Moved by: G. Payne **Seconded by:** B. Schorcht
Committee Decision: CARRIED, with editorial revisions as recommended by the SCCC.



Approved by SCAAF: July 6, 2016 _____
Date **Chair’s Signature**

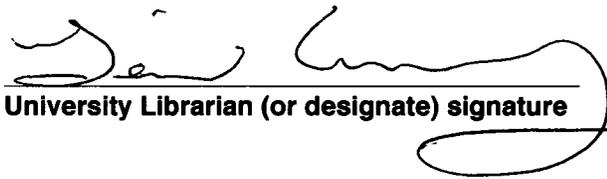
For recommendation to ✓ , **or information of** _____ **Senate.**

Library Holdings Form
(to be submitted with SCAAF New Course Approval Motion Form)

PROPOSED NEW COURSE: FSTY 605-3 Forest Growth and Yield

Library Holdings (to be completed by the appropriate Librarian):

- a) Are current library holdings adequate? Yes x No
- b) If no to a), what monographs / periodicals / E-resources will be needed, and at what estimated cost?
-
-
-
-
-
-
-
-
-
-
- c) If no to a), what is the proposed funding source?


University Librarian (or designate) signature

April 28/16
Date

August 4, 2016

Dear Dr. Weeks and Senators:

As representatives of the undergraduate and graduate students at UNBC, we are very pleased by the high level of importance that the Academic Planning process has for student engagement. As we have expressed before, we are committed to working with you to find the best candidates for the Academic Planning Committees; however, it is essential to ensure that this will be a fruitful and fulfilling experience for all parties before the committees begin their work. Our two societies have consulted with our Board and Council to determine how to engage our members to find passionate and knowledgeable candidates for the committees. Furthermore, we feel it is our duty to protect the time and energy of our students, ensuring they will finish their commitments to the Academic Planning process feeling that they have made a difference for UNBC without jeopardizing their academics and mental health.

Students today are under exceeding amounts of pressure to complete all of their obligations while they work towards their degree. As tuition costs rise, more students are feeling financial strain that requires them to work either part-time or full-time; for many, this still is not enough to avoid student loans and other forms of debt that add to the stress of their student experience. Moreover, this is combined with the increasing expectation of employers that students will leave university with a strong list of extra-curricular and volunteer activities to round out their degree. Finally, as we are a research-intensive university, many undergraduate and graduate students engage in lengthy and important studies beyond their regular course work.

For the protection of the students that we will be recommending to your committees, as well as the student senators that have volunteered to participate, we have identified three alterations to the description of duties and expectations for the student committee members.

The main concern for the student government representatives, as well as students that we have reached out to about joining these committees, is the language in the description that advertises a, "minimum time commitment of 3-4 hours per week." As we have already described, students have very hectic schedules, and therefore need to know exactly how much time they will be allocating to these committees before they agree to be nominated. It will be extremely stressful for students if they find themselves in a position where their committee work is requiring more time than they initially budgeted for (as we have heard happened during the first phase of the Academic Plan). Moreover, if students cannot meet the time requirements, they may feel they are not meeting the expectations of their fellow committee members, who are also their superiors at the university. To prevent this harmful scenario, we would like Senate to make firm commitments that students will be required to spend a maximum of four hours per week on committee work.

A second concern about the Academic Planning Committee process is that, at this time, there is no firm completion date listed in the mandate of the committees. We recognize that this is partially because the start date has been deferred during the summer; however, we would expect a firm timeline to be agreed upon before the work has begun. The reason this is crucial for students is that our schedules vary greatly between semesters, as such, to make a commitment in the fall semester, and unexpectedly be required to continue that work in the winter semester, is unwieldy and may deter excellent candidates from accepting nominations if they know they will not be around or available come January.

Finally, and most importantly, students need compensation for the time they are devoting to their committee work. We feel a per diem would be an effective way to address this issue: weekly compensation to students for their time. Financial compensation is essential to attract the best

representatives to sit on the committees. A per diem would allow students to focus on their commitments without feeling that they should be spending that time working elsewhere to support the large financial and psychological cost of being a student. Moreover, as students are equal participants in these committees, they should not be expected to work strictly as volunteers, while other members of the committees are able to complete their work during the workday.

Receiving feedback from students is essential to the legitimacy of the Academic Process, and so we feel the need to protect our students to ensure they will be able to complete the requirements of their committee work. Beyond our concerns for students' financial wellbeing and time management, we want to ensure this process does not hinder the mental health of the participants. The structure of these committees, with the direction being set by the Senate of the University, and students working directly with Senior Administrators and their professors and mentors, places excessive pressure on students. We fear that this could create an atmosphere where students feel they must take on additional committee projects and work beyond the time they expected to spend in order to meet the expectations of the more senior committee members. Having strict guidelines and treating this work experience as a contracted position with students will alleviate stress for participants, as well as allowing students to provide better quality work for their committees because they will be able to focus more energy on their specific tasks.

We hope that the Senate will confirm our recommendations, recognizing that we are the student leaders elected to advocate for the interests of our students, and thus we are bringing these terms to you with the understanding that they align with the needs and expectations of our students. Once these additional terms are included, we are confident that the process will be improved for the betterment of the student experience, as well as the quality of work that is completed by the committee as a whole.

Thank you for your consideration and support,

Sincerely,

Trina Johnson
NBCGSS President
gsspres@unbc.ca

Arctica Cunningham
NUGSS President
nugss-president@unbc.ca