UNBC UNIVERSITY OF NORTHERN BRITISH COLUMBIA

SENATE MEETING
PUBLIC SESSION
AGENDA

May 22, 2019
3:30 – 5:30 PM
Senate Chambers (Room 1079 Charles J McCaffray Hall)

1.0 Acknowledgement of Territory

2.0 S-201905.01
Approval of the Agenda ✞
Page 1 That the agenda for the May 22, 2019 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.*

3.0 S-201905.02 *(15 minutes)*
Move to In Camera Session
That the meeting move In Camera.

4.0 S-201905.09
Approval of Senate Minutes
Page 10 That the minutes of the April 24, 2019 Public Session of Senate be approved as presented.

5.0 Business Arising

Page 23 5.1 Graduate Supervision by Non-Program Supervisors - Memo from Vice President Research & Graduate Programs

6.0 President's Report *(5 minutes)* **Dr. Weeks**

7.0 Report of the Provost *(10 minutes)* **Dr. Ryan**

- Academic Re-Structuring - Senate Handbook Revisions/Principles
- Update on the Proposed Process for Review of Awarding of Graduate Degree

8.0 Report of the Registrar *(3 minutes)* **Mr. Annear**

9.0 Question Period *(10 minutes)*

8.1 Written questions submitted in advance

8.2 Questions from the floor

10.0 **S-201905.10**

Approval of Motions on the Consent Agenda **Dr. Weeks**

That the motions on the consent agenda, except for those removed for placement on the regular agenda, be approved as presented.

11.0 Committee Reports

11.1 Senate Committee on Academic Affairs *(10 minutes)* **Dr. Ryan**

"For Approval" Items:

Regular **S-201905.11**

Change(s) to Program Requirements – Major in First Nations Studies

That, on the recommendation of the Senate Committee on Academic Affairs, the changes to the program requirements for the Major in First Nations Studies, on page 122 of the 2018/2019 undergraduate calendar, be approved as proposed.

Page 24 Effective date: September 2019

Regular **S-201905.12**

Change(s) to Program Requirements – BHSC Major in Biomedical Sciences

That, on the recommendation of the Senate Committee on Academic Affairs, the change(s) to the list of 3rd and 4th year program requirements for BHSc Major in Biomedical Sciences on page 142 of the 2018/2019 undergraduate calendar, be approved as proposed.

Page 28 Effective date: September 2019

Regular **S-201905.13**

New Course - HHSC 445

That, on the recommendation of the Senate Committee on Academic Affairs, the new course HHSC 445-3 Health and Human Development be approved as follows.

Page 38 Effective date: January 2020

Page 43 Executive Summary – History

Consent **S-201905.14**

Change(s) to Course Title and Description – HIST 240

That, on the recommendation of the Senate Committee on Academic Affairs, the changes to the course title and description for HIST 240-3 on page 248 in the print of the 2018/19 undergraduate calendar, be approved as proposed.

Page 45 Effective date: September 2019

Consent **S-201905.15**

Change(s) to Course Title and Description – HIST 241

That, on the recommendation of the Senate Committee on Academic Affairs, the changes to the course title and description for HIST 241-3 on page 248 in the print of the 2018/19 undergraduate calendar, be approved as proposed.

Page 47 Effective date: September 2019

Consent **S-201905.16**

Change(s) to Course Prerequisites – HIST 407

That, on the recommendation of the Senate Committee on Academic Affairs, the changes to the course prerequisites for HIST 407-3 on page 250 in the print of the 2018/19 undergraduate calendar, be approved as proposed.

Page 49 Effective date: September 2019

Consent **S-201905.17**

Change(s) to Course Prerequisites – HIST 421

That, on the recommendation of the Senate Committee on Academic Affairs, the changes to the course prerequisites for HIST 421-3 on page 251 in the print of the 2018/19 undergraduate calendar, be approved as proposed.

Page 51 Effective date: September 2020

Page 53 Executive Summary – Engineering BASc Program

Regular **S-201905.18**

Change(s) to Program Description and Program Requirements – BASc Engineering

That, on the recommendation of the Senate Committee on Academic Affairs, the changes to the program description and program requirements for the BASc Engineering degree program, including Civil Engineering and Environmental Engineering (pages 2 – 10 of the New Academic Program Proposal for Civil and Environmental Engineering Degree approved by Senate April 27, 2016) and the Joint UNBC/UBC Environmental Engineering (pages 104 – 106 of the PDF undergraduate calendar), be approved as proposed.

Page 54 Effective date: September 2019

Regular **S-201905.19**

Change(s) to Program Description and Program Requirements – BASc UNBC/UBC Joint Environmental Engineering

That, on the recommendation of the Senate Committee on Academic Affairs, the program description and requirements for the UNBC/UBC Joint Environmental Engineering program on pages 104-106 of the PDF version of the 2018/19 undergraduate calendar be deleted from the Environmental Programs section of the calendar.

Page 80 Effective date: September 2019

Regular **S-201905.20**

New Course – CIVE 241

That, on the recommendation of the Senate Committee on Academic Affairs, the new course CIVE 241-4 Civil Engineering Materials be approved as follows.

Page 89 Effective date: January 2021

Regular **S-201905.21**

New Course – CIVE 260

That, on the recommendation of the Senate Committee on Academic Affairs, the new course CIVE 260-4 Soil Mechanics be approved as follows.

Page 92 Effective date: September 2021

Regular **S-201905.22**

New Course – CIVE 320

That, on the recommendation of the Senate Committee on Academic Affairs, the new course CIVE 320-3 Structural Analysis I be approved as follows.

Page 95 Effective date: September 2021

Regular **S-201905.23**

New Course – CIVE 321

That, on the recommendation of the Senate Committee on Academic Affairs, the new course CIVE 321-3 Structural Analysis II be approved as follows.

Page 98 Effective date: January 2022

Regular **S-201905.24**

New Course – CIVE 340

That, on the recommendation of the Senate Committee on Academic Affairs, the new course CIVE 340-3 Structural Design I be approved as follows.

Page 101 Effective date: September 2021

Regular **S-201905.25**

New Course – CIVE 341

That, on the recommendation of the Senate Committee on Academic Affairs, the new course CIVE 341-3 Structural Design II be approved as follows.

Page 104 Effective date: January 2022

Regular **S-201905.26**

New Course – CIVE 360

That, on the recommendation of the Senate Committee on Academic Affairs, the new course CIVE 360-4 Soil Mechanics II be approved as follows.

Page 107 Effective date: September 2021

Regular **S-201905.27**

New Course – CIVE 370
That, on the recommendation of the Senate Committee on Academic Affairs, the new course CIVE 370-3 Transportation Systems be approved as follows.
Page 110 Effective date: January 2022

Regular **S-201905.28**
New Course – CIVE 372
That, on the recommendation of the Senate Committee on Academic Affairs, the new course CIVE 372-3 Construction Management be approved as follows.
Page 113 Effective date: September 2021

Regular **S-201905.29**
New Course – CIVE 400
That, on the recommendation of the Senate Committee on Academic Affairs, the new course CIVE 400-3 Capstone Design Project I be approved as follows.
Page 117 Effective date: September 2022

Regular **S-201905.30**
New Course – CIVE 401
That, on the recommendation of the Senate Committee on Academic Affairs, the new course CIVE 401-6 Capstone Design Project II be approved as follows.
Page 120 Effective date: January 2023

Regular **S-201905.31**
New Course – CIVE 411
That, on the recommendation of the Senate Committee on Academic Affairs, the new course CIVE 411-3 Project Management be approved as follows.
Page 123 Effective date: September 2022

Regular **S-201905.32**
New Course – CIVE 451
That, on the recommendation of the Senate Committee on Academic Affairs, the new course CIVE 451-3 Building Physics be approved as follows.
Page 126 Effective date: September 2022

Regular **S-201905.33**
New Course – CIVE 461
That, on the recommendation of the Senate Committee on Academic Affairs, the new course CIVE 461-3 Foundation Design be approved as follows.
Page 129 Effective date: September 2022

Regular **S-201905.34**
New Course – CIVE 471
That, on the recommendation of the Senate Committee on Academic Affairs, the new course CIVE 471-3 Cold Climate Construction Engineering be approved as follows.
Page 132 Effective date: January 2023

Regular **S-201905.35**
New Course – CIVE 481
That, on the recommendation of the Senate Committee on Academic Affairs, the new course CIVE 481-3 Urban and Regional Planning be approved as follows.
Page 135 Effective date: January 2023

Regular **S-201905.36**
New Course – ENGR 211
That, on the recommendation of the Senate Committee on Academic Affairs, the new course ENGR 211-3 Engineering Communication be approved as follows.
Page 138 Effective date: January 2021

Regular **S-201905.37**
New Course – ENGR 221
That, on the recommendation of the Senate Committee on Academic Affairs, the new course ENGR

221-3 Thermodynamics and Heat Transfer be approved as follows.

Page 142 Effective date: January 2021

Regular **S-201905.38**

New Course – ENGR 240

That, on the recommendation of the Senate Committee on Academic Affairs, the new course ENGR 240-4 Mechanics of Materials II be approved as follows.

Page 146 Effective date: September 2020

Regular **S-201905.39**

New Course – ENGR 250

That, on the recommendation of the Senate Committee on Academic Affairs, the new course ENGR 250-3 Engineering Tools III be approved as follows.

Page 149 Effective date: September 2020

Regular **S-201905.40**

New Course – ENGR 254

That, on the recommendation of the Senate Committee on Academic Affairs, the new course ENGR 254-4 Fluid Mechanics I be approved as follows.

Page 152 Effective date: September 2020

Regular **S-201905.41**

New Course – ENGR 270

That, on the recommendation of the Senate Committee on Academic Affairs, the new course ENGR 270-3 Surveying be approved as follows.

Page 155 Effective date: May 2021

Regular **S-201905.42**

New Course – ENGR 300

That, on the recommendation of the Senate Committee on Academic Affairs, the new course ENGR 300-3 Sustainable Principles of Engineering be approved as follows.

Page 158 Effective date: January 2022

Regular **S-201905.43**

New Course – ENGR 353

That, on the recommendation of the Senate Committee on Academic Affairs, the new course ENGR 353-3 Hydrology and Open Channel Flow be approved as follows.

Page 161 Effective date: September 2021

Regular **S-201905.44**

New Course – ENGR 354

That, on the recommendation of the Senate Committee on Academic Affairs, the new course ENGR 354-3 Fluid Mechanics II be approved as follows.

Page 164 Effective date: September 2021

Regular **S-201905.45**

New Course – ENGR 358

That, on the recommendation of the Senate Committee on Academic Affairs, the new course ENGR 358-4 Water and Wastewater Systems be approved as follows.

Page 168 Effective date: January 2022

Regular **S-201905.46**

New Course – ENGR 380

That, on the recommendation of the Senate Committee on Academic Affairs, the new course ENGR 380-3 Engineering Economics be approved as follows.

Page 171 Effective date: September 2021

Regular **S-201905.47**

New Course – ENGR 410

That, on the recommendation of the Senate Committee on Academic Affairs, the new course ENGR 410-3 Professional Practice and Law be approved as follows.

Page 174 Effective date: January 2023

Regular **S-201905.48**

New Course – ENGR 412

That, on the recommendation of the Senate Committee on Academic Affairs, the new course ENGR 412-3 Engineering Business & Project Management be approved as follows.

Page 177 Effective date: January 2023

Regular **S-201905.49**

New Course – ENVE 222

That, on the recommendation of the Senate Committee on Academic Affairs, the new course ENVE 222-3 Engineering Biology be approved as follows.

Page 181 Effective date: January 2021

Regular **S-201905.50**

New Course – ENVE 310

That, on the recommendation of the Senate Committee on Academic Affairs, the new course ENVE 310-3 Environmental Engineering Processes be approved as follows.

Page 185 Effective date: January 2022

Regular **S-201905.51**

New Course – ENVE 317

That, on the recommendation of the Senate Committee on Academic Affairs, the new course ENVE 317-3 Engineering Design III Municipal Engineering be approved as follows.

Page 189 Effective date: January 2022

Regular **S-201905.52**

New Course – ENVE 318

That, on the recommendation of the Senate Committee on Academic Affairs, the new course ENVE 318-3 Environmental Engineering Measurement Lab be approved as follows.

Page 192 Effective date: September 2021

Regular **S-201905.53**

New Course – ENVE 351

That, on the recommendation of the Senate Committee on Academic Affairs, the new course ENVE 351-4 Groundwater Flow and Contaminant Transport be approved as follows.

Page 196 Effective date: September 2021

Regular **S-201905.54**

New Course – ENVE 455

That, on the recommendation of the Senate Committee on Academic Affairs, the new course ENVE 455-3 Engineering Hydrology be approved as follows.

Page 199 Effective date: January 2022

Regular **S-201905.55**

New Course – ENVE 400

That, on the recommendation of the Senate Committee on Academic Affairs, the new course ENVE 400-3 Environmental Engineering Capstone Design Project I be approved as follows.

Page 203 Effective date: September 2022

Regular **S-201905.56**

New Course – ENVE 401

That, on the recommendation of the Senate Committee on Academic Affairs, the new course ENVE 401-6 Environmental Engineering Capstone Design Project II be approved as follows.

Page 207 Effective date: January 2023

Regular **S-201905.57**

New Course – ENVE 421

That, on the recommendation of the Senate Committee on Academic Affairs, the new course ENVE 421-3 Contaminant Transport in the Environment be approved as follows.

Page 211 Effective date: September 2022

Regular **S-201905.58**
New Course – ENVE 430
That, on the recommendation of the Senate Committee on Academic Affairs, the new course ENVE 430-3 Energy Systems be approved as follows.
Page 215 Effective date: September 2022

Regular **S-201905.59**
New Course – ENVE 462
That, on the recommendation of the Senate Committee on Academic Affairs, the new course ENVE 462-3 Geoenvironmental Engineering be approved as follows.
Page 219 Effective date: September 2022

Page 223 Library Holding Form for new CIVE, ENGR, ENVE courses and New Academic Program Proposal Evaluation of Library Resources (for information only)

Regular **S-201905.60**
Change(s) to Degree Requirements – BSc (Integrated)
That, on the recommendation of the Senate Committee on Academic Affairs, the changes to the degree requirements for the BSc (Integrated), on page 57-58 in the PDF calendar accessible on the UNBC web page of the 2018-2019 undergraduate calendar, be approved as proposed.
Page 233 Effective date: September 2019

Regular **S-201905.61**
Change(s) to Course Description and Credit Hours – ENPL 430
That, on the recommendation of the Senate Committee on Academic Affairs, the change(s) to ENPL 430-3 Undergraduate Thesis in the 2018/2019 undergraduate calendar, be approved as proposed.
Page 240 Effective date: September 2019

Regular **S-201905.62**
Change(s) to Program Requirements – B. PI.
That, on the recommendation of the Senate Committee on Academic Affairs, the changes to the program requirements for the B.PI, on pages 106-110 of the 2018/19 undergraduate calendar, be approved as proposed.
Page 242 Effective date: July 2019

Regular **S-201905.63**
Change(s) to Program Description
That, on the recommendation of the Senate Committee on Academic Affairs, the changes to the program description for Co-operative Education, on page 48-49 of the 2018/2019 undergraduate calendar, be approved as proposed.
Page 261 Effective date: September 2019

11.2 Steering Committee of Senate *(verbal)* **Dr. Weeks**

11.3 Senate Committee on Nominations *(5 minutes)* **Dr. Casperson**

"For Approval" Items:

Regular **S-201905.64**
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: Upon Approval of Senate

SENATE COMMITTEE ON SCHOLARSHIPS AND BURSARIES

Faculty Senator — CSAM (03/31/2021)	Roger Wheate
Graduate Student (08/31/2020)	Courtney Lawrence

SCAAF SUBCOMMITTEE ON ACADEMIC SCHEDULING

Faculty Senator (appointed by Senate) (03/31/2022)	Peter Jackson

SENATE COMMITTEE ON ACADEMIC APPEALS
Faculty Member – Professional Programs (03/31/2022) Catharine Schiller

"For Information" Items:

SCAAF SUBCOMMITTEE ON ACADEMIC SCHEDULING
CSAM Faculty Rep (appointed by Dean of CSAM) (03/31/2022) Mark Shrimpton
Professional Program Faculty Rep (appointed by the Provost) (03/31/2020)
Vacant
CASHS Faculty Rep (appointed by Dean of CASHS) (03/31/2020)
Vacant

SENATE COMMITTEE ON ACADEMIC APPEALS
Lay Senator (03/31/2021) Vacant

SENATE COMMITTEE ON ADMISSIONS AND DEGREES
Faculty Member — CASHS (03/31/2021) Vacant
Faculty Member – Professional Programs (03/31/2022) Ngoc Huynh (approved May 15, 2019)
Faculty Member (03/31/2022) Vacant

SENATE COMMITTEE ON ACADEMIC AFFAIRS
Faculty Senator (03/31/2021) Vacant
Faculty Member – Professional Programs (03/31/2021) Vacant
Regional Senator (03/31/2021) Vacant

SENATE COMMITTEE ON FIRST NATIONS AND ABORIGINAL PEOPLES
Aboriginal Regional Senator or Aboriginal Lay Senator (03/31/2020) Vacant

SENATE COMMITTEE ON SCHOLARSHIPS AND BURSARIES
Faculty Senator — CASHS (03/31/2021) Vacant
Faculty Senator — CSAM (03/31/2020) Vacant

SENATE COMMITTEE ON STUDENT DISCIPLINE APPEALS
First Nations Student (08/31/2020) Vacant
Administrative Staff Member (03/31/2022) Vacant

SENATE COMMITTEE ON UNIVERSITY BUDGET
Exempt Staff Representative, appointed by the Exempt Group Vacant

11.4 Senate Committee on Academic Appeals **Dr. Hartley**

11.5 Senate Committee on Curriculum and Calendar

11.6 Senate Committee on Admissions and Degrees

"For Approval" Items:

Regular **S-201905.65**
Change(s) to Admission Requirements – Nursing
That, on the recommendation of the Steering Committee of Senate, the changes to the admission requirements and maximum transfer credits under the Admission Requirements: Licensed Practical Nurse (LPN) Access, on page 165 of the 2018/2019 PDF undergraduate calendar, be approved as proposed.
Page 267 Effective date: September 2019

Regular **S-201905.66**
Change(s) to Admission Requirements – Engineering
That, on the recommendation of the Steering Committee of Senate, the change(s) to the Admission Requirements by Degree Groups on page 22 of the 2018-2019 Undergraduate Calendar be approved as proposed.
Page 270 Effective date: September 2019

11.7 Senate Committee on First Nations and Aboriginal Peoples **Dr. Ryan**

11.8 Senate Committee on Honourary Degrees and Special Forms of Recognition **Dr. Weeks**

11.9 Senate Committee on Scholarships and Bursaries *(5 minutes)* **Mr. Annear**

"For Information" Items:

SCSB20190327.04 ***(approved)***
2018/2019 Annual SCSB Report & SCSB Annual Report Trends Document
That the 2018/2019 Annual SCSB Report be approved as presented.
Page 274
Effective Date: March 2019

11.10 Senate Committee on University Budget

11.11 Senate Committee on Student Discipline Appeals

12.0 Information

13.0 Other Business

14.0 S-201905.67
Adjournment
That the Senate meeting be adjourned.

Office of the Vice-President, Research & Graduate Programs

MEMORANDUM

TO: University of Northern British Columbia Senate

FROM: Dr. Geoffrey Payne, Vice President Research & Graduate Programs

DATE: May 13th, 2019

RE: Question raised at Senate meeting April 24, 2019 regarding supervisors from approved programs

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This is in response to a question raised by Senator Casperson regarding the frequency with which graduate students are supervised by non-program supervisors. In a subsequent meeting on April 29th I met with Dr. Casperson to review a report on this subject that was generated by Jill Mitchell Nielsen specifically looking at Computer Science graduate students in the MCPMS Program.

That Report outlined that since May 2016 25 students were admitted to the MCPMS Program under the supervision of Computer Science faculty. Post-admission, 4 of those students were required to change supervisors to non-Computer Science faculty. In 3 of these instances, external tenured academics from the field of study were brought on board to provide additional academic support and review. The reasons for those changes were multifactorial but to address Dr. Casperson's question specifically: all of the students were admitted with a Computer Science faculty member as primary supervisor and it was only during their post-admission tenure that a need arose to make a supervisory change. The change of supervisors post-admission were made in accordance with policy in the Admissions and Regulations and General Regulations sections of the Graduate Calendar.

Looking across Programs, changes in supervisors post-admission occur for a variety of reasons and a change to a supervisor from outside of the program is rare across all of our graduate programs. All steps are taken to ensure student success and the integrity of degrees being conferred when a change of supervisor has to be made following admission.

Sincerely,

Dr. Geoffrey Payne
Vice President Research & Graduate Programs

UNBC UNIVERSITY OF NORTHERN BRITISH COLUMBIA

Motion Number (assigned by Steering Committee of Senate): **S-201905.11**

SENATE COMMITTEE ON ACADEMIC AFFAIRS

PROPOSED REVISION OF CALENDAR ENTRY

Motion: That the changes to the program requirements for the Major in First Nations Studies, on page 122 of the 2018/2019 undergraduate calendar, be approved as proposed.

1. **Effective date: September 1, 2019**

2. **Rationale for the proposed revisions:** The numerical changes to the course credits reflect the correct number of course credits required in the degree program. The deletion of the requirement that students may not take more than 60 credit hours of First Nations Studies without written permission of the Chair allows for greater flexibility in the number of credit hours that students can take in First Nations Studies. The specific reference to HIST 390 as an ancillary course has been removed as this course may not be offered in the future and there is no need to list a specific course in the general description of the requirements for the Major in First Nations Studies.

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

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

Major in First Nations Studies

A major in First Nations Studies requires students to take 48 credit hours of First Nations Studies, at least 21 credit hours of which must be upper-division courses. Those courses from the offerings of other programs with content focused on First Nations are designated as approved ancillary courses for a major in First Nations Studies, and may be included among the 48 credit hours required for a major (for example HIST 390-3 [Aboriginal People in Canada]). Students may not take more than 60 credit hours of First Nations Studies without written permission from the Chair of the Department of First Nations Studies program. After the lower division requirements have been met, all students majoring in First Nations Studies, must take FNST 300-3 (Research Methods in First Nations Studies), and FNST 440-3 (Internship in First Nations Studies) plus eighteen credit hours of 300- or 400- level First Nations Studies courses or approved ancillary courses for the major in First Nations Studies.

This structure permits each student to design a program emphasizing various aspects of First Nations Studies such as contemporary political issues, languages and cultures, etc. The minimum requirement for completion of a Bachelor of Arts with a major in First Nations Studies is 120 credit hours.

Program Requirements
Lower-Division Requirements

100 and 200 Level
FNST 100-3 The Aboriginal Peoples of Canada
FNST 200-3 Perspectives in First Nations Studies

Any one of the following culture or language courses:
FNST 131-3 A First Nations Language: Level 1
FNST 132-3 A First Nations Language: Level 2
FNST 133-3 Dakelh / Carrier Language: Level 1
FNST 134-3 Dakelh / Carrier Language: Level 2
FNST 135-3 Haisla Language (X-a'islak'ala): Level 1
FNST 136-3 Haisla Language (X-a'islak'ala): Level 2
FNST 137-3 Tsimshian Language (Sm'algyax): Level 1
FNST 138-3 Tsimshian Language (Sm'algyax): Level 2
FNST 139-3 Nisga'a Language: Level 1
FNST 140-3 Nisga'a Language: Level 2
FNST 161-3 A First Nations Culture: Level 1
FNST 162-3 A First Nations Culture: Level 2
FNST 163-3 Dakelh / Carrier Culture: Level 1
FNST 164-3 Dakelh / Carrier Culture: Level 2
FNST 167-3 Tsimshian Culture: Level 1
FNST 168-3 Tsimshian Culture: Level 2
FNST 169-3 Nisga'a Culture: Level 1
FNST 170-3 Nisga'a Culture: Level 2
FNST 171-3 Métis Studies: Level 1
FNST 172-3 Métis Studies: Level 2

Upper-Division Requirement

300 Level
FNST 300-3 Research Methods in First Nations Studies

400 Level
FNST 440-3 Internship in First Nations Studies

Eighteen credit hours of 300- or 400-level First Nations Studies courses or approved ancillary courses for the major in First Nations Studies.

Subject Requirement

Twenty-one credit hours of First Nations Studies or approved ancillary courses at any level.

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

Major in First Nations Studies

A major in First Nations Studies requires students to take ~~48~~ 54 credit hours of First Nations Studies, at least ~~21~~ 24 credit hours of which must be upper-division courses. Those courses from the offerings of other programs with content focused on First Nations are designated as approved ancillary courses for a major in First Nations Studies, and may be included among the ~~48~~ 54 credit hours required for a major ~~(for example HIST 390-3 [Aboriginal People in Canada]) . Students may not take more than 60 credit hours of First Nations Studies without written permission from the Chair of the Department of First Nations Studies program~~. After the lower-division requirements have been met, all students majoring in First Nations Studies~~,~~ must take FNST 300-3 (Research Methods in First Nations Studies), and FNST 440-3 (Internship in First Nations Studies) plus ~~eighteen~~ 18 credit hours of 300- or 400- level First Nations Studies courses or approved ancillary courses for the major in First Nations Studies.

This structure permits each student to design a program emphasizing various aspects of First Nations Studies such as contemporary political issues, languages and cultures, etc. The minimum requirement for completion of a Bachelor

of Arts with a major in First Nations Studies is 120 credit hours.

Program Requirements
Lower-Division Requirements

100 and 200 Level
FNST 100-3 The Aboriginal Peoples of Canada
FNST 200-3 Perspectives in First Nations Studies

~~Any~~ One of the following culture or language courses:
FNST 131-3 A First Nations Language: Level 1
FNST 132-3 A First Nations Language: Level 2
FNST 133-3 Dakelh / Carrier Language: Level 1
FNST 134-3 Dakelh / Carrier Language: Level 2
FNST 135-3 Haisla Language (X-a'islak'ala): Level 1
FNST 136-3 Haisla Language (X-a'islak'ala): Level 2
FNST 137-3 Tsimshian Language (Sm'algyax): Level 1
FNST 138-3 Tsimshian Language (Sm'algyax): Level 2
FNST 139-3 Nisga'a Language: Level 1
FNST 140-3 Nisga'a Language: Level 2
FNST 161-3 A First Nations Culture: Level 1
FNST 162-3 A First Nations Culture: Level 2
FNST 163-3 Dakelh / Carrier Culture: Level 1
FNST 164-3 Dakelh / Carrier Culture: Level 2
FNST 167-3 Tsimshian Culture: Level 1
FNST 168-3 Tsimshian Culture: Level 2
FNST 169-3 Nisga'a Culture: Level 1
FNST 170-3 Nisga'a Culture: Level 2
FNST 171-3 Métis Studies: Level 1
FNST 172-3 Métis Studies: Level 2

Upper-Division Requirement

300 Level
FNST 300-3 Research Methods in First Nations Studies

400 Level
FNST 440-3 Internship in First Nations Studies

~~Eighteen~~ 18 credit hours of 300- or 400-level First Nations Studies courses or approved ancillary courses for the major in First Nations Studies.

Subject Requirement

~~Twenty-one~~ 21 additional credit hours of First Nations Studies or approved ancillary courses at any level.

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

Program / Academic / Administrative Unit: First Nations Studies

SCCC Reviewed: March 25, 2019

College: CASHS

College Council Motion Number: CASHSCC.2019.04.18.06

College Council Approval Date: April 18, 2019

Senate Committee on First Nations and Aboriginal Peoples Motion Number:

Senate Committee on First Nations and Aboriginal Peoples Meeting Date:

7. Other Information

Attachment Pages: 0 pages

INFORMATION TO BE COMPLETED AFTER SENATE COMMITTEE ON ACADEMIC AFFAIRS MEETING

Brief Summary of Committee Debate:

Motion No.: SCAAF201905.03

Moved by: L. Roldan-Flores **Seconded by:** L. Haslett

Committee Decision: CARRIED

Approved by SCAAF: May 8, 2019 

Date **Chair's Signature**

For recommendation to ✓, or information of _____ Senate.

UNBC UNIVERSITY OF NORTHERN BRITISH COLUMBIA

Motion Number (assigned by Steering Committee of Senate): **S-201905.12**

SENATE COMMITTEE ON ACADEMIC AFFAIRS

PROPOSED REVISION OF CALENDAR ENTRY

Motion: That the change(s) to the list of 3rd and 4th year program requirements for BHSc Major in Biomedical Sciences on page 142 of the 2018/2019 undergraduate calendar, be approved as proposed.

1. **Effective date:** September 2019

2. **Rationale for the proposed revisions:** Currently, 3rd and 4th year courses are listed together for the Major in Biomedical Studies only. This has created some issues with course conflicts for students in the final year of their degree. PSYC 345 has also changed to PSYC 211 and will no longer be required. This change also includes the addition of a new required course, HHSC 445-3.

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

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

Major in Biomedical Studies
Students pursuing a major in Biomedical Studies are required to complete the following 34 credit hours of courses. It is recommended that students take the courses listed below in the year of study indicated. Students must take an additional 24 elective credit hours of which at least 9 credit hours must be upper-division courses from any discipline for degree completion.

1st year - 34 credit hours
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 120-1 General Chemistry Lab I
CHEM 101-3 General Chemistry II
CHEM 121-1 General Chemistry Lab II
FNST 100-3 The Aboriginal Peoples of Canada
HHSC 101-3 Introduction to Health Science I: Issues and Controversies
HHSC 103-3 Health Care Systems
HHSC 105-3 Functional Anatomy Health Sciences

Two of the following:
ENGL 100-3 Introduction to Literary Structures
ENGL 102-3 Introduction to Poetry
ENGL 103-3 Introduction to Fiction

ENGL 104-3 Introduction to Film
ENGL 170-3 Writing and Communication Skills

2nd year - 32 credit hours
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
HHSC 201-3 Ethics and Law in Health Care
HHSC 311-3 Nutrition
PSYC 101-3 Psychology as a Science
PSYC 102-3 Psychology and Human Problems
STAT 240-3 Basic Statistics
or ECON 205-3 Statistics for Business and the Social Sciences

3rd and 4th years - 32 credit hours
BIOL 311-3 Cell and Molecular Biology
BCMB 306-3 Intermediary Metabolism
FNST 302-3 First Nations Health and Healing
HHSC 305-3 Human Physiology I
HHSC 306-3 Human Physiology II
HHSC 325-1 Human Physiology I Lab
HHSC 326-1 Human Physiology II Lab
HHSC 351-3 Research Design and Methods for Health Sciences
HHSC 401-3 Principles of Epidemiology
HHSC 471-3 Health and Chronic Disease Management
PSYC 309-3 Introduction to Health Psychology
PSYC 345-3 Lifespan Development
or SOCW 421-3 Human Growth and Development

Note: Students intending to apply to professional health degree programs are encouraged to take the following courses as electives: PHYS 110-4, PHYS 111-4, MATH 100-3 and MATH 101-3.

Major in Community and Population Health – Aboriginal and Rural Health
Students pursuing a major in Community and Population Health Aboriginal and Rural Health are required to complete the following 97 credit hours. It is recommended that students take the courses listed below in the year of study indicated:

1st year - 26 credit hours
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
FNST 100-3 The Aboriginal Peoples of Canada
HHSC 101-3 Introduction to Health Science I: Issues and Controversies
HHSC 103-3 Health Care Systems
HHSC 105-3 Functional Anatomy

One of the following:
ENGL 100-3 Introduction to Literary Structures
ENGL 102-3 Introduction to Poetry
ENGL 103-3 Introduction to Fiction
ENGL 104-3 Introduction to Film
ENGL 170-3 Writing and Communication Skills

2nd year - 24 credit hours
BIOL 203-3 Microbiology
ECON 210-3 Introduction to Health Economics and Policy
or GEOG 202-3 Resources, Economies, and Sustainability
HHSC 102-3 Introduction to Health Science II: Rural and Aboriginal Issues
HHSC 201-3 Ethics and Law in Health Care
HHSC 311-3 Nutrition
PSYC 101-3 Psychology as a Science
PSYC 102-3 Psychology and Human Problems
STAT 240-3 Basic Statistics
or ECON 205-3 Statistics for Business and the Social Sciences

3rd year - 23 credit hours
ENPL 313-3 Rural Community Economic Development
FNST 302-3 First Nations Health and Healing
FNST 303-3 First Nations Religion and Philosophy
or FNST 304-3 Indigenous Environmental Philosophy
HHSC 305-3 Human Physiology I
HHSC 306-3 Human Physiology II
HHSC 325-1 Human Physiology I Lab
HHSC 326-1 Human Physiology II Lab
HHSC 351-3 Research Design and Methods for Health Sciences
PSYC 309-3 Introduction to Health Psychology

4th year - 18 credit hours
HHSC 401-3 Principles of Epidemiology
HHSC 421-3 Medical Geography
or ENVS 306-3 Human Ecology
HHSC 471-3 Health and Chronic Disease Management
HHSC 473-3 Health Promotion
PSYC 345-3 Lifespan Development
or SOCW 421-3 Human Growth and Development
SOCW 444-3 Social Work Critical Issues in Aging

Students must take an additional 6 credit hours from the following list, of which at least 3 credit hours must be upper-division courses. Students must ensure that all prerequisites are fulfilled prior to registering in any course.

ANTH 201-3 Medical Anthropology
ANTH 206-3 Ethnography in Northern British Columbia
ECON 410-3 Health Economics
FNST 249-3 Aboriginal Resource Planning
FNST 305-3 Seminar in First Nations Studies

SOCW 440-3 Social Work and Mental Health
SOCW 441-3 Social Work and Substance Abuse
SOCW 443-3 Medical Social Work
POLS 403-3 Social and Health Policy and Administration

Major in Community and Population Health – Environmental Health

Students pursuing a major in Community and Population Health - Environmental Health are required to complete the following 97 credit hours. It is recommended that students take the courses listed below in the year of study indicated:

1st year - 26 credit hours
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
FNST 100-3 The Aboriginal Peoples of Canada
HHSC 101-3 Introduction to Health Science I: Issues and Controversies
HHSC 103-3 Health Care Systems
HHSC 105-3 Functional Anatomy

One of the following:
ENGL 100-3 Introduction to Literary Structures
ENGL 102-3 Introduction to Poetry
ENGL 103-3 Introduction to Fiction
ENGL 104-3 Introduction to Film
ENGL 170-3 Writing and Communication Skills

2nd year - 27 credit hours
BIOL 203-3 Microbiology
ECON 210-3 Introduction to Health Economics and Policy
or GEOG 202-3 Resources, Economies, and Sustainability
ENPL 205-3 Environment and Society
HHSC 102-3 Introduction to Health Science II: Rural and Aboriginal Issues
HHSC 201-3 Ethics and Law in Health Care
HHSC 311-3 Nutrition
PSYC 101-3 Psychology as a Science
PSYC 102-3 Psychology and Human Problems
STAT 240-3 Basic Statistics
or ECON 205-3 Statistics for Business and the Social Sciences

3rd year - 20 credit hours
ENSC 308-3 Northern Contaminated Environments
FNST 302-3 First Nations Health and Healing
HHSC 305-3 Human Physiology I
HHSC 306-3 Human Physiology II
HHSC 325-1 Human Physiology I Lab
HHSC 326-1 Human Physiology II Lab

HHSC 351-3 Research Design and Methods for Health Sciences
PSYC 309-3 Introduction to Health Psychology

4th year - 18 credit hours
HHSC 401-3 Principles of Epidemiology
HHSC 421-3 Medical Geography
or ENVS 306-3 Human Ecology
HHSC 471-3 Health and Chronic Disease Management
HHSC 473-3 Health Promotion
PSYC 345-3 Lifespan Development
or SOCW 421-3 Human Growth and Development
SOCW 444-3 Social Work Critical Issues in Aging

Students must take an additional 6 credit hours from the following list. Students must ensure that all prerequisites are fulfilled prior to registering in any course.
ECON 410-3 Health Economics
ENPL 208-3 First Nations Community and Environmental Planning
ENPL 304-3 Mediation, Negotiation and Public Participation
HIST 360-3 An Introduction to Environmental History
INTS 470-3 G Global Environmental Governance
NREM 306-3 Society, Policy and Administration
or POLS 344-3 Society, Policy and Administration of Natural Resources
POLS 403-3 Social and Health Policy and Administration

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

Major in Biomedical Studies
Students pursuing a major in Biomedical Studies are required to complete the following 34 credit hours of courses. It is recommended that students take the following courses ~~listed below~~ in the year of study indicated. Students must take an additional 24 elective credit hours of which at least 9 credit hours must be upper-division courses from any discipline for degree completion.

1st year - 34 credit hours
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 120-1 General Chemistry Lab I
CHEM 101-3 General Chemistry II
CHEM 121-1 General Chemistry Lab II
FNST 100-3 The Aboriginal Peoples of Canada
HHSC 101-3 Introduction to Health Science I: Issues and Controversies
HHSC 103-3 Health Care Systems
HHSC 105-3 Functional Anatomy Health Sciences

Two of the following:
ENGL 100-3 Introduction to Literary Structures
ENGL 102-3 Introduction to Poetry
ENGL 103-3 Introduction to Fiction
ENGL 104-3 Introduction to Film

ENGL 170-3 Writing and Communication Skills

2nd year - 32 credit hours
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
HHSC 201-3 Ethics and Law in Health Care
HHSC 311-3 Nutrition
PSYC 101-3 ~~Psychology as a Science~~ Introduction to Psychology I
PSYC 102-3 ~~Psychology and Human Problems~~ Introduction to Psychology II
STAT 240-3 Basic Statistics
or ECON 205-3 Statistics for Business and the Social Sciences

3rd ~~and 4th~~ year~~s~~ - ~~32~~ 23 credit hours
BIOL 311-3 Cell and Molecular Biology
BCMB 306-3 Intermediary Metabolism
FNST 302-3 First Nations Health and Healing
HHSC 305-3 Human Physiology I
HHSC 306-3 Human Physiology II
HHSC 325-1 Human Physiology I Lab
HHSC 326-1 Human Physiology II Lab
HHSC 351-3 Research Design and Methods for Health Sciences
PSYC 309-3 Introduction to Health Psychology

4th year – 9 credit hours
HHSC 401-3 Principles of Epidemiology
HHSC 471-3 Health and Chronic Disease Management
~~PSYC 345-3 Lifespan Development or SOCW 421-3 Human Growth and Development~~
HHSC 445-3 Human Health and Development

Major in Community and Population Health – Aboriginal and Rural Health
Students pursuing a major in Community and Population Health Aboriginal and Rural Health are required to complete the following 97 credit hours. It is recommended that students take the courses listed below in the year of study indicated:

1st year - 26 credit hours
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
FNST 100-3 The Aboriginal Peoples of Canada
HHSC 101-3 Introduction to Health Science I: Issues and Controversies
HHSC 103-3 Health Care Systems
HHSC 105-3 Functional Anatomy

One of the following:

ENGL 100-3 Introduction to Literary Structures
ENGL 102-3 Introduction to Poetry
ENGL 103-3 Introduction to Fiction
ENGL 104-3 Introduction to Film
ENGL 170-3 Writing and Communication Skills

2nd year - 24 credit hours
BIOL 203-3 Microbiology
ECON 210-3 Introduction to Health Economics and Policy
or GEOG 202-3 Resources, Economies, and Sustainability
HHSC 102-3 Introduction to Health Science II: Rural and Aboriginal Issues
HHSC 201-3 Ethics and Law in Health Care
HHSC 311-3 Nutrition
PSYC 101-3 ~~Psychology as a Science~~ Introduction to Psychology I
PSYC 102-3 ~~Psychology and Human Problems~~ Introduction to Psychology II
STAT 240-3 Basic Statistics
or ECON 205-3 Statistics for Business and the Social Sciences

3rd year - 23 credit hours
ENPL 313-3 Rural Community Economic Development
FNST 302-3 First Nations Health and Healing
FNST 303-3 First Nations Religion and Philosophy
or FNST 304-3 Indigenous Environmental Philosophy
HHSC 305-3 Human Physiology I
HHSC 306-3 Human Physiology II
HHSC 325-1 Human Physiology I Lab
HHSC 326-1 Human Physiology II Lab
HHSC 351-3 Research Design and Methods for Health Sciences
PSYC 309-3 Introduction to Health Psychology

4th year - 18 credit hours
HHSC 401-3 Principles of Epidemiology
HHSC 421-3 Medical Geography
or ENVS 306-3 Human Ecology
HHSC 471-3 Health and Chronic Disease Management
HHSC 473-3 Health Promotion
~~PSYC 345-3 Lifespan Development~~
~~or SOCW 421-3 Human Growth and Development~~
HHSC 445-3 Human Health and Development
SOCW 444-3 Social Work Critical Issues in Aging

Students must take an additional 6 credit hours from the following list, of which at least 3 credit hours must be upper-division courses. Students must ensure that all prerequisites are fulfilled prior to registering in any course.

ANTH 201-3 Medical Anthropology
ANTH 206-3 Ethnography in Northern British Columbia
ECON 410-3 Health Economics
FNST 249-3 Aboriginal Resource Planning
FNST 305-3 Seminar in First Nations Studies
SOCW 440-3 Social Work and Mental Health

SOCW 441-3 Social Work and Substance Abuse
SOCW 443-3 Medical Social Work
POLS 403-3 Social and Health Policy and Administration

Major in Community and Population Health – Environmental Health

Students pursuing a major in Community and Population Health - Environmental Health are required to complete the following 97 credit hours. It is recommended that students take the courses listed below in the year of study indicated:

1st year - 26 credit hours
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
FNST 100-3 The Aboriginal Peoples of Canada
HHSC 101-3 Introduction to Health Science I: Issues and Controversies
HHSC 103-3 Health Care Systems
HHSC 105-3 Functional Anatomy

One of the following:
ENGL 100-3 Introduction to Literary Structures
ENGL 102-3 Introduction to Poetry
ENGL 103-3 Introduction to Fiction
ENGL 104-3 Introduction to Film
ENGL 170-3 Writing and Communication Skills

2nd year - 27 credit hours
BIOL 203-3 Microbiology
ECON 210-3 Introduction to Health Economics and Policy
or GEOG 202-3 Resources, Economies, and Sustainability
ENPL 205-3 Environment and Society
HHSC 102-3 Introduction to Health Science II: Rural and Aboriginal Issues
HHSC 201-3 Ethics and Law in Health Care
HHSC 311-3 Nutrition
PSYC 101-3 ~~Psychology as a Science~~ Introduction to Psychology I
PSYC 102-3 ~~Psychology and Human Problems~~ Introduction to Psychology II
STAT 240-3 Basic Statistics
or ECON 205-3 Statistics for Business and the Social Sciences

3rd year - 20 credit hours
ENSC 308-3 Northern Contaminated Environments
FNST 302-3 First Nations Health and Healing
HHSC 305-3 Human Physiology I
HHSC 306-3 Human Physiology II
HHSC 325-1 Human Physiology I Lab
HHSC 326-1 Human Physiology II Lab
HHSC 351-3 Research Design and Methods for Health Sciences
PSYC 309-3 Introduction to Health Psychology

4th year - 18 credit hours
HHSC 401-3 Principles of Epidemiology
HHSC 421-3 Medical Geography
or ENVS 306-3 Human Ecology
HHSC 471-3 Health and Chronic Disease Management
HHSC 473-3 Health Promotion
~~PSYC 345-3 Lifespan Development~~
~~or SOCW 421-3 Human Growth and Development~~
HHSC 445-3 Human Health and Development
SOCW 444-3 Social Work Critical Issues in Aging

Students must take an additional 6 credit hours from the following list. Students must ensure that all prerequisites are fulfilled prior to registering in any course.
ECON 410-3 Health Economics
ENPL 208-3 First Nations Community and Environmental Planning
ENPL 304-3 Mediation, Negotiation and Public Participation
HIST 360-3 An Introduction to Environmental History
INTS 470-3 G Global Environmental Governance
NREM 306-3 Society, Policy and Administration
or POLS 344-3 Society, Policy and Administration of Natural Resources
POLS 403-3 Social and Health Policy and Administration

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

   Program / Academic / Administrative Unit: Health Sciences

   SCCC Reviewed: March 25, 2019

1. **College(s):** Arts, Social and Health Sciences

2. **College Council Motion Number(s):** Omnibus Motion: CASHSCC.2019.04.19.05

3. **College Council Approval Date(s):** April 18, 2019

   Senate Committee on First Nations and Aboriginal Peoples Motion Number: (if applicable, or state "not applicable")

   Senate Committee on First Nations and Aboriginal Peoples Meeting Date: (if applicable, or state "not applicable")

7. **Other Information**

   Attachment Pages: **#** pages (fill in number of pages, or indicate "0" if there are no attachments)

THE MOTION FORM IS NOW COMPLETE — PLEASE DISREGARD THE BLOCK BELOW

INFORMATION TO BE COMPLETED AFTER SENATE COMMITTEE ON ACADEMIC AFFAIRS MEETING

Brief Summary of Committee Debate:

Motion No.: SCAAF201905.04

Moved by: L. Haslett **Seconded by:** E. Jensen

Committee Decision: CARRIED

Approved by SCAAF: May 8, 2019 _____
Date **Chair's Signature**

For recommendation to ✓, or information of _____ Senate.

UNBC UNIVERSITY OF NORTHERN BRITISH COLUMBIA

Motion Number (assigned by Steering Committee of Senate): **S-201905.13**

SENATE COMMITTEE ON ACADEMIC AFFAIRS

NEW COURSE APPROVAL MOTION FORM

Motion: That the new course HHSC 445-3 Health and Human Development be approved as follows:

A. Description of the Course This seminar course provides students with an opportunity for in-depth discussions of health-related human growth and development, maturation, and ageing. Particular emphasis is placed on developmental biology, physiology, psychology, and gerontology, as well as typical Western psychosocial and cultural perspectives.

1. Proposed semester of first offering: January 2020

2. Academic Program: BHSc Biomedical Studies, BHSc Community and Population health – Aboriginal and Rural Health, BHSc Community and Population Health – Environmental Health

3. Course Subject, Number*, and Credit hours (e.g. CHEM 210-3): HHSC 445-3

4. Course Title: Health and Human Development

5. Goal(s) of Course:
- Discuss human-related growth and development from conception to death
- Examine different aspects of the life span through a biological, physiological and psychological lens
- Compare and contrast major theories and research findings in the field of life span development

6. Calendar Course Description: This seminar course provides students with an opportunity for in-depth discussions of health-related human growth and development, maturation, and ageing. Particular emphasis is placed on developmental biology, physiology, psychology, and gerontology, as well as typical Western psychosocial and cultural perspectives.

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:

i) **"3-6"**: in this example, the course may be offered for 3, 4, 5, OR 6 credit hours during a single offering. In this example, the course number would be expressed as CHEM 210-(3-6).

ii) **"3,6"**: in this example, the course may be offered for EITHER 3 or 6 credit hours during a single offering. In this example, the course number would be expressed as CHEM 210-(3,6).

8. **Contact Hours (per week):**

Lecture	_____	Seminar	3
Laboratory	_____	Other (please specify)	_____

9. **Prerequisites (taken prior):** HHSC 101-3 and HHSC 105-3, PSYC 101-3, PSYC 102-3

10. **Prerequisites with concurrency (taken prior or simultaneously):** none

11. **Co-requisites (must be taken simultaneously):** none

12. **Preclusions:** PSYC 345, PSYC 211, SOC 421

13. **Course Equivalencies:** none

14. **Grade Mode:** NORMAL (i.e., alpha grade)

15. **Course to be offered:** each semester _____
each year X
alternating years _____

16. **Proposed text / readings:** none

B. Significance Within Academic Program

This course fills a gap in the current offerings from the School of Health Sciences. Although there is some discussion of health sciences-specific issues related to development and ageing in HHSC 305 and 306 (Human Physiology I and II), there is not time in these courses to tackle these topics in sufficient depth. As an upper-level course, it allows students to integrate their knowledge and experiences in a number of disciplines sub-disciplines that they have studied throughout their degree.

1. **Anticipated enrolment** 40

2. **If there is a proposed enrolment limit, state the limit and explain:** none

3. **Required for:** Major: BHSc Minor: none Other: none

4. **Elective in:** Major: none Minor: none Other: none

5. **Course required by another major/minor:** none

6. **Course required or recommended by an accrediting agency:** none

7. **Toward what degrees will the course be accepted for credit?** BHSc

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

1. **Identify courses in other UNBC Programs that overlap with this course; describe the overlap and comment on its significance:** PSYC 211 (previously PSYC 345) Lifespan Development and SOCW 421. The PSYC course focused on lifespan development from a psychological perspective. Our students were previously required to take PSYC 345, but has since been changed to a lower-level course. The SOCW course focuses on health and development from a social perspective. Thus, we require this new course to fulfill upper-level course requirements for our students and increase the focus on understanding human development from a health perspective, integrating knowledge from a variety of courses in the health sciences degree, such as human physiology.

2. **Is a preclusion required?** Yes __X__ No _____

3. **If there is an overlap, and no preclusion is required, please explain why not:** N/A

4. **Has this overlap been discussed with the Program concerned?** Yes __X__ No _____

5. **In offering this course, will UNBC require facilities or staff at other institutions?**

   Yes _____ No __X__

   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 __X__

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

D. Resources required

1. **Please describe ADDITIONAL resources required over the next five years to offer this course.**

   i. **College Staffing:** none

   ii. **Space (classroom, laboratory, storage, etc.):** none

   iii: **Library Holdings:** See attached form

   iv. **Computer (time, hardware, software):** none

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:** The Psychology program and changes their course offerings and will no longer be offering PSYC 345-3 Lifespan Development, which was a required course for all streams of our Bachelor of Health Sciences Degree. This new course (HHSC 445) will be a required course for our degree and will include information on human development from physiological, social, and psychological perspectives.

3. **Attachment Pages (in addition to required "Library Holdings" Form):** ___0___ pages

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

SCCC Reviewed: March 25, 2019

1. **College(s):** Arts, Social and Health Sciences

2. **College Council Motion Number(s):** Omnibus Motion: CASHSCC.2019.04.19.05

3. **College Council Approval Date(s):** April 18, 2019

4. **Senate Committee on First Nations and Aboriginal Peoples Motion Number:**

5. **Senate Committee on First Nations and Aboriginal Peoples Meeting Date:**

PLEASE COMPLETE THE "NEW COURSE APPROVAL MOTION FORM CHECKLIST" AND THE "LIBRARY HOLDINGS" FORM ACCESSIBLE ON THE SENATE WEB PAGE AND THE MOTION FORM IS NOW READY FOR SUBMISSION — *PLEASE DISREGARD THE BLOCK BELOW*

INFORMATION TO BE COMPLETED AFTER SENATE COMMITTEE ON ACADEMIC AFFAIRS MEETING

Brief Summary of Committee Debate:

Motion No.: SCAAF201905.05

Moved by: L. Haslett **Seconded by:** S. Wagner

Committee Decision: CARRIED

Approved by SCAAF: May 8, 2019 _____
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: HHSC 445-3 Health and Human Development

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?

Trina Fyfe

University Librarian (or designate) signature
Trina Fyfe, Health Sciences Librarian

April 24, 2019
Date

MEMORANDUM
COLLEGE OF ARTS, SOCIAL AND HEALTH SCIENCES
Department of HISTORY

TO: Shannon Wagner, Dean of CASHS
FROM: Ted Binnema, Chair, Department of History
DATE: May 17, 2019
RE: Executive Summary – Senate Motions

"Back to the Future": An Executive Summary of Changes to the History Program Related to the Reinstatement of HIST 200

Between 1994 and 2005, the History Department had a required course called HIST 200, which was an introduction to the methods used in History. The History Department deleted HIST 200 at the end of the 2005-06 academic year in response to a recommendation of an external review. A subsequent external review recommended restoring HIST 200. The members of the History Department are now convinced that, in the present digital age, an introductory course in historical methodology is more important than ever. We also believe that our majors should have completed HIST 200 before they take any HIST 4XX course.

The suite of 23 motions that follows this executive summary fall into three categories:

1) the motion to reinstate HIST 200.
   Having been assured by the Registrar that it will be possible to retain/restore the course old course number (200), the History Department proposes doing so, rather than giving this course a new number. Our various methods/historiography courses were/are conveniently numbered, 200, 300, 500 and 700. The reinstated course will have exactly the same purpose as HIST 200 did between 1994 and 2006. Furthermore, any students who have taken HIST 200 at UNBC should be excused (and precluded) from taking it again. It would be required for majors, just as the old 200 was.
2) motions making changes to the courses required for the History Major, History Minor, and the various joint majors.
3) motions that add HIST 200 to the prerequisites for all HIST 4XX and HIST 5XX courses.

An Executive Summary of Changes to HIST 240 and HIST 241.

Two motions are intended to update the course descriptions of companion courses, HIST 240 and HIST 241. The present course descriptions betray the Eurocentric orientation that used to

predominate in the field. Today, reflecting the way such courses are taught at other institutions, UNBC faculty take a more global perspective to these topics, so the calendar description no longer accurately describes the way the courses actually are (and, we believe, ought to be) taught. The discrepancy between the calendar description and the way the courses are actually taught has caused some confusion with students. The calendar descriptions proposed here reflect the way these courses are already taught at UNBC, and elsewhere.

UNBC UNIVERSITY OF NORTHERN BRITISH COLUMBIA

Motion Number (assigned by Steering Committee of Senate): **S-201905.14**

SENATE COMMITTEE ON ACADEMIC AFFAIRS

PROPOSED REVISION OF CALENDAR ENTRY

Motion: That the changes to the course title and description for HIST 240-3 on page 248 in the print of the 2018/19 undergraduate calendar, be approved as proposed.

1. **Effective date:** September 2019

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

Changes to the course descriptions in HIST 240 and HIST 241 are made to reflect changes in the historiography generally, and the changes in personnel in the History Department. The courses, as now taught, are less Eurocentric in their periodization and in their themes than when they were first introduced.

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

None

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

HIST 240 – The Expansion of Europe
This course examines the expansion of Europe from the Renaissance to the French Revolution. The creation of European empires and settlements in the western hemisphere are highlighted.
Prerequisites: None

5. **Proposed revision:**

HIST 240 – ~~The Expansion of Europe~~ The Global Age of Expansion
This course~~course examines the expansion of Europe from the Renaissance to the French Revolution. The creation of European empires and settlements in the western hemisphere are highlighted.~~
studies the expansion and transformation of states, empires, knowledge, religions, economies, and technology before and during the first wave of globalization. Topics to be considered include: intercultural contact, colonization, and conflict; the unprecedented global mobility of human beings and other organisms (and its implications); the creation of maritime and land empires such as the Aztec, Ottoman, Spanish, Portuguese, Mughal, and Qing; the rise of global economies and trade; religious expansion and global missions; and the transformation of knowledge and development of science.

Prerequisites: None

6. **Authorization:**

Program / Academic / Administrative Unit: History

College: CASHS

SCCC Reviewed: February 25, 2019

College Council Motion Number: Omnibus Motion: CASHSCC.2019.04.18.03

College Council Approval Date: April 18, 2019

Senate Committee on First Nations and Aboriginal Peoples Motion Number:

Senate Committee on First Nations and Aboriginal Peoples Meeting Date:

7. Other Information

Attachment Pages: **#** pages

INFORMATION TO BE COMPLETED AFTER SENATE COMMITTEE ON ACADEMIC AFFAIRS MEETING

Brief Summary of Committee Debate:

Motion No.: Omnibus SCAAF201905.06

Moved by: L. Haslett **Seconded by:** S. Wagner

Committee Decision: CARRIED

Approved by SCAAF: May 8, 2019 _____
Date **Chair's Signature**

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

UNBC UNIVERSITY OF NORTHERN BRITISH COLUMBIA

Motion Number (assigned by Steering Committee of Senate): **S-201905.15**

SENATE COMMITTEE ON ACADEMIC AFFAIRS

PROPOSED REVISION OF CALENDAR ENTRY

Motion: That the changes to the course title and description for HIST 241-3 on page 248 in the print of the 2018/19 undergraduate calendar, be approved as proposed.

1. **Effective date:** September 2019

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

Changes to the course descriptions in HIST 240 and HIST 241 are made to reflect changes in the historiography generally, and the changes in personnel in the History Department. The courses, as now taught, are less Eurocentric in their periodization and in their themes than when they were first introduced.

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

None

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

HIST 241-3 The Age of Empire: Europe and the World, 1789- 1914 This survey course examines relations among Europe and Asia, Africa and the Americas from the French Revolution to the First World War.

Prerequisites: None

5. **Proposed revision:**

HIST 241-3 The Age of Empire~~: Europe and the World, 1789- 1914 This survey course examines relations among Europe and Asia, Africa and the Americas from the French Revolution to the First World War.~~

This **course surveys the rise and decline of global and continental empires in the nineteenth and twentieth centuries. It surveys topics such as colonialism, industrialization, commodities, war, science, race, and sexuality. Focusing on cases such as the British, French, Japanese, German, American, Russian, or Ottoman Empires, it explores how peoples in imperial centres sought to create and maintain their supremacy in a hierarchal world order and the various strategies used by people around the world to resist and modify those ambitions.**

Prerequisites: None

6. **Authorization:**

Program / Academic / Administrative Unit: History

College: CASHS

SCCC Reviewed: February 25, 2019

College Council Motion Number: Omnibus Motion: CASHSCC.2019.04.18.03

College Council Approval Date: April 18, 2019

Senate Committee on First Nations and Aboriginal Peoples Motion Number:

Senate Committee on First Nations and Aboriginal Peoples Meeting Date:

7. Other Information

Attachment Pages: **#** pages

INFORMATION TO BE COMPLETED AFTER SENATE COMMITTEE ON ACADEMIC AFFAIRS MEETING

Brief Summary of Committee Debate:

Motion No.: Omnibus SCAAF201905.07

Moved by: L. Haslett **Seconded by:** S. Wagner

Committee Decision: CARRIED

Approved by SCAAF: May 8, 2019 

Date **Chair's Signature**

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

UNBC UNIVERSITY OF NORTHERN BRITISH COLUMBIA

Motion Number (assigned by Steering Committee of Senate): **S-201905.16**

SENATE COMMITTEE ON ACADEMIC AFFAIRS

PROPOSED REVISION OF CALENDAR ENTRY

Motion: That the changes to the course prerequisites for HIST 407-3 on page 250 in the print of the 2018/19 undergraduate calendar, be approved as proposed.

1. **Effective date:** September 2020

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

The intention of reinstating HIST 200 is to ensure that students be taught the fundamental skills of historians. It is also the intention that those who teach and enroll in our fourth-year courses can take as a point of departure, an assumption that all students taking those courses have already been taught those skills. It is in this way that the reintroduction of HIST 200 can improve the quality of our instruction throughout the History degree.

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

None

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

HIST 407-3 Topics in Local History/Methodology This course examines the craft of history by focusing on the history of localities in northern British Columbia. Students are expected to conduct their own research using primary sources. With the permission of the Chair, this course may be repeated to a maximum of 6 credit hours if the material is substantially different.

Prerequisites: HIST 300-3 or permission of the instructor

5. **Proposed revision:**

HIST 407-3 Topics in Local History/Methodology This course examines the craft of history by focusing on the history of localities in northern British Columbia. Students are expected to conduct their own research using primary sources. With the permission of the Chair, this course may be repeated to a maximum of 6 credit hours if the material is substantially different.

Prerequisites: **HIST 200-3 and** HIST 300-3, or permission of the instructor

6. **Authorization:**

Program / Academic / Administrative Unit: History

College: CASHS

SCCC Reviewed: February 25, 2019

College Council Motion Number: OMNIBUS MOTION: CASHSCC.2019.04.18.03

College Council Approval Date: April 18, 2019

Senate Committee on First Nations and Aboriginal Peoples Motion Number:

Senate Committee on First Nations and Aboriginal Peoples Meeting Date:

7. Other Information

Attachment Pages: **#** pages

INFORMATION TO BE COMPLETED AFTER SENATE COMMITTEE ON ACADEMIC AFFAIRS MEETING

Brief Summary of Committee Debate:

Motion No.: Omnibus SCAAF201905.08

Moved by: L. Haslett **Seconded by:** S. Wagner

Committee Decision: CARRIED

Approved by SCAAF: May 8, 2019 _____
Date **Chair's Signature**

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

UNIVERSITY OF NORTHERN BRITISH COLUMBIA

Motion Number (assigned by Steering Committee of Senate): S-201905.17

SENATE COMMITTEE ON ACADEMIC AFFAIRS

PROPOSED REVISION OF CALENDAR ENTRY

Motion: That the changes to the course prerequisites for HIST 421-3 on page 251 in the print of the 2018/19 undergraduate calendar, be approved as proposed.

1. **Effective date:** September 2020

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

The intention of reinstating HIST 200 is to ensure that students be taught the fundamental skills of historians. It is also the intention that those who teach and enroll in our fourth-year courses can take as a point of departure, an assumption that all students taking those courses have already been taught those skills. It is in this way that the reintroduction of HIST 200 can improve the quality of our instruction throughout the History degree.

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

None

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

HIST 421-3 Topics in Environmental History This course explores aspects of environmental history in a variety of geographic settings in various historical periods. The precise content of the course varies from year to year depending on the expertise of the instructor. With the permission of the Chair, this course may be repeated to a maximum of 6 credit hours if the material is substantially different.

Prerequisites: HIST 300-3 or permission of the instructor

5. **Proposed revision:**

HIST 421-3 Topics in Environmental History This course explores aspects of environmental history in a variety of geographic settings in various historical periods. The precise content of the course varies from year to year depending on the expertise of the instructor. With the permission of the Chair, this course may be repeated to a maximum of 6 credit hours if the material is substantially different.

Prerequisites: **HIST 200-3 and** HIST 300-3, or permission of the instructor

6. **Authorization:**

Program / Academic / Administrative Unit: History

College: CASHS

SCCC Reviewed: February 25, 2019

College Council Motion Number: Omnibus Motion: CASHSCC.2019.04.18.03

College Council Approval Date: April 18, 2019

Senate Committee on First Nations and Aboriginal Peoples Motion Number:

Senate Committee on First Nations and Aboriginal Peoples Meeting Date:

7. Other Information

Attachment Pages: **#** pages

INFORMATION TO BE COMPLETED AFTER SENATE COMMITTEE ON ACADEMIC AFFAIRS MEETING

Brief Summary of Committee Debate:

Motion No.: Omnibus SCAAF201905.09

Moved by: L. Haslett **Seconded by:** S. Wagner

Committee Decision: CARRIED

Approved by SCAAF: May 8, 2019 _____
Date **Chair's Signature**

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

Executive Summary - ENGINEERING (BASc Program)

Senate and the Board of Governors approved the UNBC Civil Engineering and Environmental Engineering new program proposal in 2016. The proposal included course descriptions for existing courses and required new courses. New course motion forms were not completed at that time.

The Civil and Environmental Engineering Curriculum Committees were populated in November 2018, and the committees began discussing the curriculum in the original proposal. They first worked through the Year 1 program requirements, which were approved by Senate on March 27, 2019. The motions included in this package relate to the Year 2, 3, and 4 program requirements, new courses, technical electives, changes to the Admissions Requirements by Degree Groups section of the calendar, and moving the UNBC/UBC Joint Environmental Engineering program from Environmental Science to the new Engineering (BASc Program) section of the calendar.

The curriculum committees propose that the BASc in Civil Engineering and the BASc in Environmental Engineering be offered in an 8-semester program. The goal is to add Cooperative Education terms in the future. This recommendation aligns with other BASc in Civil Engineering and Environmental Engineering degree programs offered in Canada while meeting accreditation requirements. Accreditation requirements include a large mandated amount of student contact hours that basically require six courses per semester for eight semesters. Most of these courses need to be engineering courses. In addition to contact hours, accreditation also requires engineering specific learning outcomes that in turn require significant lab, software and design project experience. Changes to the Civil and Environmental Engineering degree programs were also informed by the National Academies of Science and Engineering and Medicine recommendations found in the report: Environmental Engineering for the 21st Century Addressing Grand Challenges (2019).

Proposed changes to the Civil Engineering degree program in year 2 include: the replacement of Cartography with an Engineering specific Surveying course; the addition of Engineering Communication and Engineering Tools III (to meet accreditation requirements); the swapping of Structural Design courses (which were not adequate to be offered in year 2) with Fluid Mechanics and Thermodynamics (which are adequate for year 2 but were placed into year 3); and changes to the mechanics and materials course titles in year 2. Year 3 changes include: the before-mentioned swopping of design courses; the move of electives into year 4; the change from Cold Climate Engineering and Urban and Regional Planning from mandatory to elective courses; the deletion of Materials II and Fluid Mechanics II; the addition of Structural Analysis II; and changes to course titles. Year 4 changes include: the before-mentioned addition of a Science Elective; and the change from Foundation Design from a mandatory to an elective course.

Changes to the Environmental Engineering degree program involved strengthening the environmental science component as much as possible within the constraints of accreditation requirements (weather and climate, a choice of introduction to soil science or introduction to earth science, measurement lab, and science electives), and introducing a systems perspective informed from a chemical engineering design approach (environmental engineering processes and energy systems), while still covering the traditional environmental engineering topics. The resulting curriculum is unique compared to other environmental engineering programs in Canada, and graduates should have an appreciation for the science behind their designs and be able to apply a systems approach to meet a wide variety of future challenges. The curriculum is also designed around 12 student-learning outcomes designed to meet accreditation standards (design courses in each year, second communication course in year 2, business and project management course, significant use of software tools, and lab components added to fluid mechanics and groundwater hydrology).

The Engineering faculty numbers and other supporting faculty numbers will grow to meet the needs of the degree programs over the next four years. The Ministry of Advanced Education, Skills and Training has provided some one-time funding to support the development and implementation of the new programs and will provide on-going funding to support the programs. For the 2019-20 Academic Year, existing UNBC faculty will teach the related courses.

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UNBC UNIVERSITY OF NORTHERN BRITISH COLUMBIA

Motion Number (assigned by Steering Committee of Senate): **S-201905.18**

SENATE COMMITTEE ON ACADEMIC AFFAIRS

PROPOSED REVISION OF CALENDAR ENTRY

Motion: That the changes to the program description and program requirements for the BASc Engineering degree program, including Civil Engineering and Environmental Engineering (pages 2 – 10 of the New Academic Program Proposal for Civil and Environmental Engineering Degree approved by Senate April 27, 2016) and the Joint UNBC/UBC Environmental Engineering (pages 104 – 106 of the PDF undergraduate calendar), be approved as proposed.

1. **Effective date:** September 2019

2. **Rationale for the proposed revisions:** Based on the discussions of the Civil Engineering Curriculum, the Environmental Engineering Curriculum and the Joint Environmental and Civil Engineering Curriculum committees, the BASc in Civil Engineering and the BASc in Environmental Engineering are proposed to be offered in a 8 semester program, with the plan to add Co-operative Education terms in the future. This aligns the programs with other BASc in Civil Engineering while meeting accreditation requirements. Year 2 changes include the replacement of Cartography with an Engineering specific Surveying course, the addition of Engineering Communication and Engineering Tools III (to meet accreditation requirements), the swapping of Structural Design courses (which were not adequate to be offered in year 2) with Fluid Mechanics and Thermodynamics (which are adequate for year 2 but were placed into year 3) and changes to the mechanics and materials course titles. Year 3 changes include the before-mentioned swapping of design courses, the move of electives into year 4, the change from Cold Climate Engineering and Urban and Regional Planning from mandatory to elective courses, the deletion of Materials II and Fluid Mechanics II, the addition of Structural Analysis II and changes to course titles. Year 4 changes include the before-mentioned addition of a Science Elective and the change from Foundation Design from a mandatory to an elective course.

   The environmental engineering curriculum revisions were informed by the National Academies of Science and Engineering and Medicine recommendations found in the report: Environmental Engineering for the 21st Century Addressing Grand Challenges (2019). Changes involved strengthening the environmental science component as much as possible within the constraints of accreditation requirements (weather and climate, a choice of introduction to soil science or introduction to earth science, measurement lab, and science electives), and introducing a systems perspective informed from a chemical engineering design approach (environmental engineering processes and energy systems), while still covering the traditional environmental engineering topics. The resulting curriculum is unique compared to other environmental engineering programs in Canada, and graduates should have an appreciation for the science behind their designs and be able to apply a systems approach to meet a wide variety of future challenges. The curriculum is also designed around 12 student-learning outcomes designed to meet accreditation standards (design courses in each year, second communication course in year 2, business and project management course, significant use of software tools, and lab components added to fluid mechanics and groundwater hydrology).

3. **Implications of the changes for other programs, etc., if applicable:** Consultations included meetings with ESM, Geography, Environmental Science and First Nation Studies regarding the inclusion of courses in the new degree. Challenges will include scheduling of labs and courses

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

General Calendar Description:

ENGINEERING (BASc Program)

Engineers serve society across a wide range of economic sectors in a number of capacities. Highly skilled engineers require a solid technical and academic background, good communication skills, and the ability to work across a number of disciplines. Engineers deal with problems ranging from mine and dam construction to transit systems to air, water, and soil pollution control.

The Engineering program at UNBC has two degree programs – Civil and Environmental Engineering – and prepares graduates for a wide range of employment opportunities where their technical expertise and problem-solving skills are required. The program provides graduates with a strong awareness and understanding of environmental issues and problems. Our graduates are prepared for employment in the resource industries (e.g. forestry, fisheries, mining, oil and gas, pulp and paper, and the agri-food industry), various government ministries, research organizations, and with engineering firms of all sizes. Our graduates help shape the new environmental economy.

The Engineering Bachelor of Applied Science program is designed around a mandatory Co-operative education component. Students gain valuable and practical skills through four paid Co-op work terms while being gainfully employed. The degree program is also designed to minimize the semester hours during the nine academic semesters to ensure students gain the necessary knowledge in a timely fashion. By incorporating Co-op into the degree program, our graduates finish their degree in five years with over a year and a half of relevant work experience on their resume to ensure a high probability of successful employment.

Both the Civil and Environmental Engineering degrees start with a common first year in which the basic sciences and mathematics are emphasized along with an introduction to the Engineering discipline. In year two, a number of courses are common to both engineering streams but students will also need to differentiate between the Civil and Environmental Engineering degrees. In the remaining years, some of the courses are common to both programs while each degree stream develops the in-depth knowledge to allow students to qualify within their discipline upon graduation. The final year exposes students to practical engineering problems.

Admission Requirements

Admission to the program is limited and is based on academic qualifications and available space. Priority admission is given to students who meet the admission criteria and apply by the deadline of March 1.

Applicants from BC and Yukon secondary schools must:

- Meet UNBC admission requirements, and
- Have an average of at least 75% based on the following four courses: Principles of Math 12 or Pre-calculus 12, English 12 and two provincially examinable Science 12 courses. In addition, applicants must have successfully completed Chemistry 11 in order to meet course prerequisites in the Program. Physics 12 or an equivalent is strongly recommended, as it is a prerequisite for first-year Physics courses in the program. Students who are admitted without the Physics 12 prerequisite may be delayed in their studies as they may not be able to complete the first four semesters of the program in the normal two year time period. Meeting the minimum GPA does not guarantee admission. Under exceptional circumstances the prerequisites may be waived.

Other applicants must demonstrate that they possess qualifications at least equivalent to the BC and Yukon requirement.

Standards of Professional Conduct

In addition to fulfilling all University and Program regulations and expectations, all students are expected to abide by professional standards as set forth by the Association of Professional Engineers and Geoscientists of British Columbia. Violation of professional standards may result in suspension or dismissal from the program and/or the University.

Academic Performance

Students must adhere to the policies and regulations as specified in the UNBC calendar. This requirement includes, but is not limited to, matters related to academic offenses and progression through the program. Progression is covered by the guidelines on academic standing and continuance. Offenses are governed by the relevant regulations in the appropriate calendar.

Students must obtain the minimum passing grade for all courses. Failure to do so may result in suspension or removal from the program. Note that the courses ENGR 217, ENGR 400, ENGR 401, MATH 200, and MATH 230 must be completed at UNBC.

Qualification for Degree

It is the responsibility of the student to ensure that his/her degree requirements are met. General graduation requirements are found in the Regulations and Policy section of the UNBC Calendar. To fulfill the requirements of graduation, the student must also:

- maintain a minimum Cumulative GPA of 2.00 (C) on courses for credit towards an Engineering degree.
- obtain a minimum passing grade of 1.67 (C-) in each of ENGR 217, ENGR 400, ENGR 401, MATH 200, and MATH 230; and
- complete all requirements for the B.A.Sc. program within eight years of admission into the program or from the first Engineering course used for credit towards the degree.

Letter of Permission

Once admitted to Engineering at UNBC, students who want to take course work at another institution for credit must obtain a Letter of Permission prior to registration in the course. Students who complete courses without first having obtained a Letter of Permission risk not having those courses accepted for transfer credit. A student who has committed an academic offence or is on academic probation may be denied a Letter of Permission for subsequent course work. Students should consult the Engineering Academic Advisor before considering course work for transfer credit. (Refer to Academic Regulation 19).

Graduation

It is the responsibility of the student to ensure that his/her degree requirements are met. Students must have a Cumulative GPA of at least 2.00 (C) over all courses to graduate.

Transfers

Transfers into the program are allowed provided that the prerequisite courses or articulated courses are completed, and space is available in the program. Acceptance of transfers into the program will be based upon GPA, with priority given to those with the highest GPA. The admission GPA for transfer students into the Environmental Engineering program will be assessed on the following four courses or their university transferrable equivalents: Principles of Math 12 or Pre-calculus 12, English 12, and two provincially examinable Science 12 courses. In order to be considered for admission into the program transfer students must have at least a 75% average based on these four courses or their equivalents. Where both high school and university transfer coursework are provided for each of these four courses, the most recent GPA for each course will be used. Transfer students must also have an overall Cumulative transfer GPA of 2.00, which is based on all their university transferrable coursework. Regardless of the articulated courses transferred, students must satisfy the residency requirement of a minimum of 90 credit hours. In addition, students within the program must complete ENGR 217, ENGR 400, ENGR 401, MATH 200, and MATH 230 at UNBC.

Co-operative Education

Engineering at UNBC requires students to successfully complete four one semester long Co-operative Education work terms. These work terms are interspersed within the degree program and occur in semesters 6, 8, 10, and 12. Each work experience will meet the following criteria:

- each work situation is developed and/or approved by the co-operative educational institution as a suitable learning situation;
- the co-operative student is engaged in productive work rather than merely observing;
- the co-operative student receives remuneration for the work performed;
- the co-operative student's progress on the job is monitored by UNBC Engineering;
- the co-operative student's performance on the job is supervised and evaluated by the student's co-operative employer;
- the time spent in periods of work experience must be at least 30 per cent of the time spent in academic study

The overall timetable for semesters is as follows:

Year	Fall	Winter	Summer
1st year	Academic Semester 1	Academic Semester 2	(semester 3)
2nd year	Academic Semester 4	Academic Semester 5	**Co-op Work Term I**
3rd year	Academic Semester 7	**Co-op Work Term II**	Academic Semester 9
	Co-op Work Term III	Academic Semester 11	**Co-op Work Term IV**
4th year	Academic Semester 13	Academic Semester 14	

Engineering at UNBC is a mandatory Co-operative Education program and successful work terms are required for degree completion. For further information, contact the Co-operative Education Advisor.

Note: Co-operative education terms are completed in Semesters 6, 8, 10, and 12. Only under extraordinary circumstances will a student be allowed to deviate from this pattern.

CIVIL ENGINEERING DEGREE PROGRAM REQUIREMENTS

UNBC offers a rigorous Civil Engineering education augmented by business skills training and opportunities for specialized instruction in timber structures, renewable energy technology, cold climate, and geotechnical engineering. Today's civil engineer not only designs the infrastructure essential to modern society (buildings, bridges, highways, transit systems, water and waste treatment facilities, foundations, tunnels, dams, etcetera) but also analyzes the effects of deterioration on infrastructure elements while considering system interdependencies and the evaluation of life-cycle impacts. Civil engineers must consider environmental impact and economic sustainability in the development of modern infrastructure.

UNBC offers an integrated systems approach to Civil Engineering which is in keeping with the themes of design, life-cycle assessment, systems engineering, sustainable materials, renewable energy, and low-impact development throughout.

The minimum requirement for completion of a Bachelor of Applied Science degree with a major in Civil Engineering is 156 credit hours. Students are also required to successfully complete 12 credit hours of Co-operative Education.

Program Requirements

First Year (Semesters 1 & 2)

CHEM 100-3	General Chemistry I
CHEM 120-1	General Chemistry Laboratory I
CPSC 110-3	Introduction to Computer Science and Programming
ENGR 110-3	Technical Writing
ENGR 117-3	Engineering Design 1
ENGR 130-4	Mechanics of Materials I

ENGR 151-1	Engineering Tools I
ENGR 152-1	Engineering Tools II
MATH 100-3	Calculus I
MATH 101-3	Calculus II
MATH 220-3	Linear Algebra
PHYS 110-4	Introductory Physics I: Mechanics
PHYS 111-4	Introductory Physics II: Waves and Electricity

Second Year (Semesters 4 & 5)

ENGR 217-4	Engineering Design II
ENGR 240-4	Materials I
ENGR 241-4	Materials II
ENGR 250-4	Structural Design I
ENGR 251-4	Structural Design II
ENGR 260-3	Soil Mechanics I
GEOG 205-3	Cartography and Geomatics
MATH 200-3	Calculus III
MATH 230-3	Linear Differential Equations and Boundary Value Problems
STATS 371-3	Probability and Statistics for Scientists and Engineers

Third Year (Semesters 7, 9, & 11)

ENGR 300-3	Green Principles of Engineering
ENGR 317-4	Engineering Design III
ENGR 340-3	Materials III
ENGR 350-3	Structural Analysis
ENGR 351-4	Fluid Mechanics I
ENGR 352-4	Fluid Mechanics II
ENGR 353-4	Hydrology and Open Channel Flow
ENGR 358-3	Water and Waste Water Systems
ENGR 360-4	Soil Mechanics II
ENGR 370-3	Transportations Systems
ENGR 372-3	Construction Management
ENGR 374-3	Cold Climate Engineering
ENGR 380-3	Engineering Economics
ENGR 381-3	Urban and Regional Planning

3 credit hours chosen from the list of technical electives
3 credit hours of electives from the Physical or Life Sciences

Fourth Year (Semesters 13 & 14)

ENGR 400-4	Capstone Design Project I
ENGR 401-4	Capstone Design Project II
ENGR 410-3	Professional Practice & Law
ENGR 411-3	Project Management
ENGR 440-3	Foundation Design

12 credit hours chosen from the list of technical electives
3 credit hours of electives from the Humanities

Technical Electives

Technical electives are chosen, as appropriate to the student's discipline, from the technical electives list.

ENSC 302-3 Low Carbon Energy Development
ENSC 404-3 Waste Management
ENSC 406-3 Environmental Modelling
ENSC 408-3 Storms
ENSC 425-3 Climate Change and Global Warming
ENSC 450-3 Environmental and Geophysical Data Analysis
ENSC 452-3 Reclamation and Remediation of Disturbed Environments
ENSC 453-3 Environmental Resources Management and Decision Making
ENSC 460-3 Soil Chemical Processes and the Environment
NREM 410-3 Watershed Management

Students may also choose appropriate courses from other engineering disciplines as technical electives. It is the student's responsibility to ensure that they have the prerequisites for the technical electives they wish to take.

ENVIRONMENTAL ENGINEERING DEGREE PROGRAM REQUIREMENTS

Environmental and ecological problems are increasingly of concern to all Canadians but particularly in the resource rich northern portion of British Columbia. The concerns are especially acute due to a primarily resource-based economy which depends on forestry, mining, oil and gas, and fisheries. Further, the northern economy generates a significant portion of British Columbia's primary wealth and feeds the provincial economic growth. UNBC offers an Environmental Engineering degree which integrates basic science with modern Engineering practices. Our graduates are prepared to take on the challenges facing modern society, from problems in water, air, and soil pollution control to mine waste disposal to solid waste management and mine remediation. Modern issues require highly skilled engineers with a solid background in environmental engineering, strong communication skills, and the ability to work across disciplinary boundaries. This program prepares graduates for a wide range of employment opportunities where the technical expertise and problem-solving skills of engineers are needed in conjunction with a strong awareness and understanding of environmental issues and problems.

Our graduates work in the new environmental economy – in areas related to environmental

reclamation, remediation, and restoration.

The minimum requirement for completion of a Bachelor of Applied Science degree with a major in Environmental Engineering is 154 credit hours. Students are also required to successfully complete 12 credit hours of Co-operative Education.

Program Requirements

First Year (Semesters 1 & 2)

CHEM 100-3	General Chemistry I
CHEM 120-1	General Chemistry Laboratory I
CHEM 101-3	General Chemistry II
CHEM 121-1	General Chemistry Laboratory II
CPSC 110-3	Introduction to Computer Science and Programming
ENGR 110-3	Technical Writing
ENGR 117-3	Engineering Design 1
ENGR 130-4	Mechanics of Materials I
ENGR 151-1	Engineering Tools I
ENGR 152-1	Engineering Tools II
MATH 100-3	Calculus I
MATH 101-3	Calculus II
MATH 220-3	Linear Algebra
PHYS 110-4	Introductory Physics I: Mechanics

Second Year (Semesters 4 & 5)

BIOL 103-3	Introductory Biology I
BIOL 123-1	Introductory Biology I Laboratory
ENGR 217-4	Engineering Design II
ENGR 210-3	Materials and Energy Balance
ENGR 220-4	Engineering Chemistry
ENGR 260-3	Soil Mechanics I
ENGR 270-3	Groundwater
GEOG 205-3	Cartography and Geomatics
MATH 200-3	Calculus III
MATH 230-3	Linear Differential Equations and Boundary Value Problems
STATS 371-3	Probability and Statistics for Scientists and Engineers

Third Year (Semesters 7, 9, & 11)

ENGR 244-3	Thermodynamics
ENGR 300-3	Green Principles of Engineering
ENGR 306-3	Environmental Modelling
ENGR 317-3	Engineering Design III
ENGR 351-4	Fluid Mechanics I
ENGR 352-4	Fluid Mechanics II
ENGR 353-4	Hydrology and Open Channel Flow

ENGR 358-3	Waste and Waste Water Systems
ENGR 359-3	Ground Water Contamination
ENGR 360-4	Soil Mechanics II
ENGR 365-3	Mining and the Environment
ENGR 380-3	Engineering Economics
ENGR 381-3	Urban and Regional Planning

6 credit hours chosen from the list of technical electives
3 credit hours of electives from the Physical or Life Sciences

Fourth Year (Semesters 13 & 14)

ENGR 400-4	Capstone Design Project I
ENGR 401-4	Capstone Design Project II
ENGR 410-3	Professional Practice & Law
ENGR 411-3	Project Management
ENGR 420-3	Transport Phenomena
ENGR 421-3	Environmental Hydraulics
ENGR 430-3	Unit Operations

6 credit hours chosen from the list of technical electives
3 credit hours of electives from the Humanities

Technical Electives

Technical electives are chosen, as appropriate to the student's discipline, from the technical electives list.

ENSC 302-3 Low Carbon Energy Development
ENSC 404-3 Waste Management
ENSC 406-3 Environmental Modelling
ENSC 408-3 Storms
ENSC 425-3 Climate Change and Global Warming
ENSC 450-3 Environmental and Geophysical Data Analysis
ENSC 452-3 Reclamation and Remediation of Disturbed Environments
ENSC 453-3 Environmental Resources Management and Decision Making
ENSC 460-3 Soil Chemical Processes and the Environment
NREM 410-3 Watershed Management

Students may also choose appropriate courses from other engineering disciplines as technical electives. It is the student's responsibility to ensure that they have the prerequisites for the technical electives they wish to take.

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

General Calendar Description:

ENGINEERING (BASc Program)

Engineers serve society across a wide range of economic sectors in a number of capacities. ~~Highly skilled e~~Engineers require a solid technical and academic background, good communication skills, and the ability to work across a number of disciplines. Engineers deal with problems ranging from structures, bridges, mine and dam construction to transit systems to air, water, and soil pollution control.

~~The Engineering program at~~ UNBC offers ~~has~~ three ~~two~~ engineering degrees ~~programs~~ – a Civil Engineering degree, ~~and~~ an Environmental Engineering degree and an Environmental Engineering degree offered jointly with UBC. ~~– and~~ These degrees prepare~~s~~ graduates for a wide range of employment opportunities where their technical expertise and problem-solving skills are required. The program provides graduates with a strong awareness and understanding of environmental issues and problems. Our graduates are prepared for employment with engineering firms of all sizes in the resource industries (e.g. forestry, fisheries, mining, oil and gas, pulp and paper, and the agri-food industry), as well as various government ministries~~,~~ and research organizations., ~~and with engineering firms of all sizes.~~ Our graduates help shape the new environmental and civil engineering economy.

~~The Engineering Bachelor of Applied Science program is designed around a mandatory Co-operative education component. Students gain valuable and practical skills through four paid Co-op work terms while being gainfully employed. The degree program is also designed to minimize the semester hours during the nine academic semesters to ensure students gain the necessary knowledge in a timely fashion. By incorporating Co-op into the degree program, our graduates finish their degree in five years with over a year and a half of relevant work experience on their resume to ensure a high probability of successful employment.~~

~~Both t~~The Civil and Environmental Engineering degrees start with a ~~common~~ similar first year in which the basic sciences and mathematics are emphasized along with an introduction to the ~~E~~engineering discipline. In second year ~~two~~, a number of courses are common ~~to both~~ in all of the engineering degrees ~~streams~~ but program requirements ~~students will also need to~~ start to differentiate between the Civil and Environmental Engineering degrees. In the remaining years, some of the courses are common to both programs while each degree ~~stream~~ develops the in-depth knowledge to allow students to qualify within their discipline upon graduation. The final year exposes students to practical engineering problems.

Admission Requirements

Admission to the program is limited and ~~is~~ based on academic qualifications and available space. Priority admission is given to students who meet the admission criteria and apply by the deadline of March 1.

Applicants from BC and Yukon secondary schools must~~:~~

- ~~M~~meet UNBC admission requirements, and
- ~~H~~have an average of at least 75% based on the following four courses: ~~Principles of~~ Math 12 or Pre-calculus 12, English 12 and two provincially examinable Science 12 courses. In addition, applicants must have successfully completed Chemistry 11 in order to meet course prerequisites in the Program. Physics 12 or an equivalent is strongly recommended~~,~~ as it is a prerequisite for first-year Physics courses in the program. Students who are admitted without the Physics 12 prerequisite may be delayed in their studies as they may not be able to complete the first four semesters of the program in the normal two-year time period. Meeting the minimum GPA does not guarantee admission. Under exceptional circumstances the prerequisites may be waived.

Other applicants must demonstrate that they possess qualifications at least equivalent to the BC and Yukon requirement.

~~**Standards of Professional Conduct**~~
~~In addition to fulfilling all University and Program regulations and expectations, all students are expected to abide by professional standards as set forth by the Association of Professional Engineers and Geoscientists of British Columbia. Violation of professional standards may result in suspension or dismissal from the program and/or the University.~~

~~**Academic Performance**~~

~~Students must adhere to the policies and regulations as specified in the UNBC calendar. This requirement includes, but is not limited to, matters related to academic offenses and progression through the program. Progression is covered by the guidelines on academic standing and continuance. Offenses are governed by the relevant regulations in the appropriate calendar.~~

~~Students must obtain the minimum passing grade for all courses. Failure to do so may result in suspension or removal from the program. Note that the courses ENGR 217, ENGR 400, ENGR 401, MATH 200, and MATH 230 must be completed at UNBC.~~

Qualification for Degree

It is the responsibility of ~~the~~ students to ensure that ~~his/her~~ the degree requirements are met. General graduation requirements are found in the Regulations and Policy section of the UNBC Calendar. ~~To fulfill the requirements of graduation, the student must also:~~

- ~~maintain a minimum Cumulative GPA of 2.00 (C) on courses for credit towards an Engineering degree.~~
- ~~obtain a minimum passing grade of 1.67 (C-) in each of ENGR 217, ENGR 400, ENGR 401, MATH 200, and MATH 230; and~~
- ~~complete all requirements for the B.A.Sc. program within eight years of admission into the program or from the first Engineering course used for credit towards the degree.~~

UNBC Civil and Environmental Engineering degree programs:
Students must

- have a Cumulative GPA of at least 2.00 (C) on courses for credit towards an Engineering degree;
- obtain a minimum passing grade of 1.67 (C-) in each of ENGR 217, MATH 200, MATH 230 and either CIVE 400 and CIVE 401 (Civil Engineering) or ENVE 400 and ENVE 401 (Environmental Engineering);
- complete all requirements of the BASC program within eight years counted from admission into the program or from the first Engineering course used for credit towards the degree.

UNBC/UBC Joint Environmental Engineering degree program
Students must have

- a good academic standing at both institutions to graduate;
- a Cumulative GPA of at least 2.00 (63%) over all courses taken at UNBC;
- an average of at least 55%, and passing grades in at least 65% of the credits taken at UBC.

The diploma will carry crests from both granting institutions (UNBC and UBC).

Letter of Permission

Once admitted to Engineering at UNBC, students who want to take course work at another institution for credit must obtain a Letter of Permission prior to registration in the course. Students who complete courses without first having obtained a Letter of Permission risk not having those courses accepted for transfer credit. A student who has committed an academic offence or is on academic probation may be denied a Letter of Permission for subsequent course work. Students should consult the Engineering Academic Advisor before considering course work for transfer credit. (Refer to Academic Regulation 19).

~~**Graduation**~~

~~It is the responsibility of the student to ensure that his/her degree requirements are met. Students must have a Cumulative GPA of at least 2.00 (C) over all courses to graduate.~~

Transfers

Transfers into the program are allowed provided that the prerequisite courses or articulated courses are completed~~,~~ and space is available in the program. Acceptance of transfers into the program ~~will~~

~~be~~ are based ~~up~~on GPA~~,~~ with priority given to those with the highest GPA. The admission GPA for transfer students into the Environmental Engineering program ~~will be~~ is assessed on the following four courses or their university transferrable equivalents: Principles of Math 12 or Pre-calculus 12, English 12, and two provincially examinable Science 12 courses. In order to be considered for admission into the program, transfer students must have at least a 75% average based on these four courses or their equivalents. In addition, the following requirements for the four courses apply:

- UNBC Civil and Environmental Engineering degree programs: Where both high school and university transfer coursework are provided for each of these four courses, the most recent GPA for each course ~~will be~~ is used. Transfer students must also have an overall Cumulative transfer GPA of 2.00, which is based on all their university transferrable coursework. Regardless of the articulated courses transferred, students must satisfy the residency requirement of a minimum of 90 credit hours. ~~In addition, students within the program must complete ENGR 217, ENGR 400, ENGR 401, MATH 200, and MATH 230 at UNBC.~~
- UNBC/UBC Joint Environmental Engineering degree program: Where both high school and university transfer coursework are provided for each of these four courses the highest GPA for each course is used. Transfer students must also have an overall Cumulative transfer GPA of 2.00, which is based on all their university transferrable coursework. Regardless of the articulated courses transferred, students must satisfy the residency requirement of a minimum of 90 credit hours. These may be fulfilled through a combination of courses taken at UNBC and UBC, provided that at least 30 credit hours are completed at each of the two institutions.

Co-operative Education

~~Engineering at UNBC requires students to successfully complete four one semester long Co-operative Education work terms. These work terms are interspersed within the degree program and occur in semesters 6, 8, 10, and 12. Each work experience will meet the following criteria:~~

- ~~each work situation is developed and/or approved by the co-operative educational institution as a suitable learning situation;~~
- ~~the co-operative student is engaged in productive work rather than merely observing;~~
- ~~the co-operative student receives remuneration for the work performed;~~
- ~~the co-operative student's progress on the job is monitored by UNBC Engineering;~~
- ~~the co-operative student's performance on the job is supervised and evaluated by the student's co-operative employer;~~
- ~~the time spent in periods of work experience must be at least 30 per cent of the time spent in academic study~~

~~The overall timetable for semesters is as follows:~~

~~Year~~	~~Fall~~	~~Winter~~	~~Summer~~
~~1st year~~	~~Academic Semester 1~~	~~Academic Semester 2~~	~~(semester 3)~~
~~2nd year~~	~~Academic Semester 4~~	~~Academic Semester 5~~	~~Co-op Work Term I~~
~~3rd year~~	~~Academic Semester 7~~	~~Co-op Work Term II~~	~~Academic Semester 9~~
	~~Co-op Work Term III~~	~~Academic Semester 11~~	~~Co-op Work Term IV~~

~~4th year~~	~~Academic Semester 13~~	~~Academic Semester 14~~	

~~Engineering at UNBC is a mandatory Co-operative Education program and successful work terms are required for degree completion. For further information, contact the Co-operative Education Advisor.~~

~~**Note:** Co-operative education terms are completed in Semesters 6, 8, 10, and 12. Only under extraordinary circumstances will a student be allowed to deviate from this pattern.~~

Co-operative education is an optional but strongly recommended element of the Engineering program.

For students in the UNBC Civil and Environmental Engineering degree programs, contact the UNBC Co-operative Education program for opportunities.

For students in the UNBC/UBC Environmental Engineering degree program, contact UBC Engineering Co-op for opportunities.

CIVIL ENGINEERING DEGREE PROGRAM REQUIREMENTS

UNBC offers a rigorous ~~C~~civil ~~E~~engineering education augmented by business skills training and opportunities for specialized instruction in several areas. ~~timber structures, renewable energy technology, cold climate, and geotechnical engineering.~~ Today's civil engineer not only designs the infrastructure essential to modern society (buildings, bridges, highways, transit systems, water and waste treatment facilities, foundations, tunnels, dams, etc~~etera~~.) but also analyzes the effects of deterioration on infrastructure elements while considering system interdependencies and ~~the evaluation of~~ life-cycle impacts. Civil engineers must consider environmental impact and economic sustainability in the development of modern infrastructure.

UNBC offers an integrated ~~systems~~ approach to ~~C~~civil ~~E~~engineering which is in keeping with the themes of design, life-cycle assessment, systems engineering, sustainable materials, renewable energy, and low-impact development throughout.

The minimum requirement for completion of a Bachelor of Applied Science degree with a major in Civil Engineering is ~~156~~ 153 credit hours. ~~Students are also required to successfully complete 12 credit hours of Co-operative Education.~~

Standards of Professional Conduct

In addition to fulfilling all University and program regulations and expectations, all Civil Engineering students are expected to abide by professional standards as set forth by Engineers and Geoscientists of British Columbia. Violation of professional standards may result in suspension or dismissal from the program and/or the University.

Academic Performance

Students must adhere to the policies and regulations as specified in the UNBC calendar. This requirement includes, but is not limited to, matters related to academic offenses and progression through the program. Progression is covered by the guidelines on academic standing and continuance. Offenses are governed by the regulations in the UNBC calendar.

In order to progress through the program, students must obtain the minimum passing grade for all courses. Failure to do so may result in a requirement to withdraw from the program.

Program Requirements

First Year (Semesters 1 & 2)

CHEM 100-3	General Chemistry I
CHEM 120-1	General Chemistry Laboratory I
CPSC 110-3	Introduction to Computer ~~Science~~ Systems and Program~~m~~ming
ENGR 110-3	Technical Writing
ENGR 117-3	Engineering Design 1
ENGR 130-4	Mechanics of Materials I
ENGR 151-1	Engineering Tools I
ENGR 152-1	Engineering Tools II
MATH 100-3	Calculus I
MATH 101-3	Calculus II
MATH 220-3	Linear Algebra
PHYS 110-4	Introductory Physics I: Mechanics
PHYS 111-4	Introductory Physics II: Waves and Electricity

~~*Second Year (Semesters 4 & 5)*~~

Second Year (Semesters 3 & 4)

CIVE 241-4	Civil Engineering Materials
CIVE 260-4	Soil Mechanics I
ENGR 211-3	Engineering Communication
ENGR 217-3	Engineering Design II
ENGR 221-3	Thermodynamics and Heat Transfer
ENGR 240-4	Mechanics of Materials II
ENGR 250-3	Engineering Tools III
ENGR 254-4	Fluid Mechanics I
ENGR 270-3	Surveying
MATH 200-3	Calculus III
MATH 230-3	Linear Differential Equations and Boundary Value Problems
STAT 371-3	Probability and Statistics for Scientists and Engineers

3 credit hours chosen from the lists of electives

~~ENGR 260-3~~	~~Soil Mechanics I~~
~~ENGR 250-4~~	~~Structural Design I~~
~~ENGR 251-4~~	~~Structural Design II~~
~~GEOG 205-3~~	~~Cartography and Geomatics~~

~~ENGR 240-4 Materials I~~
~~ENGR 241-4 Materials II~~

~~*Third Year (Semesters 7, 9, & 11)*~~
Third Year (Semesters 5 & 6)
CIVE 320-3 Structural Analysis I
CIVE 321-3 Structural Analysis II
CIVE 340-3 Structural Design I
CIVE 341-3 Structural Design II
CIVE 360-4 Soil Mechanics II
CIVE 370-3 Transportations Systems
CIVE 372-3 Construction Management
ENGR 300-3 Sustainable Principles of Engineering
ENGR 353-4 Hydrology and Open Channel Flow
ENGR 358-3 Water and Wastewater Systems
ENGR 380-3 Engineering Economics
~~ENGR 360-4 Soil Mechanics II~~
~~ENGR 370-3 Transportations Systems~~
~~ENGR 372-3 Construction Management~~
~~ENGR 317-3 Engineering Design III~~
~~ENGR 351-4 Fluid Mechanics I~~
~~ENGR 352-4 Fluid Mechanics II~~
~~ENGR 300-3 Green Principles of Engineering~~
~~ENGR 340-3 Materials III~~
~~ENGR 350-3 Structural Analysis~~
~~ENGR 374-3 Cold Climate Engineering~~
~~ENGR 381-3 Urban and Regional Planning~~
~~3 credit hours technical electives~~
~~3 credit hours Physical or Life Sciences~~
3 credit hours chosen from the lists of electives

~~*Fourth Year (Semesters 13 & 14)*~~
Fourth Year (Semesters 7 & 8)
CIVE 400-3 Capstone Design Project I
CIVE 401-6 Capstone Design Project II
CIVE 411-3 Project Management
ENGR 410-3 Professional Practice & Law
~~ENGR 400-4 Capstone Design Project I~~
~~ENGR 401-4 Capstone Design Project II~~
~~ENGR 411-3 Project Management~~
~~ENGR 440-3 Foundation Design~~
~~12 credit hours chosen from technical electives~~
~~3 credit hours of electives from the Humanities~~
21 credit hours chosen from the lists of electives

~~**Technical Electives**~~

~~Technical electives are chosen, as appropriate to the student's discipline, from the technical electives list.~~

~~ENSC 302-3 Low Carbon Energy Development~~
~~ENSC 404-3 Waste Management~~
~~ENSC 406-3 Environmental Modelling~~
~~ENSC 408-3 Storms~~
~~ENSC 425-3 Climate Change and Global Warming~~
~~ENSC 450-3 Environmental and Geophysical Data Analysis~~
~~ENSC 452-3 Reclamation and Remediation of Disturbed Environments~~
~~ENSC 453-3 Environmental Resources Management and Decision Making~~
~~ENSC 460-3 Soil Chemical Processes and the Environment~~
~~NREM 410-3 Watershed Management~~

~~Students may also choose appropriate courses from other engineering disciplines as technical electives. It is the student's responsibility to ensure that they have the prerequisites for the technical electives they wish to take.~~

Electives

Electives must be chosen from the following lists.

15 credit hours total must be chosen from the Civil and Environmental Engineering elective lists.

Civil Engineering technical electives: 9 or 12 credit hours of the following:

CIVE 451-3	Building Physics
CIVE 461-3	Foundation Design
CIVE 471-3	Cold Climate Construction Engineering
CIVE 481-3	Urban and Regional Planning

Environmental Engineering electives: 3 or 6 credit hours of the following:

ENGR 354-3	Fluid Mechanics II
ENGR 412-3	Engineering Business & Project Management
ENVE 355-3	Engineering Hydrology
ENVE 462-3	Geo-Environmental Engineering

Science electives: 6 credit hours from the following:

ENSC 308-3	Northern Contaminated Environments
ENSC 412-3	Air Pollution
ENSC 425-3	Climate Change and Global Warming

FSTY 345-3	Wood Materials Science
GEOG 205-3	Cartography and Geomatics
GEOG 210-3	Introduction to Earth Science

Humanities or Social Sciences electives: 6 credit hours from the following:

ENPL 305-3	Environmental Impact Assessment
ENVS 230-3	Introduction to Environmental Policy
ENVS 414-3	Environmental and Professional Ethics
FNST 304-3	Indigenous Environmental Philosophy
GEOG 202-3	Resources, Economies, and Sustainability
NREM 303-3	Aboriginal Perspectives on Land and Resource Management
NREM 306-3	Society, Policy and Administration
POLS 100-3	Contemporary Political Issues

ENVIRONMENTAL ENGINEERING DEGREE PROGRAM REQUIREMENTS (UNBC PROGRAM)

Environmental and ecological problems are an increasing~~ly of~~ concern ~~to~~ for all Canadians ~~but~~ particularly in the resource-rich northern portion of British Columbia. The concerns are especially acute due to a primarily resource-based economy, which depends on forestry, mining, oil and gas, and fisheries. Further, the northern economy generates a significant portion of British Columbia's primary wealth and feeds ~~the~~ provincial economic growth. UNBC offers an Environmental Engineering degree ~~which~~ that integrates basic science with modern Engineering practices. Our graduates are prepared to take on ~~the~~ challenges facing modern society, ~~from problems in~~ including the protection of society from adverse environmental factors, protection of environments from potentially detrimental effects of natural and human activities, water, air, and soil pollution control, ~~to mine waste disposal to~~ solid waste management and ~~mine~~ contaminated site remediation. Modern issues require highly skilled engineers with a solid background in environmental engineering, strong communication skills~~,~~ and the ability to work across disciplinary boundaries. This program prepares graduates for a wide range of employment opportunities where the technical expertise and problem-solving skills of engineers are needed in conjunction with a strong awareness and understanding of environmental issues and problems.

~~Our graduates work in the new environmental economy – in areas related to environmental reclamation, remediation, and restoration~~.

The minimum requirement for completion of a Bachelor of Applied Science degree with a major in Environmental Engineering is ~~154~~ 151 credit hours. ~~Students are also required to successfully complete 12 credit hours of Co-operative Education.~~

Standards of Professional Conduct

In addition to fulfilling all University and program regulations and expectations, all Environmental Engineering students are expected to abide by professional standards as set forth by Engineers and Geoscientists of British Columbia. Violation of professional standards may result in suspension or

dismissal from the program and/or the University.

Academic Performance
Students must adhere to the policies and regulations as specified in the UNBC calendar. This requirement includes, but is not limited to, matters related to academic offenses and progression through the program.

In order to progress through the program, students must obtain the minimum passing grade for all courses. Failure to do so may result in a requirement to withdraw from the program. Environmental Engineering students must complete ENGR 217, ENVE 400, ENVE 401, MATH 200, and MATH 230 at UNBC.

Program Requirements

First Year (Semesters 1 & 2)

CHEM 100-3	General Chemistry I
CHEM 120-1	General Chemistry Laboratory I
CHEM 101-3	General Chemistry II
CHEM 121-1	General Chemistry Laboratory II
CPSC 110-3	Introduction to Computer ~~Science~~ Systems and Program~~m~~ming
ENGR 110-3	Technical Writing
ENGR 117-3	Engineering Design 1
ENGR 130-4	Mechanics of Materials I
ENGR 151-1	Engineering Tools I
ENGR 152-1	Engineering Tools II
MATH 100-3	Calculus I
MATH 101-3	Calculus II
MATH 220-3	Linear Algebra
PHYS 110-4	Introductory Physics I: Mechanics

Second Year (Semesters 4 & 5)

~~BIOL 103-3~~	~~Introductory Biology I~~
~~BIOL 123-1~~	~~Introductory Biology I Laboratory~~
ENGR 210-3	Materials and Energy Balance
ENGR 211-3	Engineering Communication
ENGR 217-4	Engineering Design II
~~ENGR 210-3~~	~~Materials and Energy Balance~~
ENGR 220-4	Engineering Chemistry
ENGR 221-3	Thermodynamics & Heat Transfer
ENGR 254-4	Fluid Mechanics I
ENGR 270-3	Surveying
ENSC 201-3	Weather and Climate
ENVE 222-3	Engineering Biology
~~ENGR 260-3~~	~~Soil Mechanics I~~
~~ENGR 270-3~~	~~Groundwater~~

~~GEOG 205-3 Cartography and Geomatics~~
MATH 200-3 Calculus III
MATH 230-3 Linear Differential Equations and Boundary Value Problems
STAT~~S~~ 371-3 Probability and Statistics for Scientists and Engineers

One of the following:
FSTY 205-3 Introduction to Soil Science
GEOG 210-3 Introduction to Earth Science

Third Year (Semesters 7, 9, & 11)
CIVE 260-4 Soil Mechanics I
~~ENGR 244-3 Thermodynamics~~
ENGR 300-3 ~~Green~~ Sustainable Principles of Engineering
~~ENGR 306-3 Environmental Modelling~~
~~ENGR 317-3 Engineering Design III~~
~~ENGR 351-4 Fluid Mechanics I~~
~~ENGR 352-4 Fluid Mechanics II~~
ENGR 353-~~4~~ 3 Hydrology and Open Channel Flow
ENGR 354-4 Fluid Mechanics II
ENGR 358-~~3~~ 4 Waste and Waste Water Systems
~~ENGR 359-3 Ground Water Contamination~~
~~ENGR 360-4 Soil Mechanics II~~
~~ENGR 365-3 Mining and the Environment~~
ENGR 380-3 Engineering Economics
~~ENGR 381-3 Urban and Regional Planning~~
ENVE 310-3 Environmental Engineering Processes
ENVE 317-3 Engineering Design III - Municipal Engineering
ENVE 318-3 Environmental Eng. Measurement Lab
ENVE 351-4 Groundwater Flow and Contaminant Transport

6 credit hours chosen from the lists of ~~technical~~ electives
~~3 credit hours of electives from the Physical or Life Sciences~~

Fourth Year (Semesters 13 & 14)
~~ENGR 400-4 Capstone Design Project I~~
~~ENGR 401-4 Capstone Design Project II~~
ENGR 410-3 Professional Practice & Law
ENGR 412-3 Engineering Business & Project Management
~~ENGR 411-3 Project Management~~
~~ENGR 420-3 Transport Phenomena~~
~~ENGR 421-3 Environmental Hydraulics~~
~~ENGR 430-3 Unit Operations~~
ENSC 406-3 Environmental Modelling
ENVE 400-3 Capstone Design Project I
ENVE 401-6 Capstone Design Project II

ENVE 430-3 Energy Systems
ENVE 455-3 Engineering Hydrology
~~6~~ 12 credit hours chosen from the lists of ~~technical~~ electives
~~3 credit hours of electives from the Humanities~~

Electives

Electives must be chosen from the following lists.

6 credit hours of the following:
CIVL 370-3 Transportation Systems
CIVL 451-3 Building Physics
CIVL 481-3 Urban and Regional Planning
ENVE 421-3 Contaminant Transport in the Environment
ENVE 462-3 Geo-environmental Engineering

6 credit hours of the following:
ENSC 307-3 Introduction to Geochemistry
ENSC 308-3 Northern Contaminated Environments
ENSC 325-3 Soil Physical Processes and the Environment
ENSC 412-3 Air Pollution
ENSC 425-3 Climate Change and Global Warming
ENSC 450-3 Environmental and Geophysical Data Analysis
ENSC 452-3 Reclamation & Remediation of Disturbed Environments
FSTY 205-3 Introduction to Soil Science
FSTY 345-3 Wood Materials Science
FSTY 425-3 Soil Formation and Classification
GEOG 205-3 Cartography and Geomatics
GEOG 210-3 Introduction to Earth Science
GEOG 311-3 Drainage Basin Geomorphology

3 credit hours of the following:
ENPL 305-3 Environmental Impact Assessment
ENPL 401-3 Environmental Law
ENVS 230-3 Introduction to Environmental Policy
ENVS 414-3 Environmental and Professional Ethics
FNST 304-3 Indigenous Environmental Philosophy
GEOG 202-3 Resources, Economies, and Sustainability
GEOG 401-3 Tenure, Conflict and Resource Geography
GEOG 403-3 First Nations and Indigenous Geographies
NREM 303-3 Aboriginal Perspectives on Land and Resource Management
NREM 306-3 Society, Policy and Administration
POLS 100-3 Contemporary Political Issues

3 credit hours of Humanities and Social Sciences courses with subject matter that deals with the

central issues, methodologies, and thought processes of the Humanities and Social Sciences

~~**Technical Electives**~~

~~Technical electives are chosen, as appropriate to the student's discipline, from the technical electives list.~~

~~ENSC 302-3 Low Carbon Energy Development~~
~~ENSC 404-3 Waste Management~~
~~ENSC 406-3 Environmental Modelling~~
~~ENSC 408-3 Storms~~
~~ENSC 425-3 Climate Change and Global Warming~~
~~ENSC 450-3 Environmental and Geophysical Data Analysis~~
~~ENSC 452-3 Reclamation and Remediation of Disturbed Environments~~
~~ENSC 453-3 Environmental Resources Management and Decision Making~~
~~ENSC 460-3 Soil Chemical Processes and the Environment~~
~~NREM 410-3 Watershed Management~~

~~Students may also choose appropriate courses from other engineering disciplines as technical electives. It is the student's responsibility to ensure that they have the prerequisites for the technical electives they wish to take.~~

ENVIRONMENTAL ENGINEERING DEGREE PROGRAM REQUIREMENTS (UNBC/UBC JOINT PROGRAM)

Engineers serve society across a wide range of economic sectors, and an increased number of engineering graduates are needed by the province to assure its economic growth and maintain its high quality of life. Therefore, future development decisions in most major sectors of the British Columbia economy must fully integrate environmental and economic factors. Problems in water, air and soil pollution control and remediation, solid waste management, mine waste disposal, and geo-environmental engineering require highly skilled engineers with a solid background in environmental engineering, strong communication skills and the ability to work across disciplines. The program prepares graduates for a wide range of employment opportunities where the technical expertise and problem-solving skills of engineers are needed in conjunction with a strong awareness and understanding of environmental issues and problems. This is the case for resource-based industries (e.g., forestry, fisheries, mining, oil and gas, pulp and paper, and the agri-food industry); various government departments and research organizations; and environmental engineering consulting companies. Graduates may work in the new environmental economy in areas such as environmental protection, reclamation, remediation and restoration**.**

The Environmental Engineering Bachelor of Applied Science program is a 4.5 year (nine semester)

joint degree between the University of British Columbia and the University of Northern British Columbia. The program is based on a unique collaboration between UNBC and UBC that capitalizes on the strength of UNBC in Environmental Science and the strength of UBC in Engineering. It incorporates complementary elements and expertise from each institution while exposing students to the distinctive character of both institutions. The program starts with a two-year foundation in mathematics and basic and environmental sciences from UNBC. In the third and fourth years, the program provides a thorough education and training in engineering fundamentals, engineering analysis and engineering design, largely through courses in Civil Engineering and Chemical and Biological Engineering at UBC. The final term at UNBC exposes students to practical environmental engineering problems.

The joint UNBC/UBC Environmental Engineering program is accredited by the Canadian Engineering Accreditation Board.

Regulations

Unless otherwise specified, the rules and regulations ~~will be~~ are those applicable at the institution (UBC or UNBC) at which the students are attending at the time the rules/regulations need to be applied. In the case where the rules and regulations are needed to cover the program as a whole, or where the institution of attendance is not relevant, then the more stringent rules/regulations are applied. Academic appeals are handled using the procedures at the institution where the rules/regulations need to be applied.

Leave of Absence

Students wanting to take a Leave of Absence must apply to the Environmental Engineering Advisor at the institution that the student is currently attending. Upon approval, students are eligible for up to a one-year Leave of Absence. Students who do not apply for a Leave of Absence are withdrawn from the Environmental Engineering program.

Transit between institutions

Transit between years and institutions requires good academic standing in the program at the most recent institution of residence (UNBC or UBC).

At UNBC this means students must be in good academic standing, must have a Cumulative GPA of 2.00 or greater in required 1st and 2nd year courses (including 3 credit hours of Humanities or Social Sciences), and must have successfully completed all ENGR, ENVE, MATH and STAT courses. For transit to UBC, all transit requirements must be met by April 30th of the year of transfer.

At UBC this means an average of at least 55%, and passing grades in at least 65% of the credits taken. Refer to the UBC Environmental Engineering website (enve.ubc.ca) for more details on UBC to UNBC transit requirements.

Program Requirements

UNBC degree requirements: 90 credit hours
UBC degree requirements: 71 credit hours

Total credits for degree: 161 credit hours

Semester 1 and 2 completed at UNBC

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
CPSC 110-3	Introduction to Computer Systems and Programming
ENGR 110-3	Technical Writing
ENGR 117-3	Engineering Design I
ENGR 151-1	Engineering Tools I
ENGR 152-1	Engineering Tools II
MATH 100-3	Calculus I
MATH 101-3	Calculus II
PHYS 110-4	Introductory Physics I: Mechanics
PHYS 111-4	Introductory Physics II: Waves and Electricity

3 credit hours of Humanities and Social Sciences courses with subject matter that deals with the central issues, methodologies, and thought processes of the Humanities and Social Sciences (for example, any ANTH, ENGL, ENVS, FNST, HIST, INTS, NORS, PHIL, POLS, or WMST course that does not principally impart language skills or statistics). GEOG and ENPL courses may qualify with the approval of the Chair.

Semester 3 and 4 completed at UNBC

BIOL 110-3 Introductory Ecology
ENGR 210-3 Material and Energy Balances
ENGR 217-3 Engineering Design II
ENGR 220-3 Engineering Chemistry
ENGR 350-3 Fluid Mechanics
ENGR 451-3 Groundwater Hydrology
ENSC 201-3 Weather and Climate
GEOG 210-3 Introduction to Earth Science
MATH 200-3 Calculus III
MATH 220-3 Linear Algebra
MATH 230-3 Linear Differential Equations and Boundary Value Problems
STAT 371-3 Probability and Statistics for Scientists and Engineers

Note: Lists for courses completed at UBC for semesters 5 through 8 are provided for information only. Please refer to the UBC calendar for official requirements.

CHBE 244-3 Chemical and Biological Engineering Thermodynamics I
CHBE 351-3 Transport Phenomena II
CHBE 364-2 Environmental Engineering Laboratory
CHBE 373-3 Water Pollution Control
CHBE 459-3 Chemical and Biological Engineering Economics

or CIVL 403-3 Engineering Economic Analysis
CHBE 484-3 Green Engineering Principles and Applications for Process Industries
CHBE 485-3 Air Pollution Prevention and Control
CIVL 200-3 Engineering and Sustainable Development
CIVL 210-4 Soil Mechanics I
CIVL 311-4 Soil Mechanics II
CIVL 315-4 Fluid Mechanics II
CIVL 316-4 Hydrology and Open Channel Flow
CIVL 402-3 Engineering Law and Contracts in Civil Engineering
CIVL 408-3 Geoenvironmental Engineering
CIVL 409-3 Municipal Engineering
CIVL 416-3 Environmental Hydraulics
CIVL 418-3 Engineering Hydrology
EOSC 429-3 Groundwater Contamination
MINE 486-3 Mining and the Environment

12 credit hours of technical electives chosen from a constrained list available at UBC.

Semester 9 completed at UNBC
ENGR 417-6 Engineering Design V
ENPL 401-3 Environmental Law
ENSC 418-3 Environmental Measurement and Analysis
3 credit hours of Humanities or Social Sciences elective
3 credit hours of elective

Technical electives available at UNBC for the UBC portion of the curriculum in the UBC/UNBC Joint Environmental Engineering Program

The following UNBC courses may be used to meet a Technical Elective requirement in the UBC portion of the Joint UBC/UNBC Environmental Engineering BASc program. Normally, no more than one course from the list may be used. To count towards UBC technical elective requirements, the technical elective must be taken prior to transition to UBC.

ENSC 302-3 Low Carbon Energy Development
ENSC 404-3 Waste Management
ENSC 406-3 Environmental Modelling
ENSC 408-3 Storms
ENSC 425-3 Climate Change and Global Warming
ENSC 450-3 Environmental and Geophysical Data Analysis
ENSC 452-3 Reclamation and Remediation of Disturbed Environments
FSTY 345-3 Wood Materials Science
NREM 410-3 Watershed Management

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

Program / Academic / Administrative Unit: Civil Engineering and Environmental Engineering

SCCC Reviewed: March 25, 2019

College: CSAM

College Council Motion Number: CSAMCC 2019:04:11:05

College Council Approval Date: April 11, 2019

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: 0 pages

INFORMATION TO BE COMPLETED AFTER SENATE COMMITTEE ON ACADEMIC AFFAIRS MEETING

Brief Summary of Committee Debate:

Motion No.: SCAAF201905.10

Moved by: E. Jensen **Seconded by:** S. Wagner

Committee Decision: CARRIED

Approved by SCAAF: May 8, 2019 _____
Date **Chair's Signature**

For recommendation to ✓, or information of _____ Senate.

UNBC UNIVERSITY OF NORTHERN BRITISH COLUMBIA

Motion Number (assigned by Steering Committee of Senate): **S-201905.19**

SENATE COMMITTEE ON ACADEMIC AFFAIRS

PROPOSED REVISION OF CALENDAR ENTRY

Motion: That the program description and requirements for the UNBC/UBC Joint Environmental Engineering program on pages 104-106 of the PDF version of the 2018/19 undergraduate calendar be deleted from the Environmental Programs section of the calendar.

1. **Effective date: September 2019**

2. **Rationale for the proposed revisions:** The UNBC/UBC Joint Environmental Engineering program is moving from the Environmental Programs section of the undergraduate calendar to the new Engineering Program section of the undergraduate calendar.

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

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

Environmental Programs (BASc, BA, and BSc Programs)

Environmental and ecological problems are of increasing concern to Canadians. In northern British Columbia, the concerns are especially acute in a primarily resource-based economy. The Environmental Programs recognize the complex nature of these issues through the integrated approach contained in the three degree offerings: the Joint UNBC/UBC Bachelor of Applied Science in Environmental Engineering, the Bachelor of Arts in Environmental Studies, and the Bachelor of Science in Environmental Science.

Environmental Engineering (BASc Program)

Todd Whitcombe, Associate Professor and Chair
Jianbing Li, Professor
Jueyi Sui, Professor
Ron Thring, Professor
Steve Helle, Associate Professor and Co-Director

Website: www.unbc.ca/engineering

Engineers serve society across a wide range of economic sectors, and an increased number of engineering graduates are needed by the province to assure its economic growth and maintain its high quality of life. Therefore, future development decisions in most major sectors of the British Columbia economy must fully integrate environmental and economic factors. Problems in water, air and soil pollution control and remediation, solid waste management, mine waste disposal, and geo-environmental engineering require highly skilled engineers with a solid background in environmental engineering, strong communication skills

and the ability to work across disciplines. The program prepares graduates for a wide range of employment opportunities where the technical expertise and problem-solving skills of engineers are needed in conjunction with a strong awareness and understanding of environmental issues and problems. This is the case most particularly for resource industries (e.g., forestry, fisheries, mining, oil and gas, pulp and paper, and the agri-food industry); various government departments and research organizations; and in environmental engineering consulting companies. It is also anticipated that graduates will work in the new environmental economy—areas related to environmental reclamation, remediation and restoration.

The Environmental Engineering Bachelor of Applied Science program is a 4.5 year (nine semester) joint degree between the University of British Columbia and the University of Northern British Columbia. The program is based on a unique collaboration between UNBC and UBC that capitalizes on the strength of UNBC in Environmental Science and the strength of UBC in Engineering. It incorporates complementary elements and expertise from each institution while maintaining the exposure of students to the distinctive character of both institutions. The program starts with a two-year foundation in mathematics, basic and environmental sciences from UNBC. In the third and fourth years, the program provides a thorough education and training in engineering fundamentals, engineering analysis and engineering design, largely through courses in Civil Engineering and Chemical and Biological Engineering at the University of British Columbia. The final term at UNBC exposes students to practical environmental engineering problems.
The Environmental Engineering program is accredited by the Canadian Engineering Accreditation Board.

Admission Requirements

Admission to the program is limited and is based on academic qualifications and available space. Priority admission will be given to students who meet admission criteria and apply by the deadline of March 1.

Applicants from British Columbia and Yukon secondary schools must:
- Meet UNBC admission requirements, and
- Have an average of at least 75% based on the following four courses: Principles of Math 12 or Pre-calculus 12, English 12 and two provincially examinable Science 12 courses. In addition, applicants must have successfully completed Chemistry 11 in order to meet course prerequisites in the Program. Physics 12 or an equivalent is strongly recommended, as it is a prerequisite for first-year Physics courses in the program. Students who are admitted without the Physics 12 prerequisite may be delayed in their studies as they may not be able to complete the first four semesters of the program in the normal two year time period. Meeting the minimum GPA does not guarantee admission. Under exceptional circumstances the prerequisites may be waived.

Other applicants must demonstrate that they possess qualifications at least equivalent to the British Columbia and Yukon requirement.

Regulations
Unless otherwise specified, the rules and regulations will be those applicable at the institution (UBC or UNBC) at which the students are attending at the time the rules/regulations need to be applied. In the case where the rules and regulations are needed to cover the program as a whole, or where the institution of attendance is not relevant, then the more stringent rules/regulations will be applied. Any academic appeals will be handled using the procedures at the institution where the rules/regulations need to be applied.

Residency
The minimum residency requirement is 90 credits. These may be fulfilled through a combination of courses taken at UNBC and UBC, provided that at least 30 credits are completed at each of the two institutions.

Progression
Progression between years and institutions requires good academic standing in the program at the most recent institution of residence (UNBC or UBC). At UNBC this means a GPA of at least 2.00 or 63%. At UBC this means an average of at least 55%, and passing grades in at least 65% of the credits taken.

Graduation
It is the responsibility of the student to ensure that his/her degree requirements are met. Students must have a good academic standing at both institutions to graduate: a CGPA of at least 2.00 (63%) over all courses taken at UNBC; and an average of at least 55%, and passing grades in at least 65% of the credits taken at UBC. The diploma will carry crests from both granting institutions (UNBC and UBC).

Transfers
Transfers into the program are allowed provided that the prerequisite courses or articulated courses are completed, and space is available in the program. Acceptance of transfers into the program will be based upon GPA, with priority given to those with the highest GPA. The admission GPA for transfer students into the Environmental Engineering program will be assessed on the following four courses or their university transferrable equivalents: Principles of Math 12 or pre-calculus 12, English 12, and two provincially examinable Science 12 courses. In order to be considered for admission into the program transfer students must have at least 75% average based on these four courses or their equivalents. Where both high school and university transfer coursework are provided for each of these four courses the highest GPA for each course will be used. Transfer students must also have an overall cumulative transfer GPA of 2.00, which is based on all their university transferrable coursework. Regardless of the articulated courses transferred, students must satisfy the residency requirement (see above).

Co-operative Education
Co-operative education, available through UBC Engineering Co-op, is an optional but strongly recommended element of the Environmental Engineering program.

Program Requirements

UNBC degree requirements: 90 credit hours
UBC degree requirements: 71 credit hours
Total credits for degree: 161 credit hours

Semester 1 and 2 completed at UNBC
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
CPSC 110-3 Introduction to Computer Systems and Programming
ENGR 110-3 Technical Writing
ENGR 117-3 Engineering Design I
ENGR 151-1 Engineering Tools I
ENGR 152-1 Engineering Tools II
MATH 100-3 Calculus I
MATH 101-3 Calculus II
PHYS 110-4 Introductory Physics I: Mechanics
PHYS 111-4 Introductory Physics II: Waves and Electricity
Three credit hours of humanities and social science courses with subject matter that deals with the central issues, methodologies, and thought processes of the humanities and social science (for example, any ANTH, ENGL, ENVS, FNST, HIST, INTS, NORS, PHIL, POLS, or WMST course that does not principally impart language skills or statistics). GEOG and ENPL courses may qualify with the approval of the Chair.

Semester 3 and 4 completed at UNBC
BIOL 110-3 Introductory Ecology
ENSC 201-3 Weather and Climate
ENGR 210-3 Material and Energy Balances
ENGR 217-3 Engineering Design II
ENGR 220-3 Engineering Chemistry

ENGR 350-3 Fluid Mechanics
ENGR 451-3 Groundwater Hydrology
GEOG 210-3 Introduction to Earth Science
MATH 200-3 Calculus III
MATH 220-3 Linear Algebra
MATH 230-3 Linear Differential Equations and Boundary Value Problems
STAT 371-3 Probability and Statistics for Scientists and Engineers

Note: Lists for courses completed at UBC for Semester 5 through 8 completed at UBC are provided for information only. Please refer to the UBC calendar for official requirements.
CHBE 244-3 Chemical and Biological Engineering Thermodynamics I
CHBE 351-3 Transport Phenomena II
CHBE 364-2 Environmental Engineering Laboratory
CHBE 373-3 Water Pollution Control
CHBE 459-3 Chemical and Biological Engineering Economics
or CIVL 403-3 Engineering Economic Analysis
CHBE 484-3 Green Engineering Principles and Applications for Process Industries
CHBE 485-3 Air Pollution Prevention and Control
CIVL 200-3 Engineering and Sustainable Development
CIVL 210-4 Soil Mechanics I
CIVL 311-4 Soil Mechanics II
CIVL 315-4 Fluid Mechanics II
CIVL 316-4 Hydrology and Open Channel Flow
CIVL 402-3 Engineering Law and Contracts in Civil Engineering
CIVL 408-3 Geoenvironmental Engineering
CIVL 409-3 Municipal Engineering
CIVL 416-3 Environmental Hydraulics
CIVL 418-3 Engineering Hydrology
EOSC 429-3 Groundwater Contamination
MINE 486-3 Mining and the Environment

Twelve credit hours of technical electives chosen from a constrained list.

Semester 9 completed at UNBC
ENPL 401-3 Environmental Law
ENSC 418-3 Environmental Measurement and Analysis
ENGR 417-6 Engineering Design V
Three credit hours of Social Science or Humanities elective.
Three credit hours of elective.

Technical electives available at UNBC for the UBC portion of the curriculum in the UBC/UNBC Joint Environmental Engineering Program

The following UNBC courses may be used to meet a Technical Elective requirement in the UBC portion of the Joint UBC/UNBC Environmental Engineering BASc program. Normally, no more than one course from the list may be used. To qualify towards UBC technical elective requirements, the technical elective must be taken prior to transition to UBC.

ENSC 302-3 Low Carbon Energy Development
ENSC 404-3 Waste Management
ENSC 406-3 Environmental Modelling
ENSC 408-3 Storms
ENSC 425-3 Climate Change and Global Warming
ENSC 450-3 Environmental and Geophysical Data Analysis
ENSC 452-3 Reclamation and Remediation of Disturbed Environments
FSTY 345-3 Wood Materials Science
NREM 410-3 Watershed Management

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

Environmental Programs (~~BASc,~~ BA~~,~~ and BSc Programs)

Environmental and ecological problems are of increasing concern to Canadians. In northern British Columbia, the concerns are especially acute in a primarily resource-based economy. The Environmental Programs recognize the complex nature of these issues through the integrated approach contained in the ~~three~~ two degree offerings: ~~the Joint UNBC/UBC Bachelor of Applied Science in Environmental Engineering~~, the Bachelor of Arts in Environmental Studies~~,~~ and the Bachelor of Science in Environmental Science. The University also offers an Environmental Engineering degree and a joint UNBC/UBC Environmental Engineering degree (see page XXX of calendar).

~~Environmental Engineering (BASc Program)~~

~~Todd Whitcombe, Associate Professor and Chair~~
~~Jianbing Li, Professor~~
~~Jueyi Sui, Professor~~
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CIVL 408-3 Geoenvironmental Engineering
CIVL 409-3 Municipal Engineering
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ENSC 418-3 Environmental Measurement and Analysis
ENGR 417-6 Engineering Design V
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ENSC 404-3 Waste Management
ENSC 406-3 Environmental Modelling
ENSC 408-3 Storms
ENSC 425-3 Climate Change and Global Warming
ENSC 450-3 Environmental and Geophysical Data Analysis
ENSC 452-3 Reclamation and Remediation of Disturbed Environments
FSTY 345-3 Wood Materials Science
NREM 410-3 Watershed Management

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

Program / Academic / Administrative Unit: Engineering program

SCCC Reviewed: March 20, 2019

College: CSAM

College Council Motion Number: CSAMCC 2019041106

College Council Approval Date: April 11, 2019

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: 0

INFORMATION TO BE COMPLETED AFTER SENATE COMMITTEE ON ACADEMIC AFFAIRS MEETING

Brief Summary of Committee Debate:

Motion No.: SCAAF201905.11

Moved by: E. Jensen **Seconded by:** M. Dale

Committee Decision: CARRIED

Approved by SCAAF: May 8, 2019 (**Date**)  (**Chair's Signature**)

For recommendation to ✓, or information of _____ Senate.

UNBC UNIVERSITY OF NORTHERN BRITISH COLUMBIA

Motion Number (assigned by Steering Committee of Senate): **S-201905.20**

SENATE COMMITTEE ON ACADEMIC AFFAIRS

NEW COURSE APPROVAL MOTION FORM

Motion: That the new course CIVE 241-4 Civil Engineering Materials be approved as follows:

A. Description of the Course

1. **Proposed semester of first offering:** January 2021

2. **Academic Program:** BASc Civil Engineering

3. **Course Subject, Number*, and Credit hours: CIVE 241-4**

4. **Course Title: Civil Engineering Materials**

5. **Goal(s) of Course:** This course introduces Civil Engineering Materials. A lab section is included for hands-on learning.

6. **Calendar Course Description:**
This course introduces the structure and properties of common civil engineering materials such as aggregates, cement, concrete, wood, steel and other construction materials. The emphasis is on the relationship between the structure of materials and their mechanical properties.

7. **Credit Hours:** 4
   a) **Can the course be repeated for credit if the subject matter differs substantially?** No
   b) **Is variable credit available for this course?** No

8. **Contact Hours (per week):** Lecture 3 Laboratory 3 (every 2nd week)

9. **Prerequisites (taken prior):** Admission to an Engineering program; ENGR 130-4; MATH-101; MATH-220

10. **Prerequisites with concurrency (taken prior or simultaneously):** None

11. **Co-requisites (must be taken simultaneously):** None

12. **Preclusions:** None

13. **Course Equivalencies:** None

14. **Grade Mode:** Normal

15. **Course to be offered:** Each year

16. **Proposed text / readings:** Standard textbook, e.g.: Mamlouk Zaniewski "Materials for Civil and Construction Engineers"

B. Significance Within Academic Program: Mandatory course for degree

1. **Anticipated enrolment** up to 20 in 2021 up to 40 in 2024
2. **If there is a proposed enrolment limit, state the limit and explain:** None
3. **Required for:** Major: BASc Civl Eng.
4. **Elective in:** None
5. **Course required by another major/minor:** None
6. **Course required or recommended by an accrediting agency:** YES
7. **Toward what degrees will the course be accepted for credit?** BASc Civl Eng

   This course is restricted to Engineering majors.
8. **What other courses are being proposed within the Program this year?** Multiple, see other motions
9. **What courses are being deleted from the Program this year?** None

C. Relation to Other Program Areas: Mandatory course for degree

1. **Identify courses in other UNBC Programs that overlap with this course; describe the overlap and comment on its significance:** None
2. **Is a preclusion required?** No
3. **If there is an overlap, and no preclusion is required, please explain why not: - N/A**
4. **Has this overlap been discussed with the Program concerned?** - N/A
5. **In offering this course, will UNBC require facilities or staff at other institutions?** No
6. **Is this course replacing an existing course that is included in one or more transfer agreements with external institutions?** No

D. Resources required: Faculty to teach the course

1. **Please describe ADDITIONAL resources required over the next five years to offer this course.**
   i. **College Staffing:** Future Civil Engineering faculty member
   ii. **Space (classroom, laboratory, storage, etc.):** Regular classroom, future engineering lab space
   iii: **Library Holdings:** See attached form
   iv. **Computer (time, hardware, software):** None required

E. Additional Attached Materials None

F. Other Considerations

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

2. **Other Information:** None

3. **Attachment Pages (in addition to required "Library Holdings" Form):** 0 pages

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

1. **College(s): CSAM**

2. **SCCC Reviewed: March 20, 2019**

3. **College Council Motion Number(s): CSAMCC 2019:04:11:07**

4. **College Council Approval Date(s): APRIL 11, 2019**

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

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

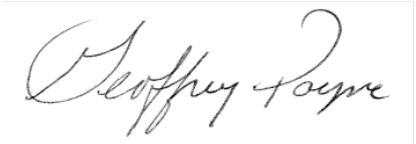
INFORMATION TO BE COMPLETED AFTER SENATE COMMITTEE ON ACADEMIC AFFAIRS MEETING

Brief Summary of Committee Debate:

Motion No.: **Omnibus** SCAAF201905.12

Moved by: L. Haslett **Seconded by:** S. Wagner

Committee Decision: CARRIED

Approved by SCAAF: May 8, 2019 (**Date**)  (**Chair's Signature**)

For recommendation to ✓, or information of _____ Senate.

UNBC UNIVERSITY OF NORTHERN BRITISH COLUMBIA

Motion Number (assigned by Steering Committee of Senate): **S-201905.21**

SENATE COMMITTEE ON ACADEMIC AFFAIRS

NEW COURSE APPROVAL MOTION FORM

Motion: That the new course CIVE 260-4 Soil Mechanics I be approved as follows:

A. Description of the Course

1. **Proposed semester of first offering:** January 2021

2. **Academic Program:** BASc Civil Engineering and BASc in Environmental Engineering

3. **Course Subject, Number*, and Credit hours:** CIVE 260-4

4. **Course Title: Soil Mechanics I**

5. **Goal(s) of Course:** This course introduces key principles of Soil Mechanics. A lab section is included for hands-on learning.

6. **Calendar Course Description:**
This course provides students with a theoretical and practical understanding of soil properties. Topics include but are not limited to the following: physical properties of soils; classification; capillarity and permeability; seepage; filter criteria; geostatic stresses; consolidation; and slope stability.

7. **Credit Hours:** 4
   a) **Can the course be repeated for credit if the subject matter differs substantially?** No
   b) **Is variable credit available for this course?** No

8. **Contact Hours (per week):** Lecture 3 Lab 3 (every 2nd week)

9. **Prerequisites (taken prior):** Admission to an Engineering program; PHYS 110; ENGR 130; MATH-220

10. **Prerequisites with concurrency (taken prior or simultaneously):** None

11. **Co-requisites (must be taken simultaneously):** None

12. **Preclusions:** None

13. **Course Equivalencies:** None

14. **Grade Mode:** Normal

15. **Course to be offered:** Each year

16. **Proposed text / readings:** Standard textbook, e.g.: Budhu “Soil Mechanics Fundamentals”

B. Significance Within Academic Program: Mandatory course for degree

1. **Anticipated enrolment** up to 40 in 2021 up to 80 in 2024
2. **If there is a proposed enrolment limit, state the limit and explain:** None
3. **Required for:** Major: BASc Civl Eng and BASc Env Eng.
4. **Elective in:** None
5. **Course required by another major/minor:** None
6. **Course required or recommended by an accrediting agency:** YES
7. **Toward what degrees will the course be accepted for credit?** BASc Civl Eng and BASc Env Eng
8. **What other courses are being proposed within the Program this year?** Multiple, see other motions
9. **What courses are being deleted from the Program this year?** None

C. Relation to Other Program Areas: Mandatory course for degree

1. **Identify courses in other UNBC Programs that overlap with this course; describe the overlap and comment on its significance:** None
2. **Is a preclusion required?** No
3. **If there is an overlap, and no preclusion is required, please explain why not: - N/A**
4. **Has this overlap been discussed with the Program concerned?** - N/A
5. **In offering this course, will UNBC require facilities or staff at other institutions?** No
6. **Is this course replacing an existing course that is included in one or more transfer agreements with external institutions?** No

D. Resources required: Faculty to teach the course

1. **Please describe ADDITIONAL resources required over the next five years to offer this course.**
   i. **College Staffing:** Future Civil Engineering faculty member
   ii. **Space (classroom, laboratory, storage, etc.):** Regular classroom, future engineering lab space
   iii: **Library Holdings:** See attached form
   iv. **Computer (time, hardware, software):** None required

E. Additional Attached Materials None

F. Other Considerations

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

2. **Other Information:** None

3. **Attachment Pages (in addition to required "Library Holdings" Form):** 0 pages

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

1. **College(s): CSAM**

2. **SCCC Reviewed: March 20, 2019**

3. **College Council Motion Number(s): CSAMCC 2019:04:11:08**

4. **College Council Approval Date(s): April 11, 2019**

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

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

INFORMATION TO BE COMPLETED AFTER SENATE COMMITTEE ON ACADEMIC AFFAIRS MEETING

Brief Summary of Committee Debate:

Motion No.: **Omnibus** SCAAF201905.13

Moved by: L. Haslett **Seconded by:** S. Wagner

Committee Decision: CARRIED

Approved by SCAAF: May 8, 2019 _____
Date **Chair's Signature**

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

UNBC UNIVERSITY OF NORTHERN BRITISH COLUMBIA

Motion Number (assigned by Steering Committee of Senate): **S-201905.22**

SENATE COMMITTEE ON ACADEMIC AFFAIRS

NEW COURSE APPROVAL MOTION FORM

Motion: That the new course CIVE 320-3 Structural Analysis I be approved as follows:

A. Description of the Course

1. **Proposed semester of first offering:** September 2021
2. **Academic Program:** BASc Civil Engineering
3. **Course Subject, Number*, and Credit hours: CIVE 320-3**
4. **Course Title: Structural Analysis I**
5. **Goal(s) of Course:** This course introduces structural analysis.
6. **Calendar Course Description:**
This course introduces forms of structural analysis including but not limited to the following: indeterminate structural analysis; approximate analysis of structures; calculation of displacements using virtual work; flexibility (force) method; stiffness method for frames; moment distribution method; and P-delta and geometric stiffness, buckling of columns and frames.
7. **Credit Hours:** 3
   a) **Can the course be repeated for credit if the subject matter differs substantially?** No
   b) **Is variable credit available for this course?** No
8. **Contact Hours (per week):** Lecture 3 Tutorial 2
9. **Prerequisites (taken prior):** Admission to an Engineering program; ENGR 240; ENGR 250
10. **Prerequisites with concurrency (taken prior or simultaneously):** None
11. **Co-requisites (must be taken simultaneously):** None
12. **Preclusions:** None
13. **Course Equivalencies:** None
14. **Grade Mode:** Normal
15. **Course to be offered:** Each year
16. **Proposed text / readings:** Standard textbook, e.g.: Hibbeler “Structural Analysis”

B. Significance Within Academic Program: Mandatory course for degree

1. **Anticipated enrolment** up to 20 in 2021 up to 40 in 2024
2. **If there is a proposed enrolment limit, state the limit and explain:** None
3. **Required for:** Major: BASc Civl Eng.
4. **Elective in:** None
5. **Course required by another major/minor:** None
6. **Course required or recommended by an accrediting agency:** YES
7. **Toward what degrees will the course be accepted for credit?** BASc Civl Eng
8. **What other courses are being proposed within the Program this year?** Multiple, see other motions
9. **What courses are being deleted from the Program this year?** None

C. Relation to Other Program Areas: Mandatory course for degree

1. **Identify courses in other UNBC Programs that overlap with this course; describe the overlap and comment on its significance:** None
2. **Is a preclusion required?** No
3. **If there is an overlap, and no preclusion is required, please explain why not: - N/A**
4. **Has this overlap been discussed with the Program concerned?** - N/A
5. **In offering this course, will UNBC require facilities or staff at other institutions?** No
6. **Is this course replacing an existing course that is included in one or more transfer agreements with external institutions?** No

D. Resources required: Faculty to teach the course

1. **Please describe ADDITIONAL resources required over the next five years to offer this course.**
   i. **College Staffing:** Future Civil Engineering faculty member
   ii. **Space (classroom, laboratory, storage, etc.):** Regular classroom
   iii: **Library Holdings:** See attached form
   iv. **Computer (time, hardware, software):** To be determined by instructor and software committee

E. Additional Attached Materials None

F. Other Considerations

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

2. **Other Information:** None

3. **Attachment Pages (in addition to required "Library Holdings" Form):** 0 pages

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

1. **College(s): CSAM**

2. **SCCC Reviewed: March 20, 2019**

3. **College Council Motion Number(s): CSAMCC 2019:04:11:09**

4. **College Council Approval Date(s): April 1, 2019**

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

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

INFORMATION TO BE COMPLETED AFTER SENATE COMMITTEE ON ACADEMIC AFFAIRS MEETING

Brief Summary of Committee Debate:

Motion No.: **Omnibus** SCAAF201905.14

Moved by: L. Haslett **Seconded by:** S. Wagner

Committee Decision: CARRIED

Approved by SCAAF: May 8, 2019 _____
Date **Chair's Signature**

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

UNBC UNIVERSITY OF NORTHERN BRITISH COLUMBIA

Motion Number (assigned by Steering Committee of Senate): **S-201905.23**

SENATE COMMITTEE ON ACADEMIC AFFAIRS

NEW COURSE APPROVAL MOTION FORM

Motion: That the new course CIVE 321-3 Structural Analysis II be approved as follows:

A. Description of the Course

1. **Proposed semester of first offering:** January 2022
2. **Academic Program:** BASc Civil Engineering
3. **Course Subject, Number*, and Credit hours: CIVE 321-3**
4. **Course Title: Structural Analysis II**
5. **Goal(s) of Course:** This course explores advanced concepts of structural analysis.
6. **Calendar Course Description:**
This course explores the following advanced concepts of structural analysis: shear flow and deformation; St. Venant torsion and warping torsion; beams on an elastic foundation; shear wall analysis and elasto-plastic analysis. Students are introduced to the following finite element method and structural dynamics: mode shapes; natural frequencies; lumped mass models; modal analysis and response spectra.
7. **Credit Hours:** 3
   a) **Can the course be repeated for credit if the subject matter differs substantially?** No
   b) **Is variable credit available for this course?** No
8. **Contact Hours (per week):** Lecture 3 Tutorial 2
9. **Prerequisites (taken prior):** Admission to an Engineering program and CIVE 320
10. **Prerequisites with concurrency (taken prior or simultaneously):** None
11. **Co-requisites (must be taken simultaneously):** None
12. **Preclusions:** None
13. **Course Equivalencies:** None
14. **Grade Mode:** Normal
15. **Course to be offered:** Each year
16. **Proposed text / readings:** Standard textbook, e.g.: Hibbeler “Structural Analysis”

B. Significance Within Academic Program: Mandatory course for degree

1. **Anticipated enrolment** up to 20 in 2022 up to 40 in 2025
2. **If there is a proposed enrolment limit, state the limit and explain:** None
3. **Required for:** Major: BASc Civl Eng.
4. **Elective in:** None
5. **Course required by another major/minor:** None
6. **Course required or recommended by an accrediting agency:** YES
7. **Toward what degrees will the course be accepted for credit?** BASc Civl Eng
8. **What other courses are being proposed within the Program this year?** Multiple, see other motions
9. **What courses are being deleted from the Program this year?** None

C. Relation to Other Program Areas: Mandatory course for degree

1. **Identify courses in other UNBC Programs that overlap with this course; describe the overlap and comment on its significance:** None
2. **Is a preclusion required?** No
3. **If there is an overlap, and no preclusion is required, please explain why not: - N/A**
4. **Has this overlap been discussed with the Program concerned?** - N/A
5. **In offering this course, will UNBC require facilities or staff at other institutions?** No
6. **Is this course replacing an existing course that is included in one or more transfer agreements with external institutions?** No

D. Resources required: Faculty to teach the course

1. **Please describe ADDITIONAL resources required over the next five years to offer this course.**
   i. **College Staffing:** Future Civil Engineering faculty member
   ii. **Space (classroom, laboratory, storage, etc.):** Regular classroom
   iii: **Library Holdings:** See attached form
   iv. **Computer (time, hardware, software):** To be determined by instructor and software committee

E. Additional Attached Materials None

F. Other Considerations

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

2. **Other Information:** None

3. **Attachment Pages (in addition to required "Library Holdings" Form):** 0 pages

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

1. **College(s): CSAM**

2. **SCCC Reviewed: March 20, 2019**

3. **College Council Motion Number(s): CSAMCC 2019:04:11:10**

4. **College Council Approval Date(s): April 11, 2019**

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

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

INFORMATION TO BE COMPLETED AFTER SENATE COMMITTEE ON ACADEMIC AFFAIRS MEETING

Brief Summary of Committee Debate:

Motion No.: **Omnibus** SCAAF201905.15

Moved by: L. Haslett **Seconded by:** S. Wagner

Committee Decision: CARRIED

Approved by SCAAF: May 8, 2019 _____
Date **Chair's Signature**

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

UNBC UNIVERSITY OF NORTHERN BRITISH COLUMBIA

Motion Number (assigned by Steering Committee of Senate): **S-201905.24**

SENATE COMMITTEE ON ACADEMIC AFFAIRS

NEW COURSE APPROVAL MOTION FORM

Motion: That the new course CIVE 340-3 Structural Design I be approved as follows:

A. Description of the Course

1. **Proposed semester of first offering:** September 2021
2. **Academic Program:** BASc Civil Engineering
3. **Course Subject, Number*, and Credit hours: CIVE 340-3**
4. **Course Title: Structural Design I**
5. **Goal(s) of Course:** This course introduces streel and wood structure design.
6. **Calendar Course Description:**
This course focuses on steel and wood structure design. Topics include but are not limited to the following: design loads for structures; properties of structural steel and structural wood; design of tension compression and bending members; bolted and welded connections; and the use of design standards and handbooks.
7. **Credit Hours:** 3
   a) **Can the course be repeated for credit if the subject matter differs substantially?** No
   b) **Is variable credit available for this course?** No
8. **Contact Hours (per week):** Lecture 3 Tutorial 2
9. **Prerequisites (taken prior):** Admission to an Engineering program; ENGR 217; CIVE 241
10. **Prerequisites with concurrency (taken prior or simultaneously):** None
11. **Co-requisites (must be taken simultaneously):** None
12. **Preclusions:** None
13. **Course Equivalencies:** None
14. **Grade Mode:** Normal
15. **Course to be offered:** Each year
16. **Proposed text / readings:** Steel Design Handbook, Wood Design Manual

B. Significance Within Academic Program: Mandatory course for degree

1. **Anticipated enrolment** up to 20 in 2021 up to 40 in 2024
2. **If there is a proposed enrolment limit, state the limit and explain:** None
3. **Required for:** Major: BASc Civl Eng.
4. **Elective in:** None
5. **Course required by another major/minor:** None
6. **Course required or recommended by an accrediting agency:** YES
7. **Toward what degrees will the course be accepted for credit?** BASc Civl Eng
8. **What other courses are being proposed within the Program this year?** Multiple, see other motions
9. **What courses are being deleted from the Program this year?** None

C. Relation to Other Program Areas: Mandatory course for degree

1. **Identify courses in other UNBC Programs that overlap with this course; describe the overlap and comment on its significance:** None
2. **Is a preclusion required?** 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?** -
5. **In offering this course, will UNBC require facilities or staff at other institutions?** No
6. **Is this course replacing an existing course that is included in one or more transfer agreements with external institutions?** No

D. Resources required: Faculty to teach the course

1. **Please describe ADDITIONAL resources required over the next five years to offer this course.**
   i. **College Staffing:** Future Civil Engineering faculty member
   ii. **Space (classroom, laboratory, storage, etc.):** Regular classroom
   iii: **Library Holdings:** See attached form
   iv. **Computer (time, hardware, software):** None required

E. Additional Attached Materials None

F. Other Considerations

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

2. **Other Information:** None

3. **Attachment Pages (in addition to required "Library Holdings" Form):** 0 pages

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

1. **College(s): CSAM**

2. **SCCC Reviewed: March 20, 2019**

3. **College Council Motion Number(s): CSAMCC 2019:04:11:11**

4. **College Council Approval Date(s): April 11, 2019**

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

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

INFORMATION TO BE COMPLETED AFTER SENATE COMMITTEE ON ACADEMIC AFFAIRS MEETING

Brief Summary of Committee Debate:

Motion No.: **Omnibus** SCAAF201905.16

Moved by: L. Haslett **Seconded by:** S. Wagner

Committee Decision: CARRIED

Approved by SCAAF: May 8, 2019 (**Date**)  (**Chair's Signature**)

For recommendation to ✓, or information of _____ Senate.

UNBC UNIVERSITY OF NORTHERN BRITISH COLUMBIA

Motion Number (assigned by Steering Committee of Senate): S-201905.25

SENATE COMMITTEE ON ACADEMIC AFFAIRS

NEW COURSE APPROVAL MOTION FORM

Motion: That the new course CIVE 341-3 Structural Design II be approved as follows:

A. Description of the Course

1. **Proposed semester of first offering:** January 2022
2. **Academic Program:** BASc Civil Engineering
3. **Course Subject, Number*, and Credit hours: CIVE 341-3**
4. **Course Title: Structural Design II**
5. **Goal(s) of Course:** This course introduces concrete and masonry structure design.
6. **Calendar Course Description:**
This course focuses on concrete and masonry structure design. Topics include but are not limited to the following: design loads for structures; properties of concrete and masonry; design of tension compression and bending members; connections; and the use of design standards and handbooks.
7. **Credit Hours:** 3
   a) **Can the course be repeated for credit if the subject matter differs substantially?** No
   b) **Is variable credit available for this course?** No
8. **Contact Hours (per week):** Lecture 3 Tutorial 2
9. **Prerequisites (taken prior):** Admission to an Engineering program; ENGR 217; CIVE 241
10. **Prerequisites with concurrency (taken prior or simultaneously):** None
11. **Co-requisites (must be taken simultaneously):** None
12. **Preclusions:** None
13. **Course Equivalencies:** None
14. **Grade Mode:** Normal
15. **Course to be offered:** Each year
16. **Proposed text / readings:** Concrete Design Handbook

B. Significance Within Academic Program: Mandatory course for degree

1. **Anticipated enrolment** up to 15 in 2022 up to 35 in 2025
2. **If there is a proposed enrolment limit, state the limit and explain:** None
3. **Required for:** Major: BASc Civl Eng.
4. **Elective in:** None
5. **Course required by another major/minor:** None
6. **Course required or recommended by an accrediting agency:** YES
7. **Toward what degrees will the course be accepted for credit?** BASc Civl Eng
8. **What other courses are being proposed within the Program this year?** Multiple, see other motions
9. **What courses are being deleted from the Program this year?** None

C. Relation to Other Program Areas: Mandatory course for degree

1. **Identify courses in other UNBC Programs that overlap with this course; describe the overlap and comment on its significance:** None
2. **Is a preclusion required?** No
3. **If there is an overlap, and no preclusion is required, please explain why not: - N/A**
4. **Has this overlap been discussed with the Program concerned?** - N/A
5. **In offering this course, will UNBC require facilities or staff at other institutions?** No
6. **Is this course replacing an existing course that is included in one or more transfer agreements with external institutions?** No

D. Resources required: Faculty to teach the course

1. **Please describe ADDITIONAL resources required over the next five years to offer this course.**
   i. **College Staffing:** Future Civil Engineering faculty member
   ii. **Space (classroom, laboratory, storage, etc.):** Regular classroom
   iii: **Library Holdings:** See attached form
   iv. **Computer (time, hardware, software):** None required

E. Additional Attached Materials None

F. Other Considerations

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

2. **Other Information:** None

3. **Attachment Pages (in addition to required "Library Holdings" Form):** 0 pages

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

1. **College(s): CSAM**

2. **SCCC Reviewed: March 20, 2019**

3. **College Council Motion Number(s): CSAMCC 2019:04:11:12**

4. **College Council Approval Date(s): April 11, 2019**

5. **Senate Committee on First Nations and Aboriginal Peoples Motion Number:**

6. **Senate Committee on First Nations and Aboriginal Peoples Meeting Date:**

INFORMATION TO BE COMPLETED AFTER SENATE COMMITTEE ON ACADEMIC AFFAIRS MEETING

Brief Summary of Committee Debate:

Motion No.: **Omnibus** SCAAF201905.17

Moved by: L. Haslett **Seconded by:** S. Wagner

Committee Decision: CARRIED

Approved by SCAAF: May 8, 2019 _____
Date **Chair's Signature**

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

UNBC UNIVERSITY OF NORTHERN BRITISH COLUMBIA

Motion Number (assigned by Steering Committee of Senate): **S-201905.26**

SENATE COMMITTEE ON ACADEMIC AFFAIRS

NEW COURSE APPROVAL MOTION FORM

Motion: That the new course CIVE 360-4 Soil Mechanics II be approved as follows:

A. Description of the Course

1. **Proposed semester of first offering:** September 2021
2. **Academic Program:** BASc Civil Engineering
3. **Course Subject, Number*, and Credit hours: CIVE 360-4**
4. **Course Title: Soil Mechanics II**
5. **Goal(s) of Course:** This course explores advanced concept of Soil Mechanics.
6. **Calendar Course Description:**
This course continues the study of soil mechanics begun in CIVE 260. Topics include but are not limited to the following: concept of failure and failure theories; Mohr-Coulomb failure criterion; shear resistance between soil particles; shear testing methods; pore pressure parameters; shear strength of non-cohesive and cohesive soils; types of stability analysis; flow of water in embankments/dams and natural slopes; engineering in permafrost; and geo-environmental engineering.
7. **Credit Hours:** 4
   a) **Can the course be repeated for credit if the subject matter differs substantially?** No
   b) **Is variable credit available for this course?** No
8. **Contact Hours (per week):** Lecture 3 Lab 3 (every 2nd week)
9. **Prerequisites (taken prior):** Admission to an Engineering program and CIVE 260
10. **Prerequisites with concurrency (taken prior or simultaneously):** None
11. **Co-requisites (must be taken simultaneously):** None
12. **Preclusions:** None
13. **Course Equivalencies:** None
14. **Grade Mode:** Normal
15. **Course to be offered:** Each year
16. **Proposed text / readings:** Standard textbook, e.g. as “Advanced Soil Mechanics”

B. Significance Within Academic Program: Mandatory course for degree

1. **Anticipated enrolment** up to 20 in 2021 up to 40 in 2024
2. **If there is a proposed enrolment limit, state the limit and explain:** None
3. **Required for:** Major: BASc Civl Eng.
4. **Elective in:** None
5. **Course required by another major/minor:** None
6. **Course required or recommended by an accrediting agency:** YES
7. **Toward what degrees will the course be accepted for credit?** BASc Civl Eng
8. **What other courses are being proposed within the Program this year?** Multiple, see other motions
9. **What courses are being deleted from the Program this year?** None

C. Relation to Other Program Areas: Mandatory course for degree

1. **Identify courses in other UNBC Programs that overlap with this course; describe the overlap and comment on its significance:** None
2. **Is a preclusion required?** No
3. **If there is an overlap, and no preclusion is required, please explain why not: - N/A**
4. **Has this overlap been discussed with the Program concerned?** - N/A
5. **In offering this course, will UNBC require facilities or staff at other institutions?** No
6. **Is this course replacing an existing course that is included in one or more transfer agreements with external institutions?** No

D. Resources required: Faculty to teach the course

1. **Please describe ADDITIONAL resources required over the next five years to offer this course.**
   i. **College Staffing:** Future Civil Engineering faculty member
   ii. **Space (classroom, laboratory, storage, etc.):** Regular classroom, future engineering lab space
   iii: **Library Holdings:** See attached form
   iv. **Computer (time, hardware, software):** None required

E. Additional Attached Materials None

F. Other Considerations

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

2. **Other Information:** None

3. **Attachment Pages (in addition to required "Library Holdings" Form):** 0 pages

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

1. **College(s): CSAM**

2. **SCCC Reviewed: March 20, 2019**

3. **College Council Motion Number(s): CSAMCC 2019:04:11:13**

4. **College Council Approval Date(s): April 11, 2019**

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

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

INFORMATION TO BE COMPLETED AFTER SENATE COMMITTEE ON ACADEMIC AFFAIRS MEETING

Brief Summary of Committee Debate:

Motion No.: **Omnibus** SCAAF201905.18

Moved by: L. Haslett **Seconded by:** S. Wagner

Committee Decision: CARRIED

Approved by SCAAF: May 8, 2019 _____
Date **Chair's Signature**

For recommendation to ✓, or information of _____ Senate.

UNBC UNIVERSITY OF NORTHERN BRITISH COLUMBIA

Motion Number (assigned by Steering Committee of Senate): S-201905.27

SENATE COMMITTEE ON ACADEMIC AFFAIRS

NEW COURSE APPROVAL MOTION FORM

Motion: That the new course CIVE 370-3 Transportation Systems be approved as follows:

A. Description of the Course

1. **Proposed semester of first offering:** January 2022
2. **Academic Program:** BASc Civil Engineering
3. **Course Subject, Number*, and Credit hours: CIVE 370-3**
4. **Course Title: Transportation Systems**
5. **Goal(s) of Course:** This course introduces Transportation Systems.
6. **Calendar Course Description:**
This course introduces elements and operations involved in various transportation systems (air, sea, rail, road). Topics include but are not limited to the following: analysis of system performance; traffic stream characteristics; traffic flow theory; traffic engineering studies; intersection control; capacity and level of service of freeways and signalized intersections; the role of traffic engineering in sustainable transportation systems; highway safety; and travel demand forecasting.
7. **Credit Hours:** 3
   a) **Can the course be repeated for credit if the subject matter differs substantially?** No
   b) **Is variable credit available for this course?** No
8. **Contact Hours (per week):** Lecture 3
9. **Prerequisites (taken prior):** Admission to an Engineering program; ENGR 211; ENGR 217
10. **Prerequisites with concurrency (taken prior or simultaneously):** None
11. **Co-requisites (must be taken simultaneously):** None
12. **Preclusions:** None
13. **Course Equivalencies:** None
14. **Grade Mode:** Normal
15. **Course to be offered:** Each year
16. **Proposed text / readings:** Textbook, e.g. Papacostas and Prevedouros “Transportation Engineering and Planning”

B. Significance Within Academic Program: Mandatory course for degree

1. **Anticipated enrolment** up to 15 in 2022 up to 35 in 2025
2. **If there is a proposed enrolment limit, state the limit and explain:** None
3. **Required for:** Major: BASc Civl Eng.
4. **Elective in:** BASc Env Eng.
5. **Course required by another major/minor:** None
6. **Course required or recommended by an accrediting agency:** YES
7. **Toward what degrees will the course be accepted for credit?** BASc Civl Eng and BASc Env Eng.
8. **What other courses are being proposed within the Program this year?** Multiple, see other motions
9. **What courses are being deleted from the Program this year?** None

C. Relation to Other Program Areas: Mandatory course for degree

1. **Identify courses in other UNBC Programs that overlap with this course; describe the overlap and comment on its significance:** None
2. **Is a preclusion required?** No
3. **If there is an overlap, and no preclusion is required, please explain why not: - N/A**
4. **Has this overlap been discussed with the Program concerned?** - N/A
5. **In offering this course, will UNBC require facilities or staff at other institutions?** No
6. **Is this course replacing an existing course that is included in one or more transfer agreements with external institutions?** No

D. Resources required: Faculty to teach the course

1. **Please describe ADDITIONAL resources required over the next five years to offer this course.**
   i. **College Staffing:** Future Civil Engineering faculty member
   ii. **Space (classroom, laboratory, storage, etc.):** Regular classroom
   iii: **Library Holdings:** See attached form
   iv. **Computer (time, hardware, software):** None required

E. Additional Attached Materials None

F. Other Considerations

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

2. **Other Information:** None

3. **Attachment Pages (in addition to required "Library Holdings" Form):** 0 pages

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

1. **College(s): CSAM**

2. **SCCC Reviewed: March 20, 2019**

3. **College Council Motion Number(s): CSAMCC 2019:04:11:14**

4. **College Council Approval Date(s): April 11, 2019**

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

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

INFORMATION TO BE COMPLETED AFTER SENATE COMMITTEE ON ACADEMIC AFFAIRS MEETING

Brief Summary of Committee Debate:

Motion No.: **Omnibus** SCAAF201905.19

Moved by: L. Haslett **Seconded by:** S. Wagner

Committee Decision: CARRIED

Approved by SCAAF: May 8, 2019 

Date **Chair's Signature**

For recommendation to ✓, or information of _____ Senate.

UNBC UNIVERSITY OF NORTHERN BRITISH COLUMBIA

Motion Number (assigned by Steering Committee of Senate): **S-201905.28**

SENATE COMMITTEE ON ACADEMIC AFFAIRS

NEW COURSE APPROVAL MOTION FORM

Motion: That the new course CIVE 372-3 Construction Management be approved as follows:

A. Description of the Course

1. **Proposed semester of first offering:** September 2021
2. **Academic Program:** BASc Civil Engineering
3. **Course Subject, Number*, and Credit hours: CIVE 372-3**
4. **Course Title: Transportation Systems**
5. **Goal(s) of Course:** This course introduces Construction Management.
6. **Calendar Course Description:**
This course provides the knowledge required for managers. Topics include but are not limited to the following: construction methods selection; practice of construction management; contract administration and control; computer integration in administration; control and project network techniques; total quality management and the ISO framework; design of false work and formwork lifting and rigging; welding techniques and procedures; and occupational health and safety.
7. **Credit Hours:** 3
   a) **Can the course be repeated for credit if the subject matter differs substantially?** No
   b) **Is variable credit available for this course?** No
8. **Contact Hours (per week):** Lecture 3
9. **Prerequisites (taken prior):** Admission to an Engineering program; ENGR 211; ENGR 217
10. **Prerequisites with concurrency (taken prior or simultaneously):** None
11. **Co-requisites (must be taken simultaneously):** None
12. **Preclusions:** None
13. **Course Equivalencies:** None
14. **Grade Mode:** Normal
15. **Course to be offered:** Each year

16. Proposed text / readings: Standard textbook, e.g. Gould and Joyce "Construction Project Management"

B. Significance Within Academic Program: Mandatory course for degree

1. **Anticipated enrolment** up to 20 in 2021 up to 40 in 2024
2. **If there is a proposed enrolment limit, state the limit and explain:** None
3. **Required for:** Major: BASc Civl Eng.
4. **Elective in:** None
5. **Course required by another major/minor:** None
6. **Course required or recommended by an accrediting agency:** YES
7. **Toward what degrees will the course be accepted for credit?** BASc Civl Eng
8. **What other courses are being proposed within the Program this year?** Multiple, see other motions
9. **What courses are being deleted from the Program this year?** None

C. Relation to Other Program Areas: Mandatory course for degree

1. **Identify courses in other UNBC Programs that overlap with this course; describe the overlap and comment on its significance:** None
2. **Is a preclusion required?** 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?** -
5. **In offering this course, will UNBC require facilities or staff at other institutions?** No
6. **Is this course replacing an existing course that is included in one or more transfer agreements with external institutions?** No

D. Resources required: Faculty to teach the course

1. **Please describe ADDITIONAL resources required over the next five years to offer this course.**
   i. **College Staffing:** Future Civil Engineering faculty member
   ii. **Space (classroom, laboratory, storage, etc.):** Regular classroom
   iii: **Library Holdings:** See attached form
   iv. **Computer (time, hardware, software):** None required

E. Additional Attached Materials None

F. Other Considerations

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

2. **Other Information:** None

3. **Attachment Pages (in addition to required "Library Holdings" Form):** 0 pages

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

1. **College(s): CSAM**

2. **SCCC Reviewed: March 20, 2019**

3. **College Council Motion Number(s): CSAMCC 2019:04:11:15**

4. **College Council Approval Date(s): April 11, 2019**

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

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

INFORMATION TO BE COMPLETED AFTER SENATE COMMITTEE ON ACADEMIC AFFAIRS MEETING

Brief Summary of Committee Debate:

Motion No.: **Omnibus** SCAAF201905.20

Moved by: L. Haslett **Seconded by:** S. Wagner

Committee Decision: CARRIED

Approved by SCAAF: May 8, 2019 _____
Date **Chair's Signature**

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

UNBC UNIVERSITY OF NORTHERN BRITISH COLUMBIA

Motion Number (assigned by Steering Committee of Senate): **S-201905.29**

SENATE COMMITTEE ON ACADEMIC AFFAIRS

NEW COURSE APPROVAL MOTION FORM

Motion: That the new course CIVE 400-3 Capstone Design Project I be approved as follows:

A. Description of the Course

1. **Proposed semester of first offering:** September 2022
2. **Academic Program:** BASc Civil Engineering and BASc in Environmental Engineering
3. **Course Subject, Number*, and Credit hours: CIVE 400-3**
4. **Course Title: Capstone Design Project I**
5. **Goal(s) of Course:** This course will apply concepts from the degree program.
6. **Calendar Course Description:**
This is the first course of a two-course civil engineering capstone design project intended to provide real life experience as part of a design team. Working in teams, students solicit a project from an industrial sponsor, develop a full set of specifications, and deliver a project proposal and preliminary design report. The intent is for the teams to draw upon all of the knowledge gained during their civil engineering degree.
7. **Credit Hours:** 3
   a) **Can the course be repeated for credit if the subject matter differs substantially?** No
   b) **Is variable credit available for this course?** No
8. **Contact Hours (per week):** Lecture 3
9. **Prerequisites (taken prior):** Admission to an Engineering program; ENGR 300; ENGR 380
10. **Prerequisites with concurrency (taken prior or simultaneously):** None
11. **Co-requisites (must be taken simultaneously):** None
12. **Preclusions:** None
13. **Course Equivalencies:** None
14. **Grade Mode:** Normal
15. **Course to be offered:** Each year
16. **Proposed text / readings:** None

B. Significance Within Academic Program: Mandatory course for degree

1. **Anticipated enrolment** up to 20 in 2022 up to 40 in 2025
2. **If there is a proposed enrolment limit, state the limit and explain:** None
3. **Required for:** Major: BASc Civl Eng and BASc Env Eng.
4. **Elective in:** None
5. **Course required by another major/minor:** None
6. **Course required or recommended by an accrediting agency:** YES
7. **Toward what degrees will the course be accepted for credit?** BASc Civl Eng and BASc Env Eng
8. **What other courses are being proposed within the Program this year?** Multiple, see other motions
9. **What courses are being deleted from the Program this year?** None

C. Relation to Other Program Areas: Mandatory course for degree

1. **Identify courses in other UNBC Programs that overlap with this course; describe the overlap and comment on its significance:** None
2. **Is a preclusion required?** No
3. **If there is an overlap, and no preclusion is required, please explain why not: - N/A**
4. **Has this overlap been discussed with the Program concerned?** - N/A
5. **In offering this course, will UNBC require facilities or staff at other institutions?** No
6. **Is this course replacing an existing course that is included in one or more transfer agreements with external institutions?** No

D. Resources required: Faculty to teach the course

1. **Please describe ADDITIONAL resources required over the next five years to offer this course.**
   i. **College Staffing:** Future Civil Engineering faculty member
   ii. **Space (classroom, laboratory, storage, etc.):** Regular classroom
   iii: **Library Holdings:** See attached form
   iv. **Computer (time, hardware, software):** None required

E. Additional Attached Materials None

F. Other Considerations

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

2. **Other Information:** None

3. **Attachment Pages (in addition to required "Library Holdings" Form):** 0 pages

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

1. **College(s): CSAM**

2. **SCCC Reviewed: March 20, 2019**

3. **College Council Motion Number(s): CSAMCC 2019:04:11:16**

4. **College Council Approval Date(s): April 11, 2019**

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

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

INFORMATION TO BE COMPLETED AFTER SENATE COMMITTEE ON ACADEMIC AFFAIRS MEETING

Brief Summary of Committee Debate:

Motion No.: **Omnibus** SCAAF201905.21

Moved by: L. Haslett **Seconded by:** S. Wagner

Committee Decision: CARRIED

Approved by SCAAF: May 8, 2019 _____
Date **Chair's Signature**

For recommendation to ✓, or information of _____ Senate.

UNBC UNIVERSITY OF NORTHERN BRITISH COLUMBIA

Motion Number (assigned by Steering Committee of Senate): **S-201905.30**

SENATE COMMITTEE ON ACADEMIC AFFAIRS

NEW COURSE APPROVAL MOTION FORM

Motion: That the new course CIVE 401-6 Capstone Design Project II be approved as follows:

A. Description of the Course

1. **Proposed semester of first offering:** January 2023
2. **Academic Program:** BASc Civil Engineering and BASc in Environmental Engineering
3. **Course Subject, Number*, and Credit hours: CIVE 401-6**
4. **Course Title: Capstone Design Project II**
5. **Goal(s) of Course:** This course will apply concepts from the degree program.
6. **Calendar Course Description:**
This course is the continuation of the two-semester civil engineering capstone design project. Working in teams, students complete the project started in CIVE 400-3 Capstone Design Project I and deliver a final design report. The intent is for the teams to draw upon all of the knowledge gained during their civil engineering degree.
7. **Credit Hours:** 6
   a) **Can the course be repeated for credit if the subject matter differs substantially?** No
   b) **Is variable credit available for this course?** No
8. **Contact Hours (per week):** Lecture 6
9. **Prerequisites (taken prior):** Admission to an Engineering program and CIVE 400
10. **Prerequisites with concurrency (taken prior or simultaneously):** None
11. **Co-requisites (must be taken simultaneously):** None
12. **Preclusions:** None
13. **Course Equivalencies:** None
14. **Grade Mode:** Normal
15. **Course to be offered:** Each year
16. **Proposed text / readings:** None

B. Significance Within Academic Program: Mandatory course for degree

1. **Anticipated enrolment** up to 20 in 2023 up to 40 in 2026
2. **If there is a proposed enrolment limit, state the limit and explain:** None
3. **Required for:** Major: BASc Civl Eng and BASc Env Eng.
4. **Elective in:** None
5. **Course required by another major/minor:** None
6. **Course required or recommended by an accrediting agency:** YES
7. **Toward what degrees will the course be accepted for credit?** BASc Civl Eng and BASc Env Eng
8. **What other courses are being proposed within the Program this year?** Multiple, see other motions
9. **What courses are being deleted from the Program this year?** None

C. Relation to Other Program Areas: Mandatory course for degree

1. **Identify courses in other UNBC Programs that overlap with this course; describe the overlap and comment on its significance:** None
2. **Is a preclusion required?** No
3. **If there is an overlap, and no preclusion is required, please explain why not: - N/A**
4. **Has this overlap been discussed with the Program concerned?** - N/A
5. **In offering this course, will UNBC require facilities or staff at other institutions?** No
6. **Is this course replacing an existing course that is included in one or more transfer agreements with external institutions?** No

D. Resources required: Faculty to teach the course

1. **Please describe ADDITIONAL resources required over the next five years to offer this course.**
   i. **College Staffing:** Future Civil Engineering faculty member
   ii. **Space (classroom, laboratory, storage, etc.):** Regular classroom
   iii: **Library Holdings:** See attached form
   iv. **Computer (time, hardware, software):** None required

E. Additional Attached Materials None

F. Other Considerations

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

2. **Other Information:** None

3. **Attachment Pages (in addition to required "Library Holdings" Form):** 0 pages

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

1. **College(s): CSAM**

2. **SCCC Reviewed: March 20, 2019**

3. **College Council Motion Number(s): CSAMCC 2019:04:11:17**

4. **College Council Approval Date(s): April 11, 2019**

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

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

INFORMATION TO BE COMPLETED AFTER SENATE COMMITTEE ON ACADEMIC AFFAIRS MEETING

Brief Summary of Committee Debate:

Motion No.: **Omnibus** SCAAF201905.22

Moved by: L. Haslett **Seconded by:** S. Wagner

Committee Decision: CARRIED

Approved by SCAAF: May 8, 2019 _____
Date **Chair's Signature**

For recommendation to ✓, or information of _____ Senate.

UNBC UNIVERSITY OF NORTHERN BRITISH COLUMBIA

Motion Number (assigned by Steering Committee of Senate): S-201905.31

SENATE COMMITTEE ON ACADEMIC AFFAIRS

NEW COURSE APPROVAL MOTION FORM

Motion: That the new course CIVE 411-3 Project Management be approved as follows:

A. Description of the Course

1. **Proposed semester of first offering:** September 2022
2. **Academic Program:** BASc Civil Engineering and BASc in Environmental Engineering
3. **Course Subject, Number*, and Credit hours: CIVE 411-3**
4. **Course Title: Project Management**
5. **Goal(s) of Course:** This course will explore concepts of Project Management.
6. **Calendar Course Description:**
This course examines perspectives on project management as it relates to Civil and Environmental Engineering. The study of project management spans all phases of the project life cycle including but not limited to the following: preliminary feasibility analysis; concept development; and commissioning a project. Students explore key issues in project management using case studies.
7. **Credit Hours:** 3
   a) **Can the course be repeated for credit if the subject matter differs substantially?** No
   b) **Is variable credit available for this course?** No
8. **Contact Hours (per week):** Lecture 3
9. **Prerequisites (taken prior):** Admission to an Engineering program; ENGR 300
10. **Prerequisites with concurrency (taken prior or simultaneously):** None
11. **Co-requisites (must be taken simultaneously):** None
12. **Preclusions:** None
13. **Course Equivalencies:** None
14. **Grade Mode:** Normal
15. **Course to be offered:** Each year
16. **Proposed text / readings:** Standard textbook e.g. Levy “Project Management in Construction”

B. Significance Within Academic Program: Mandatory course for degree

1. **Anticipated enrolment** up to 20 in 2022 up to 40 in 2025
2. **If there is a proposed enrolment limit, state the limit and explain:** None
3. **Required for:** Major: BASc Civl Eng and BASc Env Eng.
4. **Elective in:** None
5. **Course required by another major/minor:** None
6. **Course required or recommended by an accrediting agency:** YES
7. **Toward what degrees will the course be accepted for credit?** BASc Civl Eng and BASc Env Eng
8. **What other courses are being proposed within the Program this year?** Multiple, see other motions
9. **What courses are being deleted from the Program this year?** None

C. Relation to Other Program Areas: Mandatory course for degree

1. **Identify courses in other UNBC Programs that overlap with this course; describe the overlap and comment on its significance:** None
2. **Is a preclusion required?** No
3. **If there is an overlap, and no preclusion is required, please explain why not: - N/A**
4. **Has this overlap been discussed with the Program concerned?** - N/A
5. **In offering this course, will UNBC require facilities or staff at other institutions?** No
6. **Is this course replacing an existing course that is included in one or more transfer agreements with external institutions?** No

D. Resources required: Faculty to teach the course

1. **Please describe ADDITIONAL resources required over the next five years to offer this course.**
   i. **College Staffing:** Future Civil Engineering faculty member
   ii. **Space (classroom, laboratory, storage, etc.):** Regular classroom
   iii: **Library Holdings:** See attached form
   iv. **Computer (time, hardware, software):** None required

E. Additional Attached Materials None

F. Other Considerations

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

2. **Other Information:** None

3. **Attachment Pages (in addition to required "Library Holdings" Form):** 0 pages

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

1. **College(s): CSAM**

2. **SCCC Reviewed: March 20, 2019**

3. **College Council Motion Number(s): CSAMCC 2019:04:11:18**

4. **College Council Approval Date(s): April 11, 2019**

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

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

INFORMATION TO BE COMPLETED AFTER SENATE COMMITTEE ON ACADEMIC AFFAIRS MEETING

Brief Summary of Committee Debate:

Motion No.: **Omnibus** SCAAF201905.23

Moved by: L. Haslett **Seconded by:** S. Wagner

Committee Decision: CARRIED

Approved by SCAAF: May 8, 2019 

Date **Chair's Signature**

For recommendation to ✓, or information of _____ Senate.

UNBC UNIVERSITY OF NORTHERN BRITISH COLUMBIA

Motion Number (assigned by Steering Committee of Senate): **S-201905.32**

SENATE COMMITTEE ON ACADEMIC AFFAIRS

NEW COURSE APPROVAL MOTION FORM

Motion: That the new course CIVE 451-3 Building Physics be approved as follows:

A. Description of the Course

1. **Proposed semester of first offering:** September 2022
2. **Academic Program:** BASc Civil Engineering
3. **Course Subject, Number*, and Credit hours: CIVE 451-3**
4. **Course Title: Building Physics**
5. **Goal(s) of Course:** This course will explore concepts of Building Physics.
6. **Calendar Course Description:**
This course explores concepts of building physics associated with the design of modern buildings. The course focuses on the building envelope's role in environmental separation and controlling the movement of heat, air, and water in liquid and vapour states.
7. **Credit Hours:** 3
   a) **Can the course be repeated for credit if the subject matter differs substantially?** No
   b) **Is variable credit available for this course?** No
8. **Contact Hours (per week):** Lecture 3
9. **Prerequisites (taken prior):** Admission to an Engineering program; ENGR 221; ENGR 300
10. **Prerequisites with concurrency (taken prior or simultaneously):** None
11. **Co-requisites (must be taken simultaneously):** None
12. **Preclusions:** None
13. **Course Equivalencies:** None
14. **Grade Mode:** Normal
15. **Course to be offered:** Each year
16. **Proposed text / readings:** Hens “Building Physics - Heat, Air and Moisture: Fundamentals and Engineering Methods with Examples and Exercises”

B. Significance Within Academic Program: Technical Elective for degree

1. **Anticipated enrolment** up to 20 in 2022 up to 40 in 2025
2. **If there is a proposed enrolment limit, state the limit and explain:** None
3. **Required for:** None
4. **Elective in:** BASc Civl Eng and BASc Env Eng
5. **Course required by another major/minor:** None
6. **Course required or recommended by an accrediting agency:** YES
7. **Toward what degrees will the course be accepted for credit?** BASc Civl Eng and BASc Env Eng
8. **What other courses are being proposed within the Program this year?** Multiple, see other motions
9. **What courses are being deleted from the Program this year?** None

C. Relation to Other Program Areas: Technical Elective for degree

1. **Identify courses in other UNBC Programs that overlap with this course; describe the overlap and comment on its significance:** None
2. **Is a preclusion required?** No
3. **If there is an overlap, and no preclusion is required, please explain why not: - N/A**
4. **Has this overlap been discussed with the Program concerned?** - N/A
5. **In offering this course, will UNBC require facilities or staff at other institutions?** No
6. **Is this course replacing an existing course that is included in one or more transfer agreements with external institutions?** No

D. Resources required: Faculty to teach the course

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 None

F. Other Considerations

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

2. **Other Information:** None

3. **Attachment Pages (in addition to required "Library Holdings" Form):** 0 pages

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

1. **College(s): CSAM**

2. **SCCC Reviewed: March 20, 2019**

3. **College Council Motion Number(s): CSAMCC 2019:04:11:19**

4. **College Council Approval Date(s): April 11, 2019**

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

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

INFORMATION TO BE COMPLETED AFTER SENATE COMMITTEE ON ACADEMIC AFFAIRS MEETING

Brief Summary of Committee Debate:

Motion No.: **Omnibus** SCAAF201905.24

Moved by: L. Haslett **Seconded by:** S. Wagner

Committee Decision: CARRIED

Approved by SCAAF: May 8, 2019 _____
Date **Chair's Signature**

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

UNBC UNIVERSITY OF NORTHERN BRITISH COLUMBIA

Motion Number (assigned by Steering Committee of Senate): **S-201905.33**

SENATE COMMITTEE ON ACADEMIC AFFAIRS

NEW COURSE APPROVAL MOTION FORM

Motion: That the new course CIVE 461-3 Foundation Design be approved as follows:

A. Description of the Course

1. **Proposed semester of first offering:** September 2022
2. **Academic Program:** BASc Civil Engineering
3. **Course Subject, Number*, and Credit hours: CIVE 461-3**
4. **Course Title: Foundation Design**
5. **Goal(s) of Course:** This course will explore concepts of Foundation Design.
6. **Calendar Course Description:**
This course introduces building and structure foundations. Topics include but are not limited to the following: stress distribution in soils; settlement of structures; bearing capacity of soils; design of shallow foundations; retaining structures; excavations; geotechnical earthquake engineering; design of deep foundations; piles and pile foundations; and the underpinning of existing structures.
7. **Credit Hours:** 3
   a) **Can the course be repeated for credit if the subject matter differs substantially?** No
   b) **Is variable credit available for this course?** No
8. **Contact Hours (per week):** Lecture 3
9. **Prerequisites (taken prior):** Admission to an Engineering program; CIVE 360; CIVE 321; CIVE 341
10. **Prerequisites with concurrency (taken prior or simultaneously):** None
11. **Co-requisites (must be taken simultaneously):** None
12. **Preclusions:** None
13. **Course Equivalencies:** None
14. **Grade Mode:** Normal
15. **Course to be offered:** Each year
16. **Proposed text / readings:** Standard textbook, e.g. Coduto "Foundation Design: Principles and Practices"

B. Significance Within Academic Program: Technical Elective for degree

1. **Anticipated enrolment** up to 20 in 2022 up to 40 in 2025
2. **If there is a proposed enrolment limit, state the limit and explain:** None
3. **Required for:** Major: BASc Civl Eng.
4. **Elective in:** None
5. **Course required by another major/minor:** None
6. **Course required or recommended by an accrediting agency:** YES
7. **Toward what degrees will the course be accepted for credit?** BASc Civl Eng
8. **What other courses are being proposed within the Program this year?** Multiple, see other motions
9. **What courses are being deleted from the Program this year?** None

C. Relation to Other Program Areas: Technical Elective for degree

1. **Identify courses in other UNBC Programs that overlap with this course; describe the overlap and comment on its significance:** None
2. **Is a preclusion required?** No
3. **If there is an overlap, and no preclusion is required, please explain why not: - N/A**
4. **Has this overlap been discussed with the Program concerned?** - N/A
5. **In offering this course, will UNBC require facilities or staff at other institutions?** No
6. **Is this course replacing an existing course that is included in one or more transfer agreements with external institutions?** No

D. Resources required: Faculty to teach the course

1. **Please describe ADDITIONAL resources required over the next five years to offer this course.**
   i. **College Staffing:** Future Civil Engineering faculty member
   ii. **Space (classroom, laboratory, storage, etc.):** Regular classroom
   iii: **Library Holdings:** See attached form
   iv. **Computer (time, hardware, software):** None required

E. Additional Attached Materials None

F. Other Considerations

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

2. **Other Information:** None

3. **Attachment Pages (in addition to required "Library Holdings" Form):** 0 pages

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

1. **College(s): CSAM**

2. **SCCC Reviewed: March 20, 2019**

3. **College Council Motion Number(s): CSAMCC 2019:04:11:20**
4. **College Council Approval Date(s):**

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

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

INFORMATION TO BE COMPLETED AFTER SENATE COMMITTEE ON ACADEMIC AFFAIRS MEETING

Brief Summary of Committee Debate:

Motion No.: **Omnibus** SCAAF201905.25

Moved by: L. Haslett **Seconded by:** S. Wagner

Committee Decision: CARRIED

Approved by SCAAF: May 8, 2019 _____
Date **Chair's Signature**

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

UNBC UNIVERSITY OF NORTHERN BRITISH COLUMBIA

Motion Number (assigned by Steering Committee of Senate): **S-201905.34**

SENATE COMMITTEE ON ACADEMIC AFFAIRS

NEW COURSE APPROVAL MOTION FORM

Motion: That the new course CIVE 471-3 Cold Climate Construction Engineering be approved as follows:

A. Description of the Course

1. **Proposed semester of first offering:** January 2023
2. **Academic Program:** BASc Civil Engineering
3. **Course Subject, Number*, and Credit hours: CIVE 471-3**
4. **Course Title: Cold Climate Construction Engineering**
5. **Goal(s) of Course:** This course will explore concepts of Cold Climate Construction Engineering.
6. **Calendar Course Description:**
This course introduces engineering concerns related to a cold and variable climate. Topics include but are not limited to the following: northern climates and permafrost; thermal deformation characteristics of frozen and unfrozen soils; thaw of permafrost and settlement; ice and snow construction; ice motion; policy issues; transportation in the north; and the design of roads, runways, and building foundations.
7. **Credit Hours:** 3
   a) **Can the course be repeated for credit if the subject matter differs substantially?** No
   b) **Is variable credit available for this course?** No
8. **Contact Hours (per week):** Lecture 3
9. **Prerequisites (taken prior):** Admission to an Engineering program; ENGR 300; CIVE 372; CIVE 340
10. **Prerequisites with concurrency (taken prior or simultaneously):** None
11. **Co-requisites (must be taken simultaneously):** None
12. **Preclusions:** None
13. **Course Equivalencies:** None
14. **Grade Mode:** Normal
15. **Course to be offered:** Each year
16. **Proposed text / readings:** Ashrae Cold-Climate Buildings Design Guide

B. Significance Within Academic Program: Technical Elective for degree

1. **Anticipated enrolment** up to 20 in 2023 up to 40 in 2026
2. **If there is a proposed enrolment limit, state the limit and explain:** None
3. **Required for:** Major: BASc Civl Eng.
4. **Elective in:** None
5. **Course required by another major/minor:** None
6. **Course required or recommended by an accrediting agency:** YES
7. **Toward what degrees will the course be accepted for credit?** BASc Civl Eng
8. **What other courses are being proposed within the Program this year?** Multiple, see other motions
9. **What courses are being deleted from the Program this year?** None

C. Relation to Other Program Areas: Technical Elective for degree

1. **Identify courses in other UNBC Programs that overlap with this course; describe the overlap and comment on its significance:** None
2. **Is a preclusion required?** 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?** -
5. **In offering this course, will UNBC require facilities or staff at other institutions?** No
6. **Is this course replacing an existing course that is included in one or more transfer agreements with external institutions?** No

D. Resources required: Faculty to teach the course

1. **Please describe ADDITIONAL resources required over the next five years to offer this course.**
   i. **College Staffing:** Future Civil Engineering faculty member
   ii. **Space (classroom, laboratory, storage, etc.):** Regular classroom
   iii: **Library Holdings:** See attached form
   iv. **Computer (time, hardware, software):** None required

E. Additional Attached Materials None

F. Other Considerations

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

2. **Other Information:** None

3. **Attachment Pages (in addition to required "Library Holdings" Form):** 0 pages

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

1. **College(s): CSAM**

2. **SCCC Reviewed: March 20, 2019**

3. **College Council Motion Number(s): CSAMCC 2019:04:11:21**

4. **College Council Approval Date(s): April 1, 2019**

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

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

INFORMATION TO BE COMPLETED AFTER SENATE COMMITTEE ON ACADEMIC AFFAIRS MEETING

Brief Summary of Committee Debate:

Motion No.: **Omnibus** SCAAF201905.26

Moved by: L. Haslett **Seconded by:** S. Wagner

Committee Decision: CARRIED

Approved by SCAAF: May 8, 2019 (**Date**)  (**Chair's Signature**)

For recommendation to ✓, or information of _____ Senate.

UNBC UNIVERSITY OF NORTHERN BRITISH COLUMBIA

Motion Number (assigned by Steering Committee of Senate): **S-201905.35**

SENATE COMMITTEE ON ACADEMIC AFFAIRS

NEW COURSE APPROVAL MOTION FORM

Motion: That the new course CIVE 481-3 Urban and Regional Planning be approved as follows:

A. Description of the Course

1. **Proposed semester of first offering:** January 2023
2. **Academic Program:** BASc Civil Engineering
3. **Course Subject, Number*, and Credit hours: CIVE 481-3**
4. **Course Title: Urban and Regional Planning**
5. **Goal(s) of Course:** This course will explore concepts of Urban and Regional Planning.
6. **Calendar Course Description:**
This course provides an introduction to urban and regional planning. The course considers the legal, environmental and governmental context of topics such as land use, growth management, transportation, environmental planning and community development.
7. **Credit Hours:** 3
   a) **Can the course be repeated for credit if the subject matter differs substantially?** No
   b) **Is variable credit available for this course?** No
8. **Contact Hours (per week):** Lecture 3
9. **Prerequisites (taken prior):** Admission to an Engineering program; ENGR 300; CIVE 370
10. **Prerequisites with concurrency (taken prior or simultaneously):** None
11. **Co-requisites (must be taken simultaneously):** None
12. **Preclusions:** None
13. **Course Equivalencies:** None
14. **Grade Mode:** Normal
15. **Course to be offered:** Each year

16. **Proposed text / readings:** Standard textbook e.g. Hall and Tewdwr-Jones "Urban and Regional Planning"

B. Significance Within Academic Program: Technical Elective for degree

1. **Anticipated enrolment** up to 20 in 2023 up to 40 in 2026
2. **If there is a proposed enrolment limit, state the limit and explain:** None
3. **Required for:** Major: BASc Civl Eng.
4. **Elective in:** BASc Env Eng
5. **Course required by another major/minor:** None
6. **Course required or recommended by an accrediting agency:** YES
7. **Toward what degrees will the course be accepted for credit?** BASc Civl Eng and BASc Env Eng
8. **What other courses are being proposed within the Program this year?** Multiple, see other motions
9. **What courses are being deleted from the Program this year?** None

C. Relation to Other Program Areas: Technical Elective for degree

1. **Identify courses in other UNBC Programs that overlap with this course; describe the overlap and comment on its significance:** None
2. **Is a preclusion required?** 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?** -
5. **In offering this course, will UNBC require facilities or staff at other institutions?** No
6. **Is this course replacing an existing course that is included in one or more transfer agreements with external institutions?** No

D. Resources required: Faculty to teach the course

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 None

F. Other Considerations

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

2. **Other Information:** None

3. **Attachment Pages (in addition to required "Library Holdings" Form):** 0 pages

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

1. **College(s): CSAM**

2. **SCCC Reviewed: March 20, 2019**

3. **College Council Motion Number(s): CSAMCC 2019:04:11:22**

4. **College Council Approval Date(s): April 11, 2019**

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

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

INFORMATION TO BE COMPLETED AFTER SENATE COMMITTEE ON ACADEMIC AFFAIRS MEETING

Brief Summary of Committee Debate:

Motion No.: **Omnibus** SCAAF201905.27

Moved by: L. Haslett **Seconded by:** S. Wagner

Committee Decision: CARRIED

Approved by SCAAF: May 8, 2019 _____
Date **Chair's Signature**

For recommendation to ✓, or information of _____ Senate.

UNBC UNIVERSITY OF NORTHERN BRITISH COLUMBIA

Motion Number (assigned by Steering Committee of Senate): **S-201905.36**

SENATE COMMITTEE ON ACADEMIC AFFAIRS

NEW COURSE APPROVAL MOTION FORM

Motion: That the new course ENGR 211-3 Engineering Communication be approved as follows:

A. Description of the Course

1. **Proposed semester of first offering:** January 2021
2. **Academic Program:** BASc Civil Engineering and BASc in Environmental Engineering
3. **Course Subject, Number*, and Credit hours:** ENGR 211-3
4. **Course Title:** Engineering Communication
5. **Goal(s) of Course:** This course introduces key principles of written and oral engineering communication.
6. **Calendar Course Description:**
This course builds on key principles of written and oral engineering communication. Content complements ENGR 217 Engineering Design II and includes correspondence, meeting minutes, memos, proposals, executive summaries, technical reports and oral presentations.
7. **Credit Hours:** 3
   a) **Can the course be repeated for credit if the subject matter differs substantially?** No
   b) **Is variable credit available for this course?** No
8. **Contact Hours (per week):** Lecture 3
9. **Prerequisites (taken prior):** Admission to an Engineering program and ENGR 110
10. **Prerequisites with concurrency (taken prior or simultaneously):** None
11. **Co-requisites (must be taken simultaneously):** ENGR 217
12. **Preclusions:** None
13. **Course Equivalencies:** None
14. **Grade Mode:** Normal
15. **Course to be offered:** Each year

16. Proposed text / readings: Engineering Communication: From Principles to Practice by Robert Irish and Peter Weiss

B. Significance Within Academic Program: Mandatory course for all engineering degrees

1. **Anticipated enrolment** up to 80 in 2021 up to 150 in 2024

2. **If there is a proposed enrolment limit, state the limit and explain:** maximum of 60 students per section (writing intensive course, with significant teamwork component, also limited by available classroom capacity)

3. **Required for:** Major: BASc Civl Eng and BASc Env Eng.

4. **Elective in:** None

5. **Course required by another major/minor:** None

6. **Course required or recommended by an accrediting agency:** YES, Communication content needs to be part of the engineering degrees in each year (1st, 2nd, 3rd and 4th) to meet accreditation requirements

7. **Toward what degrees will the course be accepted for credit?** BASc Civl Eng and BASc Env Eng

   This course is restricted to Engineering majors.

8. **What other courses are being proposed within the Program this year?** Multiple, see other motions

9. **What courses are being deleted from the Program this year?** None

C. Relation to Other Program Areas: Mandatory course for degree

1. **Identify courses in other UNBC Programs that overlap with this course; describe the overlap and comment on its significance:** None

2. **Is a preclusion required?** No

3. **If there is an overlap, and no preclusion is required, please explain why not: - N/A**

4. **Has this overlap been discussed with the Program concerned?** - N/A

5. **In offering this course, will UNBC require facilities or staff at other institutions?** No

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

D. Resources required: Faculty to teach the course

1. **Please describe ADDITIONAL resources required over the next five years to offer this course.**

   i. **College Staffing:** One new faculty member, an engineer with significant technical communication experience

   ii. **Space (classroom, laboratory, storage, etc.):** Classroom with movable desks (new engineering design classroom)

   iii: **Library Holdings:** See attached form

iv. Computer (time, hardware, software): None

E. Additional Attached Materials None

F. Other Considerations

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

2. **Other Information:** None

3. **Attachment Pages (in addition to required "Library Holdings" Form):** 0 pages

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

1. **College(s): CSAM**

2. **SCCC Reviewed: March 20, 2019**

3. **College Council Motion Number(s): CSAMCC 2019:04:11:23**

4. **College Council Approval Date(s): April 11, 2019**

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

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

INFORMATION TO BE COMPLETED AFTER SENATE COMMITTEE ON ACADEMIC AFFAIRS MEETING

Brief Summary of Committee Debate:

Motion No.: **Omnibus** SCAAF201905.28

Moved by: L. Haslett **Seconded by:** S. Wagner

Committee Decision: CARRIED

Approved by SCAAF: May 8, 2019 (**Date**)  (**Chair's Signature**)

For recommendation to ✓, or information of _____ Senate.

UNBC UNIVERSITY OF NORTHERN BRITISH COLUMBIA

Motion Number (assigned by Steering Committee of Senate): S-201905.37

SENATE COMMITTEE ON ACADEMIC AFFAIRS

NEW COURSE APPROVAL MOTION FORM

Motion: That the new course ENGR 221-3 Thermodynamics and Heat Transfer be approved as follows:

A. Description of the Course

1. **Proposed semester of first offering:** January 2021

2. **Academic Program:** BASc Civil Engineering and BASc in Environmental Engineering

3. **Course Subject, Number*, and Credit hours (e.g. CHEM 210-3):** ENGR 221-3

4. **Course Title:** Thermodynamics and Heat Transfer

5. **Goal(s) of Course:** This course introduces key principles of thermodynamics and heat transfer, relevant to buildings, energy systems and waste treatment systems.

6. **Calendar Course Description:**
This course is an introduction to thermodynamics and heat transfer relevant to building systems, waste treatment systems and energy systems. Topics include but are not limited to the following: energy and the first law of thermodynamics; the second law of thermodynamics; power cycles; refrigeration; conductive, convective and radiative heat transfer; and heat exchanger design.

7. **Credit Hours:** 3

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

   Yes* _____ No X

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

8. **Contact Hours (per week):**

   Lecture 3 Seminar _____

   Laboratory _____ Other (please specify) Tutorial 2

9. **Prerequisites (taken prior):** Admission to an Engineering program and PHYS 110

10. **Prerequisites with concurrency (taken prior or simultaneously):** None

11. **Co-requisites (must be taken simultaneously):** None

12. Preclusions: None

13. Course Equivalencies: None

14. Grade Mode: NORMAL (i.e., alpha grade)

15. Course to be offered:

each year X

alternating years _____

16. Proposed text / readings: Thermodynamics and Heat Power by Irving Granet and Maurice Blustein

B. Significance Within Academic Program Mandatory course for degree

1. Anticipated enrolment up to 40 in 2021 up to 80 in 2024

2. If there is a proposed enrolment limit, state the limit and explain: None

3. Required for: Major: BASc Civl Eng and BASc Env Eng

4. Elective in: None

5. Course required by another major/minor: None

6. Course required or recommended by an accrediting agency: Yes, required engineering science content

7. Toward what degrees will the course be accepted for credit? BASc Civl Eng and BASc Env Eng

This course is restricted to Engineering majors

8. What other courses are being proposed within the Program this year? Multiple, see other motions

9. What courses are being deleted from the Program this year? None

C. Relation to Other Program Areas

1. Identify courses in other UNBC Programs that overlap with this course; describe the overlap and comment on its significance: None

2. Is a preclusion required? Yes _____ No X

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 X

5. In offering this course, will UNBC require facilities or staff at other institutions?

Yes _____ No __X____

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 __X___

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

D. Resources required

1. **Please describe ADDITIONAL resources required over the next five years to offer this course.**

   i. **College Staffing:** The Engineering faculty number will grow to meet the needs of the degree programs over the next 4 years.

   ii. **Space (classroom, laboratory, storage, etc.):** Regular classroom space for lecture and tutorial

   iii: **Library Holdings:** See attached form

   iv. **Computer (time, hardware, software):** None

E. Additional Attached Materials None

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:** None

3. **Attachment Pages (in addition to required "Library Holdings" Form):** __0__ pages

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

1. **College(s): CSAM**

2. **SCCC Reviewed: March 20, 2019**

3. **College Council Motion Number(s): CSAMCC 2019:04:11:24**

4. **College Council Approval Date(s): April 11, 2019**

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

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

INFORMATION TO BE COMPLETED AFTER SENATE COMMITTEE ON ACADEMIC AFFAIRS MEETING

Brief Summary of Committee Debate:

Motion No.: **Omnibus** SCAAF201905.29

Moved by: L. Haslett **Seconded by:** S. Wagner

Committee Decision: CARRIED

Approved by SCAAF: May 8, 2019 

Date **Chair's Signature**

For recommendation to ✓, or information of _____ Senate.

UNBC UNIVERSITY OF NORTHERN BRITISH COLUMBIA

Motion Number (assigned by Steering Committee of Senate): S-201905.38

SENATE COMMITTEE ON ACADEMIC AFFAIRS

NEW COURSE APPROVAL MOTION FORM

Motion: That the new course ENGR 240-4 Mechanics of Materials II be approved as follows:

A. Description of the Course

1. **Proposed semester of first offering:** September 2020

2. **Academic Program:** BASc Civil Engineering

3. **Course Subject, Number*, and Credit hours: ENGR 240-4**

4. **Course Title: Mechanics of Materials II**

5. **Goal(s) of Course:** This course introduces advanced principles applicable to practical problems in the mechanics of materials. A lab section is included for hands-on learning.

6. **Calendar Course Description:**
This course introduces the following advanced principles applicable to practical problems in the mechanics of materials: transformation equations for plane stress and plane strain; principal and maximum shearing stresses and strains; Mohr's circle; stresses in thin-walled pressure vessels; combined loading problems; beam deflection by integration and super-position; buckling; and Euler's equation for columns, the secant formula, and the empirical column formulas.

7. **Credit Hours:** 4
   a) **Can the course be repeated for credit if the subject matter differs substantially?** No
   b) **Is variable credit available for this course?** No

8. **Contact Hours (per week):** Lecture 3 Laboratory 3 (every 2nd week)

9. **Prerequisites (taken prior):** Admission to an Engineering program; ENGR 130; MATH-101; MATH-220

10. **Prerequisites with concurrency (taken prior or simultaneously):** None

11. **Co-requisites (must be taken simultaneously):** None

12. **Preclusions:** None

13. **Course Equivalencies:** None

14. **Grade Mode:** Normal

15. **Course to be offered:** Each year

16. **Proposed text / readings:** Standard textbook, e.g.: Hibbeler "Mechanics of Materials"

B. Significance Within Academic Program: Mandatory course for degree

1. **Anticipated enrolment** up to 20 in 2020 up to 40 in 2023
2. **If there is a proposed enrolment limit, state the limit and explain:** None
3. **Required for:** Major: BASc Civl Eng.
4. **Elective in:** None
5. **Course required by another major/minor:** None
6. **Course required or recommended by an accrediting agency:** YES
7. **Toward what degrees will the course be accepted for credit?** BASc Civl Eng
8. **What other courses are being proposed within the Program this year?** Multiple, see other motions
9. **What courses are being deleted from the Program this year?** None

C. Relation to Other Program Areas: Mandatory course for degree

1. **Identify courses in other UNBC Programs that overlap with this course; describe the overlap and comment on its significance:** None
2. **Is a preclusion required?** No
3. **If there is an overlap, and no preclusion is required, please explain why not: - N/A**
4. **Has this overlap been discussed with the Program concerned?** - N/A
5. **In offering this course, will UNBC require facilities or staff at other institutions?** No
6. **Is this course replacing an existing course that is included in one or more transfer agreements with external institutions?** No

D. Resources required: Faculty to teach the course

1. **Please describe ADDITIONAL resources required over the next five years to offer this course.**
   i. **College Staffing:** Future Civil Engineering faculty member
   ii. **Space (classroom, laboratory, storage, etc.):** Regular classroom, future engineering lab space
   iii: **Library Holdings:** See attached form
   iv. **Computer (time, hardware, software):** None required

E. Additional Attached Materials None

F. Other Considerations

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

2. **Other Information:** None

3. **Attachment Pages (in addition to required "Library Holdings" Form):** 0 pages

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

1. **College(s): CSAM**

2. **SCCC Reviewed: March 20, 2019**

3. **College Council Motion Number(s): CSAMCC 2019:04:11:25**

4. **College Council Approval Date(s): April 11, 2019**

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

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

INFORMATION TO BE COMPLETED AFTER SENATE COMMITTEE ON ACADEMIC AFFAIRS MEETING

Brief Summary of Committee Debate:

Motion No.: **Omnibus** SCAAF201905.30

Moved by: L. Haslett **Seconded by:** S. Wagner

Committee Decision: CARRIED

Approved by SCAAF: May 8, 2019 (**Date**)  (**Chair's Signature**)

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

UNBC UNIVERSITY OF NORTHERN BRITISH COLUMBIA

Motion Number (assigned by Steering Committee of Senate): S-201905.39

SENATE COMMITTEE ON ACADEMIC AFFAIRS

NEW COURSE APPROVAL MOTION FORM

Motion: That the new course ENGR 250-3 Engineering Tools III be approved as follows:

A. Description of the Course

1. **Proposed semester of first offering:** September 2020
2. **Academic Program:** BASc Civil Engineering
3. **Course Subject, Number*, and Credit hours: ENGR 250-3**
4. **Course Title: Engineering Tools III**
5. **Goal(s) of Course:** This course explores problem solving using advanced software tools.
6. **Calendar Course Description:**
This course provides an introduction to engineering problem-solving using advanced software tools such as Matlab. Case studies provide relevance and serve to bind together many of the topics covered in the course.
7. **Credit Hours:** 3
   a) **Can the course be repeated for credit if the subject matter differs substantially?** No
   b) **Is variable credit available for this course?** No
8. **Contact Hours (per week):** Lecture 3 Tutorial 2
9. **Prerequisites (taken prior):** Admission to an Engineering program; ENGR 151; ENGR 152; MATH-101; MATH-220
10. **Prerequisites with concurrency (taken prior or simultaneously):** None
11. **Co-requisites (must be taken simultaneously):** None
12. **Preclusions:** None
13. **Course Equivalencies:** None
14. **Grade Mode:** Normal
15. **Course to be offered:** Each year
16. **Proposed text / readings:** Standard textbooks as determined by instructor based on chosen tools

B. Significance Within Academic Program: Mandatory course for degree

1. **Anticipated enrolment** up to 20 in 2020 up to 40 in 2023
2. **If there is a proposed enrolment limit, state the limit and explain:** None
3. **Required for:** Major: BASc Civl Eng.
4. **Elective in:** None
5. **Course required by another major/minor:** None
6. **Course required or recommended by an accrediting agency:** YES
7. **Toward what degrees will the course be accepted for credit?** BASc Civl Eng
8. **What other courses are being proposed within the Program this year?** Multiple, see other motions
9. **What courses are being deleted from the Program this year?** None

C. Relation to Other Program Areas: Mandatory course for degree

1. **Identify courses in other UNBC Programs that overlap with this course; describe the overlap and comment on its significance:** None
2. **Is a preclusion required?** No
3. **If there is an overlap, and no preclusion is required, please explain why not: - N/A**
4. **Has this overlap been discussed with the Program concerned?** - N/A
5. **In offering this course, will UNBC require facilities or staff at other institutions?** No
6. **Is this course replacing an existing course that is included in one or more transfer agreements with external institutions?** No

D. Resources required: Faculty to teach the course

1. **Please describe ADDITIONAL resources required over the next five years to offer this course.**
   i. **College Staffing:** Future Civil Engineering faculty member
   ii. **Space (classroom, laboratory, storage, etc.):** Regular classroom and computer lab
   iii. **Library Holdings:** See attached form
   iv. **Computer (time, hardware, software):** Matlab; MathCad as determined by instructor

E. Additional Attached Materials None

F. Other Considerations

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

2. **Other Information:** None

3. **Attachment Pages (in addition to required "Library Holdings" Form):** 0 pages

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

1. **College(s): CSAM**

2. **SCCC Reviewed: March 20, 2019**

3. **College Council Motion Number(s): CSAMCC 2019:04:11:26**

4. **College Council Approval Date(s): April 11, 2019**

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

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

INFORMATION TO BE COMPLETED AFTER SENATE COMMITTEE ON ACADEMIC AFFAIRS MEETING

Brief Summary of Committee Debate:

Motion No.: **Omnibus** SCAAF201905.31

Moved by: L. Haslett **Seconded by:** S. Wagner

Committee Decision: CARRIED

Approved by SCAAF: May 8, 2019 _____
Date **Chair's Signature**

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

UNBC UNIVERSITY OF NORTHERN BRITISH COLUMBIA

Motion Number (assigned by Steering Committee of Senate): **S-201905.40**

SENATE COMMITTEE ON ACADEMIC AFFAIRS

NEW COURSE APPROVAL MOTION FORM

Motion: That the new course ENGR 254-4 Fluid Mechanics I be approved as follows:

A. Description of the Course

1. **Proposed semester of first offering:** September 2020

2. **Academic Program:** BASc Civil Engineering and BASc in Environmental Engineering

3. **Course Subject, Number*, and Credit hours: ENGR 254-4**

4. **Course Title: Fluid Mechanics I**

5. **Goal(s) of Course:** This course introduces Fluid Mechanics. A lab component will be included to give students hands-on experience.

6. **Calendar Course Description:**
This course introduces students to fluid mechanics. The course covers the following topics: definition of fluid; fluid properties; variation of pressure in a fluid; hydrostatic forces; buoyancy; dimensional analysis; kinematics of flow; control volumes; continuity equation; momentum equation; energy equation; and flow in closed conduits.

7. **Credit Hours:** 4
   a) **Can the course be repeated for credit if the subject matter differs substantially?** No
   b) **Is variable credit available for this course?** No

8. **Contact Hours (per week):** Lecture 3 Lab 3 (every 2nd week)

9. **Prerequisites (taken prior):** MATH 152-3 or both of (MATH 100-3 and MATH 101-3), and PHYS 100-4 or PHYS 110-4

10. **Prerequisites with concurrency (taken prior or simultaneously):** None

11. **Co-requisites (must be taken simultaneously):** None

12. **Preclusions:** ENGR 350 Fluid Mechanics

13. **Course Equivalencies:** None

14. **Grade Mode:** Normal

15. **Course to be offered:** Each year

16. **Proposed text / readings:** Fluid Mechanics

B. Significance Within Academic Program: Mandatory course for degree

1. **Anticipated enrolment** up to 80 in 2020 up to 120 in 2023
2. **If there is a proposed enrolment limit, state the limit and explain:** None
3. **Required for:** Major: BASc Civl Eng and BASc Env Eng.
4. **Elective in:** None
5. **Course required by another major/minor:** None
6. **Course required or recommended by an accrediting agency:** YES
7. **Toward what degrees will the course be accepted for credit?** BASc Civl Eng and BASc Env Eng
8. **What other courses are being proposed within the Program this year?** Multiple, see other motions
9. **What courses are being deleted from the Program this year?** None

C. Relation to Other Program Areas: Mandatory course for degree

1. **Identify courses in other UNBC Programs that overlap with this course; describe the overlap and comment on its significance:** ENGR 254-4 is basically the same course as ENGR 350-3, but with the addition of a lab. ENGR 350-3 is currently required in the joint UNBC/UBC environmental engineering degree and is an option in environmental science and needs to remain in the calendar. In several years, when ENGR 254-4 starts with a lab, ENGR 350-3 will likely be discontinued.
2. **Is a preclusion required?** Yes
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?** -
5. **In offering this course, will UNBC require facilities or staff at other institutions?** No
6. **Is this course replacing an existing course that is included in one or more transfer agreements with external institutions?** No

D. Resources required: Faculty to teach the course

1. **Please describe ADDITIONAL resources required over the next five years to offer this course.**

   i. College Staffing: The Engineering faculty number will grow to meet the needs of the degree programs over the next 4 years.

   ii. Space (classroom, laboratory, storage, etc.): Regular classroom space for lecture. Wet-lab space for labs (up to 2 sections, 3 hours every 2nd week).

   iii: Library Holdings: See attached form

   iv. Computer (time, hardware, software): None

E. Additional Attached Materials None

F. Other Considerations

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

2. **Other Information:** None

3. **Attachment Pages (in addition to required "Library Holdings" Form):** 0 pages

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

1. **College(s): CSAM**

2. **SCCC Reviewed: March 20, 2019**

3. **College Council Motion Number(s): CSAMCC 2019:04:11:27**

4. **College Council Approval Date(s): April 11, 2019**

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

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

INFORMATION TO BE COMPLETED AFTER SENATE COMMITTEE ON ACADEMIC AFFAIRS MEETING

Brief Summary of Committee Debate:

Motion No.: **Omnibus** SCAAF201905.32

Moved by: L. Haslett **Seconded by:** S. Wagner

Committee Decision: CARRIED

Approved by SCAAF: May 8, 2019 _____
Date **Chair's Signature**

For recommendation to ✓, or information of _____ Senate.

UNBC UNIVERSITY OF NORTHERN BRITISH COLUMBIA

Motion Number (assigned by Steering Committee of Senate): **S-201905.41**

SENATE COMMITTEE ON ACADEMIC AFFAIRS

NEW COURSE APPROVAL MOTION FORM

Motion: That the new course ENGR 270-3 Surveying be approved as follows:

A. Description of the Course

1. **Proposed semester of first offering:** May 2021
2. **Academic Program:** BASc Civil Engineering and BASc in Environmental Engineering
3. **Course Subject, Number*, and Credit hours: ENGR 270-3**
4. **Course Title:** Surveying
5. **Goal(s) of Course:** This course introduces key principles of engineering surveying.
6. **Calendar Course Description:**
This course introduces key principles in the use and adjustments of survey equipment, including GPS, GIS and graphic communication, and the associated field-work and data interpretation required for engineering projects. This is a two-week course immediately following second-term final examinations.
7. **Credit Hours:** 3
   a) **Can the course be repeated for credit if the subject matter differs substantially?** No
   b) **Is variable credit available for this course?** No
8. **Contact Hours (per week):** Lecture 15 Field Work 15
9. **Prerequisites (taken prior):** Admission to an Engineering program; ENGR 117; ENGR 151; ENGR 152
10. **Prerequisites with concurrency (taken prior or simultaneously):** None
11. **Co-requisites (must be taken simultaneously):** None
12. **Preclusions:** None
13. **Course Equivalencies:** None
14. **Grade Mode:** Normal
15. **Course to be offered:** Each year
16. **Proposed text / readings:** Standard textbook, e.g.: Walker Awange “Surveying for Civil and Mine Engineers”

B. Significance Within Academic Program: Mandatory course for degree

1. **Anticipated enrolment** up to 40 in 2021 up to 80 in 2024
2. **If there is a proposed enrolment limit, state the limit and explain:** None
3. **Required for:** Major: BASc Civl Eng and BASc Env Eng.
4. **Elective in:** None
5. **Course required by another major/minor:** None
6. **Course required or recommended by an accrediting agency:** YES
7. **Toward what degrees will the course be accepted for credit?** BASc Civl Eng and BASc Env Eng
8. **What other courses are being proposed within the Program this year?** Multiple, see other motions
9. **What courses are being deleted from the Program this year?** None

C. Relation to Other Program Areas: Mandatory course for degree

1. **Identify courses in other UNBC Programs that overlap with this course; describe the overlap and comment on its significance:** None
2. **Is a preclusion required?** No
3. **If there is an overlap, and no preclusion is required, please explain why not: - N/A**
4. **Has this overlap been discussed with the Program concerned?** - N/A
5. **In offering this course, will UNBC require facilities or staff at other institutions?** No
6. **Is this course replacing an existing course that is included in one or more transfer agreements with external institutions?** No

D. Resources required: Faculty to teach the course

1. **Please describe ADDITIONAL resources required over the next five years to offer this course.**
   i. **College Staffing:** Future Civil Engineering faculty member
   ii. **Space (classroom, laboratory, storage, etc.):** Regular classroom; Field access
   iii: **Library Holdings:** See attached form
   iv. **Computer (time, hardware, software):** None required

E. Additional Attached Materials None

F. Other Considerations

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

2. **Other Information:** None

3. **Attachment Pages (in addition to required "Library Holdings" Form):** 0 pages

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

1. **College(s): CSAM**

2. **SCCC Reviewed: MARCH 20, 2019**

3. **College Council Motion Number(s): CSAMCC 2019:04:11:28**

4. **College Council Approval Date(s): April 11, 2019**

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

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

INFORMATION TO BE COMPLETED AFTER SENATE COMMITTEE ON ACADEMIC AFFAIRS MEETING

Brief Summary of Committee Debate:

Motion No.: **Omnibus** SCAAF201905.33

Moved by: L. Haslett **Seconded by:** S. Wagner

Committee Decision: CARRIED

Approved by SCAAF: May 8, 2019 (**Date**)  (**Chair's Signature**)

For recommendation to ✓, or information of _____ Senate.

UNBC UNIVERSITY OF NORTHERN BRITISH COLUMBIA

Motion Number (assigned by Steering Committee of Senate): **S-201905.42**

SENATE COMMITTEE ON ACADEMIC AFFAIRS

NEW COURSE APPROVAL MOTION FORM

Motion: That the new course ENGR 300-3 Sustainable Principles of Engineering be approved as follows:

A. Description of the Course

1. **Proposed semester of first offering:** January 2022
2. **Academic Program:** BASc Civil Engineering and BASc in Environmental Engineering
3. **Course Subject, Number*, and Credit hours: ENGR 300-3**
4. **Course Title: Sustainable Principles of Engineering**
5. **Goal(s) of Course:** This course will explore concepts of Sustainable Principles of Engineering.
6. **Calendar Course Description:**
This course examines the implications of a finite biosphere and the complexities inherent in environmental and civil engineering decision-making. It explores the social and biophysical context of infrastructure and the impact of technologies on people, the economy and the environment. Topics include but are not limited to the following: pollution prevention; cleaner production; sustainable development; and environmental impact assessment including life-cycle assessment, total cost analysis and environmental systems analysis.
7. **Credit Hours:** 3
   a) **Can the course be repeated for credit if the subject matter differs substantially?** No
   b) **Is variable credit available for this course?** No
8. **Contact Hours (per week):** Lecture 3
   Other (please specify) Tutorial 2
9. **Prerequisites (taken prior):** Admission to an Engineering program; ENGR 211; ENGR 217
10. **Prerequisites with concurrency (taken prior or simultaneously):** None
11. **Co-requisites (must be taken simultaneously):** None
12. **Preclusions:** None
13. **Course Equivalencies:** None
14. **Grade Mode:** Normal
15. **Course to be offered:** Each year
16. **Proposed text / readings:** tbd

B. Significance Within Academic Program: Mandatory course for degree

1. **Anticipated enrolment** up to 40 in 2022 up to 80 in 2025
2. **If there is a proposed enrolment limit, state the limit and explain:** None
3. **Required for:** Major: BASc Civl Eng and BASc Env Eng.
4. **Elective in:** None
5. **Course required by another major/minor:** None
6. **Course required or recommended by an accrediting agency:** YES
7. **Toward what degrees will the course be accepted for credit?** BASc Civl Eng and BASc Env Eng
8. **What other courses are being proposed within the Program this year?** Multiple, see other motions
9. **What courses are being deleted from the Program this year?** None

C. Relation to Other Program Areas: Mandatory course for degree

1. **Identify courses in other UNBC Programs that overlap with this course; describe the overlap and comment on its significance:** None
2. **Is a preclusion required?** 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?** -
5. **In offering this course, will UNBC require facilities or staff at other institutions?** No
6. **Is this course replacing an existing course that is included in one or more transfer agreements with external institutions?** No

D. Resources required: Faculty to teach the course

1. **Please describe ADDITIONAL resources required over the next five years to offer this course.**
   i. **College Staffing:** Future Civil/Environmental Engineering faculty member
   ii. **Space (classroom, laboratory, storage, etc.):** Regular classroom for lecture and computer lab for tutorial
   iii. **Library Holdings:** See attached form
   iv. **Computer (time, hardware, software):** Life Cycle Analysis software (e.g. SimaPro or GaBi)

E. Additional Attached Materials None

F. Other Considerations

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

2. **Other Information:** None

3. **Attachment Pages (in addition to required "Library Holdings" Form):** 0 pages

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

1. **College(s): CSAM**

2. **SCCC Reviewed: MARCH 20, 2019**

3. **College Council Motion Number(s): CSAMCC 2019:04:11:29**

4. **College Council Approval Date(s): April 11, 2019**

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

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

INFORMATION TO BE COMPLETED AFTER SENATE COMMITTEE ON ACADEMIC AFFAIRS MEETING

Brief Summary of Committee Debate:

Motion No.: **Omnibus** SCAAF201905.34

Moved by: L. Haslett **Seconded by:** S. Wagner

Committee Decision: CARRIED

Approved by SCAAF: May 8, 2019 (**Date**)  (**Chair's Signature**)

For recommendation to ✓, or information of _____ Senate.

UNBC UNIVERSITY OF NORTHERN BRITISH COLUMBIA

Motion Number (assigned by Steering Committee of Senate): **S-201905.43**

SENATE COMMITTEE ON ACADEMIC AFFAIRS

NEW COURSE APPROVAL MOTION FORM

Motion: That the new course ENGR 353-3 Hydrology and Open Channel Flow be approved as follows:

A. Description of the Course

1. **Proposed semester of first offering:** September 2021
2. **Academic Program:** BASc Civil Engineering and BASc in Environmental Engineering
3. **Course Subject, Number*, and Credit hours: ENGR 353-3**
4. **Course Title: Hydrology and Open Channel Flow**
5. **Goal(s) of Course:** This course will explore concepts of Hydrology and Open Channel Flow.
6. **Calendar Course Description:**
This course is an introduction to water resource systems and hydrology, including energy, momentum, and flow resistance. Topics include but are not limited to the following: energy and momentum principles in open channel flow; critical, subcritical, and supercritical flow; applications to rectangular and non-rectangular channel sections; hydraulic jump; flow resistance; uniform flow computations; non-uniform flow; longitudinal profiles; culvert design; estimation of design discharge; and flood statistics.
7. **Credit Hours:** 3
   a) **Can the course be repeated for credit if the subject matter differs substantially?** No
   b) **Is variable credit available for this course?** No
8. **Contact Hours (per week):** Lecture 3
9. **Prerequisites (taken prior):** Admission to an Engineering program and ENGR 254
10. **Prerequisites with concurrency (taken prior or simultaneously):** None
11. **Co-requisites (must be taken simultaneously):** None
12. **Preclusions:** None
13. **Course Equivalencies:** None
14. **Grade Mode:** Normal
15. **Course to be offered:** Each year

16. **Proposed text / readings:** Introduction to Hydraulics & Hydrology: With Applications for Stormwater Management by Gribbin

B. Significance Within Academic Program: Mandatory course for degree

1. **Anticipated enrolment** up to 40 in 2021 up to 80 in 2024

2. **If there is a proposed enrolment limit, state the limit and explain:** None

3. **Required for:** Major: BASc Civl Eng and BASc Env Eng.

4. **Elective in:** None

5. **Course required by another major/minor:** None

6. **Course required or recommended by an accrediting agency:** YES, engineering science and design content

7. **Toward what degrees will the course be accepted for credit?** BASc Civl Eng and BASc Env Eng

   This course is restricted to Engineering majors.

8. **What other courses are being proposed within the Program this year?** Multiple, see other motions

9. **What courses are being deleted from the Program this year?** None

C. Relation to Other Program Areas: Mandatory course for degree

1. **Identify courses in other UNBC Programs that overlap with this course; describe the overlap and comment on its significance:** None

2. **Is a preclusion required?** 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?** -

5. **In offering this course, will UNBC require facilities or staff at other institutions?** No

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

D. Resources required: Faculty to teach the course

1. **Please describe ADDITIONAL resources required over the next five years to offer this course.**

   i. **College Staffing:** The Engineering faculty number will grow to meet the needs of the degree programs over the next 4 years.

   ii.

   ii. **Space (classroom, laboratory, storage, etc.):** Regular classroom space

   iii: **Library Holdings:** See attached form

   iv. **Computer (time, hardware, software):** None

E. Additional Attached Materials None

F. Other Considerations

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

2. **Other Information:** None

3. **Attachment Pages (in addition to required "Library Holdings" Form):** 0 pages

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

1. **College(s): CSAM**

2. **SCCC Reviewed: March 20, 2019**

3. **College Council Motion Number(s): CSAMCC 2019:04:11:30**

4. **College Council Approval Date(s): April 11, 2019**

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

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

INFORMATION TO BE COMPLETED AFTER SENATE COMMITTEE ON ACADEMIC AFFAIRS MEETING

Brief Summary of Committee Debate:

Motion No.: **Omnibus** SCAAF201905.12

Moved by: L. Haslett **Seconded by:** S. Wagner

Committee Decision: CARRIED

Approved by SCAAF: May 8, 2019 _____
Date **Chair's Signature**

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

UNBC UNIVERSITY OF NORTHERN BRITISH COLUMBIA

Motion Number (assigned by Steering Committee of Senate): **S-201905-44**

SENATE COMMITTEE ON ACADEMIC AFFAIRS

NEW COURSE APPROVAL MOTION FORM

Motion: That the new course ENGR 354-3 Fluid Mechanics II be approved as follows:

A. Description of the Course

1. **Proposed semester of first offering:** September 2021
2. **Academic Program:** BASc Civil Engineering and BASc in Environmental Engineering
3. **Course Subject, Number*, and Credit hours (e.g. CHEM 210-3):** ENGR 354-3
4. **Course Title:** Fluid Mechanics II
5. **Goal(s) of Course:** This course develops fluid mechanics applications for pumps, pipes and dispersion.
6. **Calendar Course Description:**

The course concentrates on the behavior of compressible fluids. Topics include but are not limited to the following: the fluid medium, kinematics, and dynamics of a flow field; compressible flow; steady and unsteady flows; turbulent flows; two dimensional flow and immersed objects; velocity and pressure fields; lift and drag on cylinders and aerofoils; evaluation of wind loads on structures; pump and turbine analysis and the design of pipeline systems; and application of hydraulic engineering principles to problems of environmental concern such as pollutant transport and dispersion and mixing in rivers and lakes.

7. **Credit Hours:** 3

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

   Yes* _____ No X

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

8. **Contact Hours (per week):**

   Lecture 3 Seminar _____

   Laboratory _____ Other (please specify) _____

9. **Prerequisites (taken prior):** Admission to an Engineering program and ENGR 254
10. **Prerequisites with concurrency (taken prior or simultaneously):** None
11. **Co-requisites (must be taken simultaneously):** None

12. **Preclusions:** None

13. **Course Equivalencies:** None

14. **Grade Mode:** NORMAL (i.e., alpha grade)

15. **Course to be offered:**

each year	X
alternating years	

16. **Proposed text / readings:** Fluid Mechanics

B. Significance Within Academic Program Mandatory course for degree

1. **Anticipated enrolment** up to 20 in 2021 up to 40 in 2024

2. **If there is a proposed enrolment limit, state the limit and explain:** None

3. **Required for:** Major: BASc Env Eng

4. **Elective in:** BASc Civl Eng

5. **Course required by another major/minor:** None

6. **Course required or recommended by an accrediting agency:** Yes, a large number of engineering science and engineering design courses are required by the Canadian Engineering Accreditation Board.

7. **Toward what degrees will the course be accepted for credit?** BASc Civl Eng and BASc Env Eng

This course is restricted to Engineering majors

8. **What other courses are being proposed within the Program this year?** Multiple, see other motions

9. **What courses are being deleted from the Program this year?** None

C. Relation to Other Program Areas

1. **Identify courses in other UNBC Programs that overlap with this course; describe the overlap and comment on its significance:** None

2. **Is a preclusion required?** Yes _____ No X

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 X

5. **In offering this course, will UNBC require facilities or staff at other institutions?**
   Yes _____ No X

   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 X

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

D. Resources required

1. **Please describe ADDITIONAL resources required over the next five years to offer this course.**

   i. **College Staffing:** The Engineering faculty number will grow to meet the needs of the degree programs over the next 4 years.

   ii. **Space (classroom, laboratory, storage, etc.):** Regular classroom space

   iii: **Library Holdings:** See attached form

   iv. **Computer (time, hardware, software):** None

E. Additional Attached Materials None

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:** None

3. **Attachment Pages (in addition to required "Library Holdings" Form):** 0 pages

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

1. **College(s): CSAM**
2. **SCCC Reviewed: March 20, 2019**
3. **College Council Motion Number(s): CSAMCC 2019:04:11:31**
4. **College Council Approval Date(s): April 11, 2019**
5. **Senate Committee on First Nations and Aboriginal Peoples Motion Number: N/A**
6. **Senate Committee on First Nations and Aboriginal Peoples Meeting Date: N/A**

INFORMATION TO BE COMPLETED AFTER SENATE COMMITTEE ON ACADEMIC AFFAIRS MEETING

Brief Summary of Committee Debate:

Motion No.: **Omnibus** SCAAF201905.36

Moved by: L. Haslett **Seconded by:** S. Wagner

Committee Decision: CARRIED

Approved by SCAAF: May 8, 2019 _____
Date **Chair's Signature**

For recommendation to ✓, or information of _____ Senate.

UNBC UNIVERSITY OF NORTHERN BRITISH COLUMBIA

Motion Number (assigned by Steering Committee of Senate): **S-201905.45**

SENATE COMMITTEE ON ACADEMIC AFFAIRS

NEW COURSE APPROVAL MOTION FORM

Motion: That the new course ENGR 358-4 Water and Wastewater Systems be approved as follows:

A. Description of the Course

1. **Proposed semester of first offering:** January 2022

2. **Academic Program:** BASc Civil Engineering and BASc in Environmental Engineering

3. **Course Subject, Number*, and Credit hours: ENGR 358-4**

4. **Course Title: Water and Wastewater Systems**

5. **Goal(s) of Course:** This course will explore concepts of Water and Wastewater Systems. A lab component will be included to give students hands-on experience with typical water and wastewater analyses.

6. **Calendar Course Description:**
This course introduces students to the field of water management and wastewater treatment. Topics include but are not limited to the following: water quality criteria and standards; treatment techniques and systems for surface water and groundwater sources; design of water storage, transmission, and distribution systems; pumps and pumping; wastewater collection and wastewater treatment systems.

7. **Credit Hours:** 4
   a) **Can the course be repeated for credit if the subject matter differs substantially?** No
   b) **Is variable credit available for this course?** No

8. **Contact Hours (per week):** Lecture 3 Lab 3 (every 2nd week)

9. **Prerequisites (taken prior):** Admission to an Engineering program; ENGR 254; completion of 60 credit hours in an Engineering program

10. **Prerequisites with concurrency (taken prior or simultaneously):** None

11. **Co-requisites (must be taken simultaneously):** None

12. **Preclusions:** None

13. **Course Equivalencies:** None

14. **Grade Mode:** Normal

15. **Course to be offered:** Each year

16. **Proposed text / readings:** Wastewater Engineering: Treatment and Resource Recovery by Inc. Metcalf & Eddy

B. Significance Within Academic Program: Mandatory course for degree

1. **Anticipated enrolment** up to 40 in 2022 up to 80 in 2025
2. **If there is a proposed enrolment limit, state the limit and explain:** None
3. **Required for:** Major: BASc Civl Eng and BASc Env Eng.
4. **Elective in:** None
5. **Course required by another major/minor:** None
6. **Course required or recommended by an accrediting agency:** YES
7. **Toward what degrees will the course be accepted for credit?** BASc Civl Eng and BASc Env Eng

   This course is restricted to Engineering majors.
8. **What other courses are being proposed within the Program this year?** Multiple, see other motions
9. **What courses are being deleted from the Program this year?** None

C. Relation to Other Program Areas: Mandatory course for degree

1. **Identify courses in other UNBC Programs that overlap with this course; describe the overlap and comment on its significance:** None
2. **Is a preclusion required?** 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?** -
5. **In offering this course, will UNBC require facilities or staff at other institutions?** No
6. **Is this course replacing an existing course that is included in one or more transfer agreements with external institutions?** No

D. Resources required: Faculty to teach the course

1. **Please describe ADDITIONAL resources required over the next five years to offer this course.**

   i. College Staffing: The Engineering faculty number will grow to meet the needs of the degree programs over the next 4 years.

   ii. Space (classroom, laboratory, storage, etc.): Regular classroom space for lecture. Wet-lab space for labs (up to 4 sections, 3 hours every 2nd week).

   iii: Library Holdings: See attached form

iv. Computer (time, hardware, software): None

E. Additional Attached Materials None

F. Other Considerations

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

2. **Other Information:** None

3. **Attachment Pages (in addition to required "Library Holdings" Form):** 0 pages

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

1. **College(s): CSAM**

2. **SCCC Reviewed: March 20, 2019**

3. **College Council Motion Number(s): CSAMCC 2019:04:11:32**

4. **College Council Approval Date(s): April 11, 2019**

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

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

INFORMATION TO BE COMPLETED AFTER SENATE COMMITTEE ON ACADEMIC AFFAIRS MEETING

Brief Summary of Committee Debate:

Motion No.: **Omnibus** SCAAF201905.37

Moved by: L. Haslett **Seconded by:** S. Wagner

Committee Decision: CARRIED

Approved by SCAAF: May 8, 2019 _____
Date **Chair's Signature**

For recommendation to ✓, or information of _____ Senate.

UNBC UNIVERSITY OF NORTHERN BRITISH COLUMBIA

Motion Number (assigned by Steering Committee of Senate): **S-201905.46**

SENATE COMMITTEE ON ACADEMIC AFFAIRS

NEW COURSE APPROVAL MOTION FORM

Motion: That the new course ENGR 380-3 Engineering Economics be approved as follows:

A. Description of the Course

1. **Proposed semester of first offering:** September 2021
2. **Academic Program:** BASc Civil Engineering and BASc in Environmental Engineering
3. **Course Subject, Number*, and Credit hours: ENGR 380-3**
4. **Course Title: Engineering Economics**
5. **Goal(s) of Course:** This course will explore concepts of Engineering Economics.
6. **Calendar Course Description:**
This course examines economic issues relevant to the profession of engineering. Topics include but are not limited to the following: quantitative analysis of engineering decision-making; cash flow analysis and comparisons of alternatives; decision models, cost concepts, and accounting; depreciation and taxation; risk and uncertainty analysis; economic analysis for sustainable development; financial accounting; company structures; and public sector projects. Case studies are presented.
7. **Credit Hours:** 3
   a) **Can the course be repeated for credit if the subject matter differs substantially?** No
   b) **Is variable credit available for this course?** No
8. **Contact Hours (per week):** Lecture 3
9. **Prerequisites (taken prior):** Admission to an Engineering program; ENGR 211; ENGR 217
10. **Prerequisites with concurrency (taken prior or simultaneously):** None
11. **Co-requisites (must be taken simultaneously):** None
12. **Preclusions:** None
13. **Course Equivalencies:** None
14. **Grade Mode:** Normal
15. **Course to be offered:** Each year
16. **Proposed text / readings:** Standard textbook, e.g.: Fraser, Jewkes, Pirnia “Engineering Economics: Financial Decision Making for Engineers”

B. Significance Within Academic Program: Mandatory course for degree

1. **Anticipated enrolment** up to 40 in 2021 up to 80 in 2024
2. **If there is a proposed enrolment limit, state the limit and explain:** None
3. **Required for:** Major: BASc Civl Eng and BASc Env Eng.
4. **Elective in:** None
5. **Course required by another major/minor:** None
6. **Course required or recommended by an accrediting agency:** YES
7. **Toward what degrees will the course be accepted for credit?** BASc Civl Eng and BASc Env Eng
8. **What other courses are being proposed within the Program this year?** Multiple, see other motions
9. **What courses are being deleted from the Program this year?** None

C. Relation to Other Program Areas: Mandatory course for degree

1. **Identify courses in other UNBC Programs that overlap with this course; describe the overlap and comment on its significance:** None
2. **Is a preclusion required?** 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?** -
5. **In offering this course, will UNBC require facilities or staff at other institutions?** No
6. **Is this course replacing an existing course that is included in one or more transfer agreements with external institutions?** No

D. Resources required: Faculty to teach the course

1. **Please describe ADDITIONAL resources required over the next five years to offer this course.**
   i. **College Staffing:** Future Civil/Environmental Engineering faculty member
   ii. **Space (classroom, laboratory, storage, etc.):** Regular classroom
   iii: **Library Holdings:** See attached form
   iv. **Computer (time, hardware, software):** None required

E. Additional Attached Materials None

F. Other Considerations

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

2. **Other Information:** None

3. **Attachment Pages (in addition to required "Library Holdings" Form):** 0 pages

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

1. **College(s): CSAM**

2. **SCCC Reviewed: March 20, 2019**

3. **College Council Motion Number(s): CSAMCC 2019:04:11:33**

4. **College Council Approval Date(s): April 11, 2019**

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

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

INFORMATION TO BE COMPLETED AFTER SENATE COMMITTEE ON ACADEMIC AFFAIRS MEETING

Brief Summary of Committee Debate:

Motion No.: **Omnibus** SCAAF201905.38

Moved by: L. Haslett **Seconded by:** S. Wagner

Committee Decision: CARRIED

Approved by SCAAF: May 8, 2019 (**Date**)  (**Chair's Signature**)

For recommendation to ✓, or information of _____ Senate.

UNBC UNIVERSITY OF NORTHERN BRITISH COLUMBIA

Motion Number (assigned by Steering Committee of Senate): **S-201905.47**

SENATE COMMITTEE ON ACADEMIC AFFAIRS

NEW COURSE APPROVAL MOTION FORM

Motion: That the new course ENGR 410-3 Professional Practice and Law be approved as follows:

A. Description of the Course

1. **Proposed semester of first offering:** January 2023
2. **Academic Program:** BASc Civil Engineering and BASc in Environmental Engineering
3. **Course Subject, Number*, and Credit hours: ENGR 410-3**
4. **Course Title: Professional Practice and Law**
5. **Goal(s) of Course:** This course will explore concepts of Professional Practice and Law.
6. **Calendar Course Description:**
This course prepares graduates for the roles and responsibilities of a professional engineer. Topics include but are not limited to the following: professional practice; public responsibility; registration, the Engineers Act and the Code of Ethics; licensing; law and liability; contracts, documents, and the preparation of specifications; torts and independent contractors; companies and partnerships; mechanic liens; agency; evidence; expert witness; liability; patents, copyright, and trademarks.
7. **Credit Hours:** 3
   a) **Can the course be repeated for credit if the subject matter differs substantially?** No
   b) **Is variable credit available for this course?** No
8. **Contact Hours (per week):** Lecture 3
9. **Prerequisites (taken prior):** Admission to an Engineering program and ENGR 300
10. **Prerequisites with concurrency (taken prior or simultaneously):** None
11. **Co-requisites (must be taken simultaneously):** None
12. **Preclusions:** None
13. **Course Equivalencies:** None
14. **Grade Mode:** Normal
15. **Course to be offered:** Each year

16. **Proposed text / readings:** EGBC handbook

B. Significance Within Academic Program: Mandatory course for degree

1. **Anticipated enrolment** up to 40 in 2023 up to 80 in 2026
2. **If there is a proposed enrolment limit, state the limit and explain:** None
3. **Required for:** Major: BASc Civl Eng and BASc Env Eng.
4. **Elective in:** None
5. **Course required by another major/minor:** None
6. **Course required or recommended by an accrediting agency:** YES
7. **Toward what degrees will the course be accepted for credit?** BASc Civl Eng and BASc Env Eng
8. **What other courses are being proposed within the Program this year?** Multiple, see other motions
9. **What courses are being deleted from the Program this year?** None

C. Relation to Other Program Areas: Mandatory course for degree

1. **Identify courses in other UNBC Programs that overlap with this course; describe the overlap and comment on its significance:** None
2. **Is a preclusion required?** 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?** -
5. **In offering this course, will UNBC require facilities or staff at other institutions?** No
6. **Is this course replacing an existing course that is included in one or more transfer agreements with external institutions?** No

D. Resources required: Faculty to teach the course

1. **Please describe ADDITIONAL resources required over the next five years to offer this course.**
   i. **College Staffing:** Future Civil Engineering faculty member
   ii. **Space (classroom, laboratory, storage, etc.):** Regular classroom
   iii: **Library Holdings:** See attached form
   iv. **Computer (time, hardware, software):** None required

E. Additional Attached Materials None

F. Other Considerations

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

2. **Other Information:** None

3. **Attachment Pages (in addition to required "Library Holdings" Form):** 0 pages

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

1. **College(s): CSAM**

2. **SCCC Reviewed: March 20, 2019**

3. **College Council Motion Number(s): CSAMCC 2019:04:11:34**

4. **College Council Approval Date(s): April 11, 2019**

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

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

INFORMATION TO BE COMPLETED AFTER SENATE COMMITTEE ON ACADEMIC AFFAIRS MEETING

Brief Summary of Committee Debate:

Motion No.: **Omnibus** SCAAF201905.39

Moved by: L. Haslett **Seconded by:** S. Wagner

Committee Decision: CARRIED

Approved by SCAAF: May 8, 2019 

Date **Chair's Signature**

For recommendation to ✓, or information of _____ Senate.

UNBC UNIVERSITY OF NORTHERN BRITISH COLUMBIA

Motion Number (assigned by Steering Committee of Senate): **S-201905.48**

SENATE COMMITTEE ON ACADEMIC AFFAIRS

NEW COURSE APPROVAL MOTION FORM

Motion: That the new course ENGR 412-3 Engineering Business & Project Management be approved as follows:

A. Description of the Course

1. **Proposed semester of first offering:** Winter 2023

2. **Academic Program:** BASc in Environmental Engineering

3. **Course Subject, Number*, and Credit hours (e.g. CHEM 210-3):** ENGR 412-3

4. **Course Title:** Engineering Business & Project Management

5. **Goal(s) of Course:** To meet industry and alumni requests for skills on working in small offices and rural locations. Also to meet specific accreditation requirements.

6. **Calendar Course Description:**
This course introduces topics related to working in a small engineering office and managing engineering projects. Topics include communication skills used with contractors, stakeholders and clients, and occupational health and safety.

7. **Credit Hours:** 3

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

   Yes* _____ No X

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

8. **Contact Hours (per week):**

   Lecture 3 Seminar _____

   Laboratory _____ Other (please specify) _____

9. **Prerequisites (taken prior):** Admission to an Engineering program and completion of 90 credit hours in an engineering program

10. **Prerequisites with concurrency (taken prior or simultaneously):** None

11. **Co-requisites (must be taken simultaneously):** None

12. Preclusions: None

13. Course Equivalencies: None

14. Grade Mode: NORMAL (i.e., alpha grade)

15. Course to be offered:

each year X

alternating years _____

16. Proposed text / readings: Instructor notes

B. Significance Within Academic Program Mandatory course for degree

1. Anticipated enrolment up to 20 in 2023 up to 40 in 2026

2. If there is a proposed enrolment limit, state the limit and explain: None

3. Required for: Major: BASc Env Eng

4. Elective in: BASc Civil Eng

5. Course required by another major/minor: None

6. Course required or recommended by an accrediting agency: Yes, a large number of engineering science and engineering design courses are required by the Canadian Engineering Accreditation Board. Business concepts are a specific accreditation requirement.

7. Toward what degrees will the course be accepted for credit? BASc Env and Civl Eng

This course is restricted to Engineering majors

8. What other courses are being proposed within the Program this year? Multiple, see other motions

9. What courses are being deleted from the Program this year? None

C. Relation to Other Program Areas

1. Identify courses in other UNBC Programs that overlap with this course; describe the overlap and comment on its significance: None

2. Is a preclusion required? Yes _____ No X

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 X

5. In offering this course, will UNBC require facilities or staff at other institutions?

Yes _____ No __X____

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 __X___

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

D. Resources required

1. **Please describe ADDITIONAL resources required over the next five years to offer this course.**

   i. **College Staffing:** An engineering faculty member with extensive business and project management experience is required.

   ii. **Space (classroom, laboratory, storage, etc.):** Regular classroom space

   iii: **Library Holdings:** See attached form

   iv. **Computer (time, hardware, software):** None

E. Additional Attached Materials None

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:** None

3. **Attachment Pages (in addition to required "Library Holdings" Form):** ___0___ pages

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

1. **College(s): CSAM**
2. **SCCC Reviewed: March 20, 2019**
3. **College Council Motion Number(s): CSAMCC 2019:04:11:35**
4. **College Council Approval Date(s): April 11, 2019**
5. **Senate Committee on First Nations and Aboriginal Peoples Motion Number: N/A**
6. **Senate Committee on First Nations and Aboriginal Peoples Meeting Date: N/A**

INFORMATION TO BE COMPLETED AFTER SENATE COMMITTEE ON ACADEMIC AFFAIRS MEETING

Brief Summary of Committee Debate:

Motion No.: **Omnibus** SCAAF201905.40

Moved by: L. Haslett **Seconded by:** S. Wagner

Committee Decision: CARRIED

Approved by SCAAF: May 8, 2019 _____
Date **Chair's Signature**

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

UNBC UNIVERSITY OF NORTHERN BRITISH COLUMBIA

Motion Number (assigned by Steering Committee of Senate): **S-201905.49**

SENATE COMMITTEE ON ACADEMIC AFFAIRS

NEW COURSE APPROVAL MOTION FORM

Motion: That the new course ENVE 222-3 Engineering Biology be approved as follows:

A. Description of the Course

1. **Proposed semester of first offering:** January 2021
2. **Academic Program:** BASc in Environmental Engineering
3. **Course Subject, Number*, and Credit hours (e.g. CHEM 210-3):** ENVE 222-3
4. **Course Title:** Engineering Biology
5. **Goal(s) of Course:** This course introduces and applies key principles of biology relevant to environmental engineering applications.
6. **Calendar Course Description:**
This course is an introduction to concepts in biology relevant to environmental engineering. Topics include but are not limited to the following: biochemistry; metabolism; microbial groups; biogeochemical cycles; biological pollution control; toxicity and dose-response relationships; and applications to engineering problems.
7. **Credit Hours:** 3

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

   Yes* _____ No X

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

8. **Contact Hours (per week):**

   Lecture 3 Seminar _____

   Laboratory _____ Other (please specify) _____

9. **Prerequisites (taken prior):** Admission to an Engineering program; ENGR 210, ENGR 220
10. **Prerequisites with concurrency (taken prior or simultaneously):** None
11. **Co-requisites (must be taken simultaneously):** None

12. **Preclusions:** None

13. **Course Equivalencies:** None

14. **Grade Mode:** NORMAL (i.e., alpha grade)

15. **Course to be offered:**

each year	X
alternating years	

16. **Proposed text / readings:** Environmental Biology for Engineers and Scientists by Vaccari, Strom, Alleman

B. Significance Within Academic Program Mandatory course for degree

1. **Anticipated enrolment** up to 60 in 2021 up to 80 in 2024

2. **If there is a proposed enrolment limit, state the limit and explain:** None

3. **Required for:** Major: BASc Env Eng

4. **Elective in:** None

5. **Course required by another major/minor:** None

6. **Course required or recommended by an accrediting agency:** Yes, a large number of engineering science and engineering design courses are required by the Canadian Engineering Accreditation Board.

7. **Toward what degrees will the course be accepted for credit?** BASc Env Eng

This course is restricted to Engineering majors

8. **What other courses are being proposed within the Program this year?** Multiple, see other motions

9. **What courses are being deleted from the Program this year?** None

C. Relation to Other Program Areas

1. **Identify courses in other UNBC Programs that overlap with this course; describe the overlap and comment on its significance:** None

2. **Is a preclusion required?** Yes _____ No X

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 X

5. **In offering this course, will UNBC require facilities or staff at other institutions?**

Yes _____ No __X____

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 __X___

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

D. Resources required

1. **Please describe ADDITIONAL resources required over the next five years to offer this course.**

   i. **College Staffing:** The Engineering faculty number will grow to meet the needs of the degree programs over the next 4 years.

   ii. **Space (classroom, laboratory, storage, etc.):** Regular classroom space

   iii: **Library Holdings:** See attached form

   iv. **Computer (time, hardware, software):** None

E. Additional Attached Materials None

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:** None

3. **Attachment Pages (in addition to required "Library Holdings" Form):** __0__ pages

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

1. **College(s): CSAM**

2. **SCCC Reviewed: March 20, 2019**

3. **College Council Motion Number(s): CSAMCC 2019:04:11:36**

4. **College Council Approval Date(s): April 11, 2019**

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

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

INFORMATION TO BE COMPLETED AFTER SENATE COMMITTEE ON ACADEMIC AFFAIRS MEETING

Brief Summary of Committee Debate:

Motion No.: **Omnibus** SCAAF201905.41

Moved by: L. Haslett **Seconded by:** S. Wagner

Committee Decision: CARRIED

Approved by SCAAF: May 8, 2019 

Date **Chair's Signature**

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

UNBC UNIVERSITY OF NORTHERN BRITISH COLUMBIA

Motion Number (assigned by Steering Committee of Senate): S-201905.50

SENATE COMMITTEE ON ACADEMIC AFFAIRS

NEW COURSE APPROVAL MOTION FORM

Motion: That the new course ENVE 310-3 Environmental Engineering Processes be approved as follows:

A. Description of the Course

1. **Proposed semester of first offering:** January 2022

2. **Academic Program:** BASc in Environmental Engineering

3. **Course Subject, Number*, and Credit hours (e.g. CHEM 210-3):** ENVE 310-3

4. **Course Title:** Environmental Engineering Processes

5. **Goal(s) of Course:** This course covers physical, chemical and biological processes common to many environmental engineering applications (wastewater treatment, hazardous waste treatment, air pollution control…). Provides a systems approach to solving engineering design problems.

6. **Calendar Course Description:**
This course examines the theory and design of physical, chemical and biological unit operations within environmental engineering processes. Topics include but are not limited to the following: solid handling; solid-solid separation; solid-liquid separation; mixing, aeration, kinetics of chemical and biological reactions; and ideal and non-ideal reactor design. Design problems and case studies provide students with an opportunity to develop processes using sequences of unit operations.

7. **Credit Hours:** 3

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

   Yes* _____ No X

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

8. **Contact Hours (per week):**

   Lecture 3 Seminar _____

   Laboratory _____ Other (please specify) Tutorial 2

9. **Prerequisites (taken prior):** Admission to an Engineering program, ENGR 210, ENVE 222, MATH 200

10. **Prerequisites with concurrency (taken prior or simultaneously):** None

11. Co-requisites (must be taken simultaneously): None

12. Preclusions: None

13. Course Equivalencies: None

14. Grade Mode: NORMAL (i.e., alpha grade)

15. Course to be offered:

each year X

alternating years _____

16. Proposed text / readings: Elements of Environmental Engineering: Thermodynamics and Kinetics, by Valsaraj and Melvin

B. Significance Within Academic Program Mandatory course for degree

1. Anticipated enrolment up to 20 in 2022 up to 40 in 2025

2. If there is a proposed enrolment limit, state the limit and explain: None

3. Required for: Major: BASc Env Eng

4. Elective in: None

5. Course required by another major/minor: None

6. Course required or recommended by an accrediting agency: Yes, a large number of engineering science and engineering design courses are required by the Canadian Engineering Accreditation Board.

7. Toward what degrees will the course be accepted for credit? BASc Env Eng

This course is restricted to Engineering majors

8. What other courses are being proposed within the Program this year? Multiple, see other motions

9. What courses are being deleted from the Program this year? None

C. Relation to Other Program Areas

1. Identify courses in other UNBC Programs that overlap with this course; describe the overlap and comment on its significance: None

2. Is a preclusion required? Yes _____ No X

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 X

5. In offering this course, will UNBC require facilities or staff at other institutions?

Yes _____ No __X____

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 __X___

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

D. Resources required

1. **Please describe ADDITIONAL resources required over the next five years to offer this course.**

i. College Staffing: The Engineering faculty number will grow to meet the needs of the degree programs over the next 4 years.

ii. Space (classroom, laboratory, storage, etc.): Regular classroom space for lecture and tutorial

iii: Library Holdings: See attached form

iv. Computer (time, hardware, software): None

E. Additional Attached Materials None

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:** None

3. **Attachment Pages (in addition to required "Library Holdings" Form):** ___0___ pages

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

1. **College(s): CSAM**
2. **SCCC Reviewed: March 20, 2019**
3. **College Council Motion Number(s): CSAMCC 2019:04:11:37**
4. **College Council Approval Date(s): April 11, 2019**
5. **Senate Committee on First Nations and Aboriginal Peoples Motion Number: N/A**
6. **Senate Committee on First Nations and Aboriginal Peoples Meeting Date: N/A**

INFORMATION TO BE COMPLETED AFTER SENATE COMMITTEE ON ACADEMIC AFFAIRS MEETING

Brief Summary of Committee Debate:

Motion No.: **Omnibus** SCAAF201905.42

Moved by: L. Haslett **Seconded by:** S. Wagner

Committee Decision: CARRIED

Approved by SCAAF: May 8, 2019 _____
Date **Chair's Signature**

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

UNBC UNIVERSITY OF NORTHERN BRITISH COLUMBIA

Motion Number (assigned by Steering Committee of Senate): **S-201905.51**

SENATE COMMITTEE ON ACADEMIC AFFAIRS

NEW COURSE APPROVAL MOTION FORM

Motion: That the new course ENVE 317-3 Engineering Design III Municipal Engineering be approved as follows:

A. Description of the Course

1. **Proposed semester of first offering:** January 2022
2. **Academic Program:** BASc in Environmental Engineering
3. **Course Subject, Number*, and Credit hours:** ENVE 317-3
4. **Course Title:** Engineering Design III Municipal Engineering
5. **Goal(s) of Course:** This course will explore advanced Engineering problem solving skills.
6. **Calendar Course Description:**
This course explores engineering design of municipal infrastructure. Topics include but are not limited to the following: design of water supply networks; sewers; stormwater systems; and solid waste management. The project-based design exercises require the application of sustainability principles, engineering tools and teamwork.
7. **Credit Hours:** 3
   a) **Can the course be repeated for credit if the subject matter differs substantially?** No
   b) **Is variable credit available for this course?** No
8. **Contact Hours (per week):** Lecture 3 Tutorial 2
9. **Prerequisites (taken prior):** Admission to an Engineering program; ENGR 211; ENGR 217
10. **Prerequisites with concurrency (taken prior or simultaneously):** None
11. **Co-requisites (must be taken simultaneously):** ENGR 300, ENGR 358
12. **Preclusions:** None
13. **Course Equivalencies:** None
14. **Grade Mode:** Normal
15. **Course to be offered:** Each year
16. **Proposed text / readings:** None

B. Significance Within Academic Program: Mandatory course for degree

1. **Anticipated enrolment** up to 20 in 2022 up to 40 in 2025

2. **If there is a proposed enrolment limit, state the limit and explain:** None

3. **Required for:** Major: BASc Env Eng.

4. **Elective in:** None

5. **Course required by another major/minor:** None

6. **Course required or recommended by an accrediting agency:** YES, required engineering design and engineering tools content

7. **Toward what degrees will the course be accepted for credit?** BASc Env Eng

   This course is restricted to Engineering majors.

8. **What other courses are being proposed within the Program this year?** Multiple, see other motions

9. **What courses are being deleted from the Program this year?** None

C. Relation to Other Program Areas: Mandatory course for degree

1. **Identify courses in other UNBC Programs that overlap with this course; describe the overlap and comment on its significance:** None

2. **Is a preclusion required?** 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?** -

5. **In offering this course, will UNBC require facilities or staff at other institutions?** No

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

D. Resources required: Faculty to teach the course

1. **Please describe ADDITIONAL resources required over the next five years to offer this course.**

   i. College Staffing: The Engineering faculty number will grow to meet the needs of the degree programs over the next 4 years.

   ii. Space (classroom, laboratory, storage, etc.): Classroom space for lectures, computer lab for tutorials

   iii: Library Holdings: See attached form

   iv. Computer (time, hardware, software): Water system (e.g. EPANET) and CAD software (e.g. Civil 3D)

E. Additional Attached Materials None

F. Other Considerations

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

2. **Other Information:** None

3. **Attachment Pages (in addition to required "Library Holdings" Form):** 0 pages

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

1. **College(s): CSAM**

2. **SCCC Reviewed: March 20, 2019**

3. **College Council Motion Number(s): CSAMCC 2019:04:11:38**

4. **College Council Approval Date(s): April 11, 2019**

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

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

INFORMATION TO BE COMPLETED AFTER SENATE COMMITTEE ON ACADEMIC AFFAIRS MEETING

Brief Summary of Committee Debate:

Motion No.: **Omnibus** SCAAF201905.43

Moved by: L. Haslett **Seconded by:** S. Wagner

Committee Decision: CARRIED

Approved by SCAAF: May 8, 2019 _____
Date **Chair's Signature**

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

UNBC UNIVERSITY OF NORTHERN BRITISH COLUMBIA

Motion Number (assigned by Steering Committee of Senate): **S-201905.52**

SENATE COMMITTEE ON ACADEMIC AFFAIRS

NEW COURSE APPROVAL MOTION FORM

Motion: That the new course ENVE 318-3 Environmental Engineering Measurement Lab be approved as follows:

A. Description of the Course

1. **Proposed semester of first offering:** September 2021

2. **Academic Program:** BASc in Environmental Engineering

3. **Course Subject, Number*, and Credit hours (e.g. CHEM 210-3):** ENVE 318-3

4. **Course Title:** Environmental Engineering Measurement Lab

5. **Goal(s) of Course:** This course is designed to give students advanced experience in Investigation. This is required for accreditation and will also be a useful skill for the capstone design projects in 4th year

6. **Calendar Course Description:**
This course is a quantitative laboratory- and field-based course focusing on measurement and analysis of selected parameters relevant to environmental quality. Topics include natural and anthropogenic systems. Some lab sessions are problem-oriented, requiring students to generate a working hypothesis, plan the investigation, carry out the sampling, conduct the experiments, and evaluate the results.

7. **Credit Hours:** 3

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

   Yes* _____ No X

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

8. **Contact Hours (per week):**

   Lecture 2 Seminar _____

   Laboratory 3 Other (please specify) _____

9. **Prerequisites (taken prior):** Admission to an Engineering program, ENVE 222, one of FSTY 205 or GEOG 210

10. **Prerequisites with concurrency (taken prior or simultaneously):** None

11. Co-requisites (must be taken simultaneously): None

12. Preclusions: ENSC 418

13. Course Equivalencies: None

14. Grade Mode: NORMAL (i.e., alpha grade)

15. Course to be offered:

each year X

alternating years _____

16. Proposed text / readings: Lab notes prepared by instructor

B. Significance Within Academic Program Mandatory course for degree

1. Anticipated enrolment up to 20 in 2021 up to 40 in 2024

2. If there is a proposed enrolment limit, state the limit and explain: None

3. Required for: Major: BASc Env Eng

4. Elective in: None

5. Course required by another major/minor: None

6. Course required or recommended by an accrediting agency: Yes, a large number of engineering science and engineering design courses are required by the Canadian Engineering Accreditation Board.

7. Toward what degrees will the course be accepted for credit? BASc Env Eng

This course is restricted to Engineering majors

8. What other courses are being proposed within the Program this year? Multiple, see other motions

9. What courses are being deleted from the Program this year? None

C. Relation to Other Program Areas

1. Identify courses in other UNBC Programs that overlap with this course; describe the overlap and comment on its significance: This course is similar to ENSC 418 Environmental Measurements, but with a focus on experimental design and analysis specific to engineering projects.

2. Is a preclusion required? Yes X 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 X No _____

5. In offering this course, will UNBC require facilities or staff at other institutions?

Yes _____ No __X____

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 __X___

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

D. Resources required

1. Please describe ADDITIONAL resources required over the next five years to offer this course.

i. College Staffing: The Engineering faculty number will grow to meet the needs of the degree programs over the next 4 years.

ii. Space (classroom, laboratory, storage, etc.): Lab space required in a chemistry/wet lab (up to two 3-hour sections per week)

iii: Library Holdings: See attached form

iv. Computer (time, hardware, software): None

E. Additional Attached Materials None

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: None

3. Attachment Pages (in addition to required "Library Holdings" Form): ___0___ pages

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

1. **College(s): CSAM**
2. **SCCC Reviewed: March 20, 2019**
3. **College Council Motion Number(s): CSAMCC 2019:04:11:39**
4. **College Council Approval Date(s): April 11, 2019**
5. **Senate Committee on First Nations and Aboriginal Peoples Motion Number: N/A**
6. **Senate Committee on First Nations and Aboriginal Peoples Meeting Date: N/A**

INFORMATION TO BE COMPLETED AFTER SENATE COMMITTEE ON ACADEMIC AFFAIRS MEETING

Brief Summary of Committee Debate:

Motion No.: **Omnibus** SCAAF201905.44

Moved by: L. Haslett **Seconded by:** S. Wagner

Committee Decision: CARRIED

Approved by SCAAF: May 8, 2019 

Date **Chair's Signature**

For recommendation to ✓, or information of _____ Senate.

UNBC UNIVERSITY OF NORTHERN BRITISH COLUMBIA

Motion Number (assigned by Steering Committee of Senate): **S-201905.53**

SENATE COMMITTEE ON ACADEMIC AFFAIRS

NEW COURSE APPROVAL MOTION FORM

Motion: That the new course ENVE 351-4 Groundwater Flow and Contaminant Transport be approved as follows:

A. Description of the Course

1. **Proposed semester of first offering:** September 2021

2. **Academic Program:** BASc in Environmental Engineering

3. **Course Subject, Number*, and Credit hours: ENVE 351-4**

4. **Course Title: Groundwater Flow and Contaminant Transport**

5. **Goal(s) of Course:** This course covers concepts in groundwater hydrology and contaminant transport. A lab component will be included to give students hands-on experience.

6. **Calendar Course Description:**
This course introduces fundamental principles of groundwater flow and their applications to solve problems related to groundwater resources evaluation, development, and management. Topics include the following: the role of groundwater in geological processes; the occurrence and movement of groundwater; steady-state and transient well hydraulics; aquifer testing techniques; unsaturated flow theory; contaminant transport processes; and mathematical models describing migration and chemical evolution of contaminant plumes.

7. **Credit Hours:** 4
   a) **Can the course be repeated for credit if the subject matter differs substantially?** No
   b) **Is variable credit available for this course?** No

8. **Contact Hours (per week):** Lecture 3 Lab 3 (every 2nd week)

9. **Prerequisites (taken prior):** MATH 100-3 and MATH 101-3, or MATH 152-3, or permission of the instructor

10. **Prerequisites with concurrency (taken prior or simultaneously):** None

11. **Co-requisites (must be taken simultaneously):** None

12. **Preclusions:** ENGR 451 Groundwater Hydrology

13. **Course Equivalencies:** None

14. **Grade Mode:** Normal

15. **Course to be offered:** Each year

16. **Proposed text / readings:**

B. Significance Within Academic Program: Mandatory course for degree

1. **Anticipated enrolment** up to 40 in 2021 up to 80 in 2024

2. **If there is a proposed enrolment limit, state the limit and explain:** None

3. **Required for:** Major: BASc Env Eng.

4. **Elective in:** BASc Civil Eng

5. **Course required by another major/minor:** None

6. **Course required or recommended by an accrediting agency:** YES

7. **Toward what degrees will the course be accepted for credit?** BASc Env and Civil Eng

8. **What other courses are being proposed within the Program this year?** Multiple, see other motions

9. **What courses are being deleted from the Program this year?** None

C. Relation to Other Program Areas: Mandatory course for degree

1. **Identify courses in other UNBC Programs that overlap with this course; describe the overlap and comment on its significance:** ENVE 351-4 is basically the same course as ENGR 451-3 Groundwater Hydrology, but with the addition of a lab. ENGR 451-3 is currently required in the joint UNBC/UBC environmental engineering degree and is an option in environmental science and needs to remain in the calendar. In several years, when ENVE 351-4 starts with a lab, ENGR 451 will likely be discontinued.

2. **Is a preclusion required?** Yes

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?** -

5. **In offering this course, will UNBC require facilities or staff at other institutions?** No

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

D. Resources required: Faculty to teach the course

1. **Please describe ADDITIONAL resources required over the next five years to offer this course.**

   i. College Staffing: The Engineering faculty number will grow to meet the needs of the degree programs over the next 4 years.

   ii. Space (classroom, laboratory, storage, etc.): Regular classroom space for lecture. Wet-lab space for labs (up to 2 sections, 3 hours every 2nd week).

iii: Library Holdings: See attached form

iv. Computer (time, hardware, software): None

E. Additional Attached Materials None

F. Other Considerations

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

2. **Other Information:** None

3. **Attachment Pages (in addition to required "Library Holdings" Form):** 0 pages

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

1. **College(s): CSAM**

2. **SCCC Reviewed: MARCH 20, 2019**

3. **College Council Motion Number(s): CSAMCC 2019:04:11:40**

4. **College Council Approval Date(s): April 11, 2019**

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

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

INFORMATION TO BE COMPLETED AFTER SENATE COMMITTEE ON ACADEMIC AFFAIRS MEETING

Brief Summary of Committee Debate:

Motion No.: **Omnibus** SCAAF201905.45

Moved by: L. Haslett **Seconded by:** S. Wagner

Committee Decision: CARRIED

Approved by SCAAF: May 8, 2019 (**Date**) Geoffrey Payne (**Chair's Signature**)

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

UNIVERSITY OF NORTHERN BRITISH COLUMBIA

Motion Number (assigned by Steering Committee of Senate): **S-201905.54**

SENATE COMMITTEE ON ACADEMIC AFFAIRS

NEW COURSE APPROVAL MOTION FORM

Motion: That the new course ENVE 455-3 Engineering Hydrology be approved as follows:

A. Description of the Course

1. **Proposed semester of first offering:** January 2022
2. **Academic Program:** BASc Civil Engineering and BASc in Environmental Engineering
3. **Course Subject, Number*, and Credit hours (e.g. CHEM 210-3):** ENVE 455-3
4. **Course Title:** Engineering Hydrology
5. **Goal(s) of Course:** This course develops concepts in hydrology, building on 3rd year courses
6. **Calendar Course Description:**
This course explores hydrologic processes. Topics include but are not limited to the following: weather; precipitation; infiltration; evaporation; snowmelt; runoff generation; hydrograph analysis; reservoir and channel routing; statistical methods and design floods; and hydrologic modelling.
7. **Credit Hours:** 3

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

   Yes* _____ No X

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

8. **Contact Hours (per week):**

   Lecture 3 Seminar _____

   Laboratory _____ Other (please specify) Tutorial 2

9. **Prerequisites (taken prior):** Admission to an Engineering program and ENGR 353
10. **Prerequisites with concurrency (taken prior or simultaneously):** None
11. **Co-requisites (must be taken simultaneously):** None
12. **Preclusions:** None

13. **Course Equivalencies:** None

14. **Grade Mode:** NORMAL (i.e., alpha grade)

15. **Course to be offered:**

each year X

alternating years _____

16. **Proposed text / readings:** Physical Hydrology by Dingman

B. Significance Within Academic Program Mandatory course for degree

1. **Anticipated enrolment** up to 20 in 2022 up to 40 in 2025

2. **If there is a proposed enrolment limit, state the limit and explain:** None

3. **Required for:** Major: BASc Env Eng

4. **Elective in:** BASc Civl Eng

5. **Course required by another major/minor:** None

6. **Course required or recommended by an accrediting agency:** Yes, a large number of engineering science and engineering design courses are required by the Canadian Engineering Accreditation Board.

7. **Toward what degrees will the course be accepted for credit?** BASc Civl Eng and BASc Env Eng

This course is restricted to Engineering majors

8. **What other courses are being proposed within the Program this year?** Multiple, see other motions

9. **What courses are being deleted from the Program this year?** None

C. Relation to Other Program Areas

1. **Identify courses in other UNBC Programs that overlap with this course; describe the overlap and comment on its significance:** None

2. **Is a preclusion required?** Yes _____ No X

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 X

5. **In offering this course, will UNBC require facilities or staff at other institutions?**

Yes _____ No X

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 __X__

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

D. Resources required

1. **Please describe ADDITIONAL resources required over the next five years to offer this course.**

   i. College Staffing: The Engineering faculty number will grow to meet the needs of the degree programs over the next 4 years.

   ii. Space (classroom, laboratory, storage, etc.): Regular classroom space for lecture and computer lab for tutorial

   iii: Library Holdings: See attached form

   iv. Computer (time, hardware, software): Hydrology modeling software

E. Additional Attached Materials None

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:** None

3. **Attachment Pages (in addition to required "Library Holdings" Form):** __0__ pages

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

1. **College(s): CSAM**
2. **SCCC Reviewed: March 20, 2019**
3. **College Council Motion Number(s): CSAMCC 2019:04:11:41**
4. **College Council Approval Date(s): April 11, 2019**
5. **Senate Committee on First Nations and Aboriginal Peoples Motion Number: N/A**
6. **Senate Committee on First Nations and Aboriginal Peoples Meeting Date: N/A**

INFORMATION TO BE COMPLETED AFTER SENATE COMMITTEE ON ACADEMIC AFFAIRS MEETING

Brief Summary of Committee Debate:

Motion No.: **Omnibus** SCAAF201905.46

Moved by: L. Haslett **Seconded by:** S. Wagner

Committee Decision: CARRIED

Approved by SCAAF: May 8, 2019 

Date **Chair's Signature**

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

UNBC UNIVERSITY OF NORTHERN BRITISH COLUMBIA

Motion Number (assigned by Steering Committee of Senate): S-201905.55

SENATE COMMITTEE ON ACADEMIC AFFAIRS

NEW COURSE APPROVAL MOTION FORM

Motion: That the new course ENVE 400-3 Environmental Engineering Capstone Design Project I be approved as follows:

A. Description of the Course

1. **Proposed semester of first offering:** September 2022

2. **Academic Program:** BASc in Environmental Engineering

3. **Course Subject, Number*, and Credit hours (e.g. CHEM 210-3):** ENVE 400-3

4. **Course Title:** Environmental Engineering Capstone Design Project I

5. **Goal(s) of Course:** Capstone project course. This course will cover many of the required graduate attribute assessments (including professional skills, team work, communication, life-long learning, design)

6. **Calendar Course Description:**
This is the first course of a two-course environmental engineering capstone design project intended to provide real life experience as part of a design team. Working in teams, students solicit a project from an industrial sponsor, develop a full set of specifications, and deliver a project proposal and preliminary design report. The intent is for the teams to draw upon all of the knowledge gained during their environmental engineering degree.

7. **Credit Hours:** 3

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

   Yes* _____ No X

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

8. **Contact Hours (per week):**

   Lecture 3 Seminar _____

   Laboratory _____ Other (please specify) _____

9. **Prerequisites (taken prior):** Admission to an Engineering program, ENGR 300, ENGR 380, ENVE 310, ENVE 317

10. **Prerequisites with concurrency (taken prior or simultaneously):** None

11. Co-requisites (must be taken simultaneously): None

12. Preclusions: None

13. Course Equivalencies: None

14. Grade Mode: NORMAL (i.e., alpha grade)

15. Course to be offered:

each year X

alternating years _____

16. Proposed text / readings: Analysis, Synthesis, and Design of Chemical Processes (5th Edition) by Turton. Shaeiwitz, Bhattacharyya, Whiting

B. Significance Within Academic Program Mandatory course for degree

1. Anticipated enrolment up to 20 in 2022 up to 40 in 2025

2. If there is a proposed enrolment limit, state the limit and explain: None

3. Required for: Major: BASc Env Eng

4. Elective in: None

5. Course required by another major/minor: None

6. Course required or recommended by an accrediting agency: Yes, significant design experience (students working independently on open-ended problems) is required by the Canadian Engineering Accreditation Board.

7. Toward what degrees will the course be accepted for credit? BASc Env Eng

This course is restricted to Engineering majors

8. What other courses are being proposed within the Program this year? Multiple, see other motions

9. What courses are being deleted from the Program this year? None

C. Relation to Other Program Areas

1. Identify courses in other UNBC Programs that overlap with this course; describe the overlap and comment on its significance: None

2. Is a preclusion required? Yes _____ No X

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 X

5. In offering this course, will UNBC require facilities or staff at other institutions?

Yes _____ No __X____

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 __X___

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

D. Resources required

1. **Please describe ADDITIONAL resources required over the next five years to offer this course.**

   i. College Staffing: The Engineering faculty number will grow to meet the needs of the degree programs over the next 4 years.

   ii. Space (classroom, laboratory, storage, etc.): Regular classroom space

   iii: Library Holdings: See attached form

   iv. Computer (time, hardware, software): None

E. Additional Attached Materials None

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:** None

3. **Attachment Pages (in addition to required "Library Holdings" Form):** __0__ pages

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

1. **College(s): CSAM**
2. **SCCC Reviewed: March 20, 2019**
3. **College Council Motion Number(s): CSAMCC 2019:04:11:42**
4. **College Council Approval Date(s): April 11, 2019**
5. **Senate Committee on First Nations and Aboriginal Peoples Motion Number: N/A**
6. **Senate Committee on First Nations and Aboriginal Peoples Meeting Date: N/A**

INFORMATION TO BE COMPLETED AFTER SENATE COMMITTEE ON ACADEMIC AFFAIRS MEETING

Brief Summary of Committee Debate:

Motion No.: **Omnibus** SCAAF201905.47

Moved by: L. Haslett **Seconded by:** S. Wagner

Committee Decision: CARRIED

Approved by SCAAF: May 8, 2019 _____
Date **Chair's Signature**

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

UNBC UNIVERSITY OF NORTHERN BRITISH COLUMBIA

Motion Number (assigned by Steering Committee of Senate): S-201905.56

SENATE COMMITTEE ON ACADEMIC AFFAIRS

NEW COURSE APPROVAL MOTION FORM

Motion: That the new course ENVE 401-6 Environmental Engineering Capstone Design Project II be approved as follows:

A. Description of the Course

1. **Proposed semester of first offering:** January 2023

2. **Academic Program:** BASc in Environmental Engineering

3. **Course Subject, Number*, and Credit hours (e.g. CHEM 210-3):** ENVE 401-6

4. **Course Title:** Environmental Engineering Capstone Design Project II

5. **Goal(s) of Course:** Capstone project course. This course will cover many of the required graduate attribute assessments (including professional skills, team work, communication, life-long learning, design)

6. **Calendar Course Description:**
This course is the continuation of the two-semester environmental engineering capstone design project. Working in teams, students complete the project started in ENVE 400-3 Environmental Engineering Capstone Design Project I and deliver a final design report. The intent is for the teams to draw upon all of the knowledge gained during their environmental engineering degree.

7. **Credit Hours:** 6

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

   Yes* _____ No X

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

8. **Contact Hours (per week):**

   Lecture 6 Seminar _____

   Laboratory _____ Other (please specify) _____

9. **Prerequisites (taken prior):** Admission to an Engineering program and ENVE 400

10. **Prerequisites with concurrency (taken prior or simultaneously):** ENGR 410

11. **Co-requisites (must be taken simultaneously):** None

12. **Preclusions:** None

13. **Course Equivalencies:** None

14. **Grade Mode:** NORMAL (i.e., alpha grade)

15. **Course to be offered:**

each year	X
alternating years	

16. **Proposed text / readings:** Analysis, Synthesis, and Design of Chemical Processes (5th Edition) by Turton. Shaeiwitz, Bhattacharyya, Whiting

B. Significance Within Academic Program Mandatory course for degree

1. **Anticipated enrolment** up to 20 in 2023 up to 40 in 2026

2. **If there is a proposed enrolment limit, state the limit and explain:** None

3. **Required for:** Major: BASc Env Eng

4. **Elective in:** None

5. **Course required by another major/minor:** None

6. **Course required or recommended by an accrediting agency:** Yes, significant design experience (students working independently on open-ended problems) is required by the Canadian Engineering Accreditation Board.

7. **Toward what degrees will the course be accepted for credit?** BASc Env Eng

This course is restricted to Engineering majors

8. **What other courses are being proposed within the Program this year?** Multiple, see other motions

9. **What courses are being deleted from the Program this year?** None

C. Relation to Other Program Areas

1. **Identify courses in other UNBC Programs that overlap with this course; describe the overlap and comment on its significance:** None

2. **Is a preclusion required?** Yes _____ No X

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 X

5. **In offering this course, will UNBC require facilities or staff at other institutions?**

Yes _____ No __X____

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 __X___

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

D. Resources required

1. **Please describe ADDITIONAL resources required over the next five years to offer this course.**

   i. **College Staffing:** The Engineering faculty number will grow to meet the needs of the degree programs over the next 4 years.

   ii. **Space (classroom, laboratory, storage, etc.):** Regular classroom space

   iii: **Library Holdings:** See attached form

   iv. **Computer (time, hardware, software):** None

E. Additional Attached Materials None

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:** None

3. **Attachment Pages (in addition to required "Library Holdings" Form):** __0__ pages

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

1. **College(s): CSAM**
2. **SCCC Reviewed: March 20, 2019**
3. **College Council Motion Number(s): CSAMCC 2019:04:11:43**
4. **College Council Approval Date(s): April 11, 2019**
5. **Senate Committee on First Nations and Aboriginal Peoples Motion Number: N/A**
6. **Senate Committee on First Nations and Aboriginal Peoples Meeting Date: N/A**

INFORMATION TO BE COMPLETED AFTER SENATE COMMITTEE ON ACADEMIC AFFAIRS MEETING

Brief Summary of Committee Debate:

Motion No.: **Omnibus** SCAAF201905.48

Moved by: L. Haslett **Seconded by:** S. Wagner

Committee Decision: CARRIED

Approved by SCAAF: May 8, 2019 _____
Date **Chair's Signature**

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

UNBC UNIVERSITY OF NORTHERN BRITISH COLUMBIA

Motion Number (assigned by Steering Committee of Senate): S-201905.57

SENATE COMMITTEE ON ACADEMIC AFFAIRS

NEW COURSE APPROVAL MOTION FORM

Motion: That the new course ENVE 421-3 Contaminant Transport in the Environment be approved as follows:

A. Description of the Course

1. **Proposed semester of first offering:** September 2022
2. **Academic Program:** BASc in Environmental Engineering
3. **Course Subject, Number*, and Credit hours (e.g. CHEM 210-3):** ENVE 421-3
4. **Course Title:** Contaminant Transport in the Environment
5. **Goal(s) of Course:** This course introduces key principles of contaminant transport.
6. **Calendar Course Description:**
This course explores the fate and effects of environmental contaminants. Topics may include the following: contaminant transport; dispersion; phase transfer; degradation pathways; population exposure pathways; and toxicity and dose-response relationships.
7. **Credit Hours:** 3

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

   Yes* _____ No X

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

8. **Contact Hours (per week):**

   Lecture 3 Seminar _____

   Laboratory _____ Other (please specify) _____

9. **Prerequisites (taken prior):** Admission to an Engineering program, ENGR 220, ENVE 222, ENVE 351
10. **Prerequisites with concurrency (taken prior or simultaneously):** None
11. **Co-requisites (must be taken simultaneously):** None
12. **Preclusions:** None

13. **Course Equivalencies:** None

14. **Grade Mode:** NORMAL (i.e., alpha grade)

15. **Course to be offered:**

each year X

alternating years _____

16. **Proposed text / readings:** Chemical Fate and Transport in the Environment by Hemond and Fechner

B. Significance Within Academic Program Mandatory course for degree

1. **Anticipated enrolment** up to 20 in 2022 up to 40 in 2025

2. **If there is a proposed enrolment limit, state the limit and explain:** None

3. **Required for:** Major: None

4. **Elective in:** BASc Env Eng

5. **Course required by another major/minor:** None

6. **Course required or recommended by an accrediting agency:** Yes, a large number of engineering science and engineering design courses are required by the Canadian Engineering Accreditation Board.

7. **Toward what degrees will the course be accepted for credit?** BASc Env Eng

This course is restricted to Engineering majors

8. **What other courses are being proposed within the Program this year?** Multiple, see other motions

9. **What courses are being deleted from the Program this year?** None

C. Relation to Other Program Areas

1. **Identify courses in other UNBC Programs that overlap with this course; describe the overlap and comment on its significance:** None

2. **Is a preclusion required?** Yes _____ No X

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 X

5. **In offering this course, will UNBC require facilities or staff at other institutions?**

Yes _____ No X

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 X

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

D. Resources required

1. **Please describe ADDITIONAL resources required over the next five years to offer this course.**

   i. **College Staffing:** The Engineering faculty number will grow to meet the needs of the degree programs over the next 4 years.

   ii. **Space (classroom, laboratory, storage, etc.):** Regular classroom space

   iii: **Library Holdings:** See attached form

   iv. **Computer (time, hardware, software):** None

E. Additional Attached Materials None

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:** None

3. **Attachment Pages (in addition to required "Library Holdings" Form):** 0 pages

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

1. **College(s): CSAM**
2. **SCCC Reviewed: March 20, 2019**
3. **College Council Motion Number(s): CSAMCC 2019:04:11:44**
4. **College Council Approval Date(s): April 11, 2019**
5. **Senate Committee on First Nations and Aboriginal Peoples Motion Number: N/A**
6. **Senate Committee on First Nations and Aboriginal Peoples Meeting Date: N/A**

INFORMATION TO BE COMPLETED AFTER SENATE COMMITTEE ON ACADEMIC AFFAIRS MEETING

Brief Summary of Committee Debate:

Motion No.: **Omnibus** SCAAF201905.49

Moved by: L. Haslett **Seconded by:** S. Wagner

Committee Decision: CARRIED

Approved by SCAAF: May 8, 2019 _____
Date **Chair's Signature**

For recommendation to ✓, or information of _____ Senate.

UNBC UNIVERSITY OF NORTHERN BRITISH COLUMBIA

Motion Number (assigned by Steering Committee of Senate): **S-201905.58**

SENATE COMMITTEE ON ACADEMIC AFFAIRS

NEW COURSE APPROVAL MOTION FORM

Motion: That the new course ENVE 430-3 Energy Systems be approved as follows:

A. Description of the Course

1. **Proposed semester of first offering:** September 2022
2. **Academic Program:** BASc in Environmental Engineering
3. **Course Subject, Number*, and Credit hours (e.g. CHEM 210-3):** ENVE 430-3
4. **Course Title:** Energy Systems
5. **Goal(s) of Course:** This course introduces key principles of thermodynamics.
6. **Calendar Course Description:**
This course explores the design of energy and resource recovery systems. Topics may include energy efficiency, solar energy, run-of-river hydroelectricity, heat recovery, anaerobic digestion, bioenergy, and waste-to-energy systems. Building on environmental engineering fundamentals, students develop sustainable energy system designs using software tools.

7. **Credit Hours:** 3

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

   Yes* _____ No X

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

8. **Contact Hours (per week):**

   Lecture 3 Seminar _____

   Laboratory _____ Other (please specify) Tutorial 2

9. **Prerequisites (taken prior):** Admission to an Engineering program, ENGR 300, ENVE 310, ENVE 317
10. **Prerequisites with concurrency (taken prior or simultaneously):** None
11. **Co-requisites (must be taken simultaneously):** None
12. **Preclusions:** None

13. **Course Equivalencies:** None

14. **Grade Mode:** NORMAL (i.e., alpha grade)

15. **Course to be offered:**

each year X

alternating years _____

16. **Proposed text / readings:** Energy Systems Engineering: Evaluation and Implementation by Vanek, Albright and Angenent

B. Significance Within Academic Program Mandatory course for degree

1. **Anticipated enrolment** up to 20 in 2022 up to 40 in 2025

2. **If there is a proposed enrolment limit, state the limit and explain:** None

3. **Required for:** Major: BASc Env Eng

4. **Elective in:** None

5. **Course required by another major/minor:** None

6. **Course required or recommended by an accrediting agency:** Yes, a large number of engineering science and engineering design courses are required by the Canadian Engineering Accreditation Board.

7. **Toward what degrees will the course be accepted for credit?** BASc Env Eng

This course is restricted to Engineering majors

8. **What other courses are being proposed within the Program this year?** Multiple, see other motions

9. **What courses are being deleted from the Program this year?** None

C. Relation to Other Program Areas

1. **Identify courses in other UNBC Programs that overlap with this course; describe the overlap and comment on its significance:** Similar topics as ENSC 302, but presented on a more technical basis (focus of the proposed course is on designing energy systems)

2. **Is a preclusion required?** Yes _____ No X

3. **If there is an overlap, and no preclusion is required, please explain why not:** Although the topics are broadly similar, there will be no/minimal overlap in specific course content.

4. **Has this overlap been discussed with the Program concerned?** Yes _____ No X

5. **In offering this course, will UNBC require facilities or staff at other institutions?**

Yes _____ No __X____

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 __X___

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

D. Resources required

1. **Please describe ADDITIONAL resources required over the next five years to offer this course.**

   i. College Staffing: The Engineering faculty number will grow to meet the needs of the degree programs over the next 4 years.

   ii. Space (classroom, laboratory, storage, etc.): Regular classroom space and computer lab for tutorial

   iii: Library Holdings: See attached form

   iv. Computer (time, hardware, software): Energy system design software, e.g. retScreen

E. Additional Attached Materials None

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:** None

3. **Attachment Pages (in addition to required "Library Holdings" Form):** __0__ pages

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

1. **College(s): CSAM**
2. **SCCC Reviewed: March 20, 2019**
3. **College Council Motion Number(s): CSAMCC 2019:04:11:45**
4. **College Council Approval Date(s): April 11, 2019**
5. **Senate Committee on First Nations and Aboriginal Peoples Motion Number: N/A**
6. **Senate Committee on First Nations and Aboriginal Peoples Meeting Date: N/A**

INFORMATION TO BE COMPLETED AFTER SENATE COMMITTEE ON ACADEMIC AFFAIRS MEETING

Brief Summary of Committee Debate:

Motion No.: **Omnibus** SCAAF201905.50

Moved by: L. Haslett **Seconded by:** S. Wagner

Committee Decision: CARRIED

Approved by SCAAF: May 8, 2019 

Date **Chair's Signature**

For recommendation to ✓, or information of _____ Senate.

UNBC UNIVERSITY OF NORTHERN BRITISH COLUMBIA

Motion Number (assigned by Steering Committee of Senate): S-201905.59

SENATE COMMITTEE ON ACADEMIC AFFAIRS

NEW COURSE APPROVAL MOTION FORM

Motion: That the new course ENVE 462-3 Geoenvironmental Engineering be approved as follows:

A. Description of the Course

1. **Proposed semester of first offering:** September 2022
2. **Academic Program:** BASc Civil Engineering and BASc in Environmental Engineering
3. **Course Subject, Number*, and Credit hours (e.g. CHEM 210-3):** ENVE 462-3
4. **Course Title:** Geoenvironmental Engineering
5. **Goal(s) of Course:** This course introduces key principles of geoenvironmental engineering.
6. **Calendar Course Description:**
This course explores methods to mitigate environmental contamination. Topics may include regulatory requirements, site investigation, risk assessment, soil and groundwater remediation technologies, waste characterization, landfills and recycling.
7. **Credit Hours:** 3

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

   Yes* _____ No X

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

8. **Contact Hours (per week):**

   Lecture 3 Seminar _____

   Laboratory _____ Other (please specify) _____

9. **Prerequisites (taken prior):** Admission to an Engineering program, CIVE 260, ENGR 300
10. **Prerequisites with concurrency (taken prior or simultaneously):** None
11. **Co-requisites (must be taken simultaneously):** None
12. **Preclusions:** None

13. **Course Equivalencies:** None

14. **Grade Mode:** NORMAL (i.e., alpha grade)

15. **Course to be offered:**

each year X

alternating years _____

16. **Proposed text / readings:** Geoenvironmental Engineering: Site Remediation, Waste Containment, and Emerging Waste Management Techonolgies by Sharma and Reddy

B. Significance Within Academic Program Mandatory course for degree

1. **Anticipated enrolment** up to 20 in 2022 up to 40 in 2025

2. **If there is a proposed enrolment limit, state the limit and explain:** None

3. **Required for:** Major: None

4. **Elective in:** BASc Env Eng and BASc Civl Eng

5. **Course required by another major/minor:** None

6. **Course required or recommended by an accrediting agency:** Yes, a large number of engineering science and engineering design courses are required by the Canadian Engineering Accreditation Board.

7. **Toward what degrees will the course be accepted for credit?** BASc Civl Eng and BASc Env Eng

This course is restricted to Engineering majors

8. **What other courses are being proposed within the Program this year?** Multiple, see other motions

9. **What courses are being deleted from the Program this year?** None

C. Relation to Other Program Areas

1. **Identify courses in other UNBC Programs that overlap with this course; describe the overlap and comment on its significance:** None

2. **Is a preclusion required?** Yes _____ No X

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 X

5. **In offering this course, will UNBC require facilities or staff at other institutions?**

Yes _____ No X

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 __X__

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

D. Resources required

1. **Please describe ADDITIONAL resources required over the next five years to offer this course.**

   i. **College Staffing:** The Engineering faculty number will grow to meet the needs of the degree programs over the next 4 years.

   ii. **Space (classroom, laboratory, storage, etc.):** Regular classroom space

   iii: **Library Holdings:** See attached form

   iv. **Computer (time, hardware, software):** None

E. Additional Attached Materials None

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:** None

3. **Attachment Pages (in addition to required "Library Holdings" Form):** __0__ pages

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

1. **College(s): CSAM**
2. **SCCC Reviewed: March 20, 2019**
3. **College Council Motion Number(s): CSAMCC 2019:04:11:46**
4. **College Council Approval Date(s): April 11, 2019**
5. **Senate Committee on First Nations and Aboriginal Peoples Motion Number: N/A**
6. **Senate Committee on First Nations and Aboriginal Peoples Meeting Date: N/A**

INFORMATION TO BE COMPLETED AFTER SENATE COMMITTEE ON ACADEMIC AFFAIRS MEETING

Brief Summary of Committee Debate:

Motion No.: **Omnibus** SCAAF201905.51

Moved by: L. Haslett **Seconded by:** S. Wagner

Committee Decision: CARRIED

Approved by SCAAF: May 8, 2019 _____
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 COURSES:

CIVE 241-4 Engineering Materials
CIVE 260-4 Soil Mechanics
CIVE 320-3 Structural Analysis I
CIVE 321-3 Structural Analysis II
CIVE 360-4 Soil Mechanics II
CIVE 370-3 Transportation Systems
CIVE 372-3 Construction Management
CIVE 400-3 Capstone Design Project I
CIVE 401-6 Capstone Design Project II
CIVE 411-3 Project Management
CIVE 451-3 Building Physics
CIVE 461-3 Foundation Design
CIVE 471-3 Cold Climate Construction Engineering
CIVE 481-3 Urban and Regional Planning
ENGR 211-3 Engineering Communication
ENGR 221-4 Thermodynamics and Heat Transfer
ENGR 240-4 Mechanics of Materials II
ENGR 250-3 Engineering Tools III
ENGR 254-4 Fluid Mechanics I
ENGR 270-3 Surveying
ENGR 300-3 Sustainable Principles of Engineering
ENGR 353-3 Hydrology and Open Channel Flow
ENGR 354-3 Fluid Mechanics II
ENGR 358-4 Water and Wastewater Systems
ENGR 380-3 Engineering Economics
ENGR 410-3 Professional Practice and Law
ENGR 412-3 Engineering Business & Project Management
ENVE 222-3 Engineering Biology
ENVE 310-3 Environmental Engineering Processes
ENVE 317-3 Engineering Design III Municipal Eng
ENVE 318-3 Environmental Engineering Measurement Lab
ENVE 351-4 Groundwater Flow and Contaminant Transport
ENVE 355-3 Environmental Hydrology
ENVE 400-3 Environmental Engineering Capstone Design Project I
ENVE 401-3 Environmental Engineering Capstone Design Project II
ENVE 406-3 Environmental Modelling
ENVE 421-3 Contaminant Transport in the Environment
ENVE 430-3 Energy Systems
ENVE 462-3 Geoenvironmental Engineering

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

a) Are current library holdings adequate? Yes _____ No _✓__

b) If no to a), what monographs / periodicals / E-resources will be needed, and at what estimated cost?

Please see New Academic Program Proposal Evaluation of Library Resources Document submitted 1Apr16 by Heather Empey and Gail Curry for detailed analysis.

Monographs will need to be purchased to shore up UNBC's Engineering Collection.
Anticipated one-time cost of $24000, ongoing annual cost of $5000.

Current Top 20 highest impact journals missing from UNBC's collection (Cost: $6000/ year) include:
Steel and Composite Structures
Journal of Water Resources Planning and Management
Environmental Science-Water Research & Technology

Recommended databases:
CRCNetBase – Ongoing Annual Cost: $22,050 CAD
Compendex Engineering Village 2: One-time cost for backfile: ~$31,000 CAD
Ongoing Annual Cost: ~$45,000 CAD
IEEE Xplore – Increased Cost of about $10,500 CAD per annum

Recommended Standards & Codes:
BC Plumbing Code (5 Users): Ongoing Annual Cost: $477 CAD

c) If no to a), what is the proposed funding source?

New funding in conjunction with new Engineering programs

University Librarian (or designate) signature

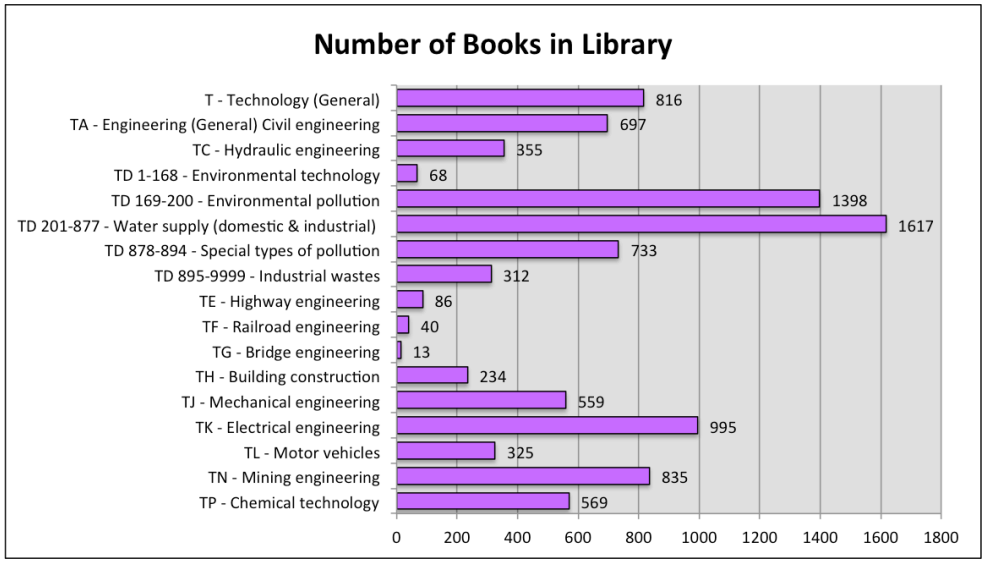
16 APRIL, 2019
Date

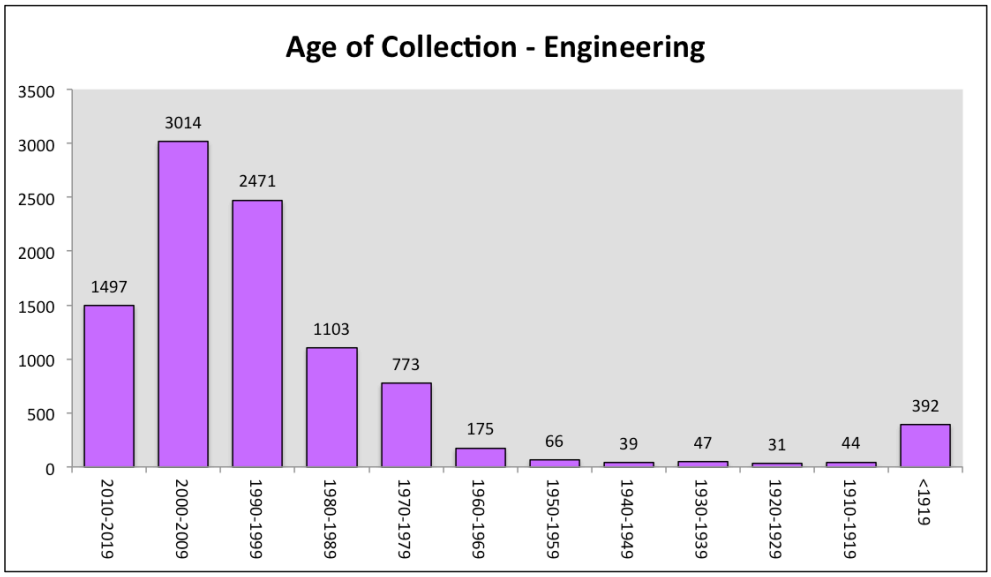
New Academic Program Proposal
Evaluation of Library Resources

Program: B.A.Sc. Civil Engineering; B.A. Sc. Environmental Engineering

1. Monographs (print and/or electronic)

The charts below were produced using 2014/2015 data.





The Library's collection of engineering monographs has been growing steadily over the past number of years in support of the joint Environmental Engineering program and the new Master of Engineering in Integrated Wood Design. However, the books to support the joint Environmental Engineering program focus on the environmental science portion of the program taught at UNBC. Furthermore, the Library has just started collecting

material in support of the new Master of Engineering program, and these materials are highly focused on the subject matter of that program. It should also be noted that any print materials for the Master of Engineering program are being collected by the Program and are housed at the Wood Innovation and Design Centre (WIDC); they are not part of the Library collection, and they are not accessible to students and faculty outside of the WIDC facility.

Therefore, the Library continues to have a limited number of books in support of engineering topics, particularly books related to civil engineering. To support the proposed programs, an initial purchase of 200 books in relevant engineering subject areas is recommended. As the average cost of a book in the engineering subject is ~$120 CAD[1], this will be an approximate one-time cost of $24,000. It is also recommend that the Library's annual allocation for engineering monographs be increased by $5,000 to ensure that we continue to have a current collection in these subject areas. This will add an additional 40 books per year to the civil/environmental engineering collection.

One-time cost: $24,000 CAD
Ongoing annual cost: $5,000 CAD

2. Journals

Top 20 highest impact journals in Engineering, Civil (from Journal Citation Reports, March 30, 2016)

Journal Title	**UNBC holdings**
Computer-Aided Civil and Infrastructure Engineering	1998-present
Journal of Hazardous Materials	1995-present
Building and Environment	1995-present
Journal of Hydrology	1995-present
Transportation Research Part B - Methodological	1995-present
Energy and Buildings	1995-present
Journal of Water Resources Planning and Management	1995-2014 **No Current Holdings**
Transportation Research Part E – Logistics and Transportation Review	1997-present
Water Resources Management	1987-present
Journal of Composites for Construction	**1997-2014** **No Current Holdings**
Journal of Hydro-Environment Research	2007-present
Coastal Engineering	1995-present
IEEE Transactions on Intelligent Transportation Systems	2000-present
Transportation	1972-present
Earthquake Engineering & Structural Dynamics	1997-present
Construction & Building Materials	1995-present

[1] Lynden, F. C. (2015). U.S. College Book Price Information, 2014. Choice, 52:8, 1278-1281.

Coastal Engineering Journal	1999-2015 **No Current Holdings**
Computers & Structures	1995-present
Structural Control & Health Monitoring	2004-present
Stochastic Environmental Research & Risk Assessment	1997-present

Top 20 highest impact journals in Engineering, Civil (from Journal Citation Reports, March 30, 2016)

Journal Title	**UNBC holdings**
Applied Catalysis B, Environmental	1995-present
Water Research	1995-present
Environmental Science & Technology	1967-present
Indoor Air	1997-present
Journal of Hazardous Materials	1995-present
Environmental Modelling & Software	1997-present
Chemical Engineering Journal	1997-present
International Journal of Life Cycle Assessment	1996-present
International Journal of Greenhouse Gas Control	2007-present
Journal of Cleaner Production	1995-present
Building and Environment	1995-present
Waste Management	1995-present
Ambio	1972-present
Ecological Engineering	1995-present
Environmental Chemistry Letters	2003-present
Environmental Geochemistry and Health	1985-present
Resources Conservation and Recycling	1995-present
Process Safety and Environmental Protection	1996-present
Greenhouse Gases: Science & Technology	**No holdings**
Stochastic Environmental Research & Risk Assessment	1997-present

The annual cost of subscribing to the four journals above to which we do not have a current subscription will be $4,000 CAD.

Ongoing annual cost: $4,000 CAD

Important note: The majority of the journals to which we have current access, as indicated in the above lists, are the result of **Science Direct, SpringerLink, and Wiley** journal package subscriptions. Journal support for the proposed programs will not be possible if UNBC discontinued subscriptions to these journal packages.

3. Databases

3.1 Databases to which the Library currently subscribes which will provide support to the proposed engineering program

- **AccessScience**

  Includes the *McGraw-Hill Encyclopedia of Science and Technology*, the *McGraw-Hill Dictionary of Scientific and Technical Terms*, and the *Yearbook of Science & Technology*.

  Current annual subscription: $2,000 CAD

- **Science Direct**

  Full text access to journals across the disciplines, including almost 700 engineering and engineering-related journals.

  Current annual subscription through CRKN: $220,000 CAD

- **Applied Science and Technology Index**

  Bibliographic index covering a wide range of applied science and technology journals, including engineering.

  Current annual subscription through ELN: $6,300 CAD

- **Environmental Sciences & Pollution Management**

  Bibliographic index providing comprehensive coverage of environmental science and environmental engineering. Indexes scientific journals, conference proceedings, reports, monographs, books and government publications.

  Current annual subscription: $13,000 CAD

- **SpringerLINK**

  Full text access to journals across the disciplines, including almost 400 engineering journals.

  Current annual subscription through CRKN: $87,000 CAD

- **Web of Science**

  Includes access to the Science Citation Index Expanded, which allows users to search a vast database of journal articles and follow the citation trail of specific articles.

  Current annual subscription through CRKN: $18,000 CAD

- **Wiley Online Library**

  Full-text access to selected Wiley journals in support of teaching and learning at UNBC.

  Current annual subscription: $110,000 CAD

3.2 Recommended Database subscriptions to support the proposed engineering program

- **CRCNetBase**

  Access to full text handbooks, references, and monographs published by CRC Press. The Library recommends subscriptions to the following two sub-collections:
  - ✓ CivilENGINEERINGnetBASE: $16,200 CAD per annum for unlimited concurrent users
  - ✓ EnvironmentalENGINEERINGnetBASE: $5,850 CAD per annum for unlimited concurrent users

  Ongoing annual cost: $22,050 CAD

- **Compendex Engineering Village 2**

  Comprehensive engineering bibliographic index covering journal articles, technical reports, and conference papers and proceedings.

  One-time cost for backfile: ~$31,000 CAD
  Ongoing annual cost: ~$44,000 CAD

- **IEEE Xplore**

  Full text of **all** journals and conference proceedings published by the IEEE. Topics covered include material on Electrical and Computer Engineering, Computer Science, Mechanical Engineering, Physics and Materials Science.

  We currently subscribe to this resource for a negotiated price of $28,000 CAD based on current programs / FTE. The addition of a Civil Engineering /

Environmental Engineering Program is expected to raise this subscription cost by an additional $10,400 CAD per year.

Ongoing annual cost: $10,400 CAD

4. Standards/Codes

4.1 Standards/Codes to which the Library currently subscribes, which will provide support the proposed engineering program

Note: The costs for the following are paid through the Master of Engineering in Integrated Wood Design budget allocation.

- **ASTM Complete Standards and Engineering Digital Library Basic**

Vast collection of industry-leading standards and technical engineering information.

Current annual subscription: $14,000 CAD

- **BC Building / Fire Codes**

Current annual subscription (5 concurrent users): $675 CAD

- **CSA Standards**

Current annual subscription: $18,000 CAD

4.2 Recommended Standards/Codes to support the proposed engineering program

- **BC Plumbing Code**

Ongoing annual cost (5 concurrent users): $275 CAD

- **Canadian Code Centre**

Ongoing annual cost (5 concurrent users): $1,825 CAD

- **TechStreet, IHS, or SAI Global i2i Standards Infobase**

The Library recommends a subscription to one of these information management systems for standards to build a collection of selected additional standards from organizations other than those mentioned above -- e.g. International Code Council (ICC), American Society of Civil Engineers (ASCE), International Organization for Standardization (ISO), Canadian General Standard Board (CGSB), etc.

Ongoing annual cost: $5,000 CAD (based on a limited collection of ~50 standards)

5. Science & Engineering Librarian

A new Science & Engineering Librarian position must be created to enable the Library to support a new engineering program. This is standard at institutions with Engineering programs, as engineering is a major program that needs a large amount of specialized support.

The following experiences at UNBC illustrate how important it is to follow best practices in supporting large, specialized programs:

MBA program

The University did not hire a Business Librarian for the MBA program. The Library does not have a librarian with a business background, and a librarian who also supports several other programs has always attempted to support the business program. Therefore, there is no one who can take the time to properly analyze and make decisions about complicated business resources, create online resources and class instruction to support business students and researchers, and provide high-quality one-on-one consultation support to students.

Master of Engineering in Integrated Wood Design

A librarian with numerous other hats has been attempting to provide support to the Master of Engineering in Integrated Wood Design program. To date, although need has been evident, no online resources have been developed, no instruction has been provided, and minimal time has been spent liaising with faculty.

NMP program

The NMP program is a shining example of a program that is supported by a librarian devoted to one major discipline. The Northern Health Sciences Librarian was hired as a requirement of the UBC program and, as a result of this, students and researchers in the health sciences at UNBC are well supported with appropriate resources and time.

Ongoing annual cost: $80,000 CAD

6. Summary

The Geoffrey R. Weller Library requires the additional one-time and ongoing resources outlined in this document in order to provide adequate support to the proposed B.A.Sc. Civil Engineering; B.A. Sc. Environmental Engineering program.

Collections gap(s): The Geoffrey R. Weller Library has a minimal collection of engineering-related books that would support the proposed program. Similarly, the Library does not have access to identified databases, standards, and codes that will be required to do effective teaching or research in these subjects. Both one-time funding and additional ongoing funding will be required to fully support these proposed programs.

Human Resource gap: A new Science & Engineering Library position must be created to enable the Library to support the proposed B.A.Sc. Civil Engineering; B.A. Sc. Environmental Engineering program.

Total 1st year funding required: $227.550 CAD (includes one-time and ongoing costs as follows)

One-time funding required: $55,000 CAD

Ongoing annual funding required: $172,550 CAD with ~9% annual increase

Prepared by: Gail Curry & Heather Empey
Date: April 1, 2016

UNBC UNIVERSITY OF NORTHERN BRITISH COLUMBIA

Motion Number (assigned by Steering Committee of Senate): **S-201905.60**

SENATE COMMITTEE ON ACADEMIC AFFAIRS

PROPOSED REVISION OF CALENDAR ENTRY

Motion: That the changes to the degree requirements for the BSc (Integrated), on page 57-58 in the PDF calendar accessible on the UNBC web page of the 2018-2019 undergraduate calendar, be approved as proposed.

1. **Effective date:** September 2019

2. **Rationale for the proposed revisions:** Update course lists to reflect courses that have been deleted or modified.

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 (Integrated)

The Bachelor of Science (Integrated) provides a broad science base and integrates more than one area of study. The program is built upon a foundation of Biology, Chemistry, Mathematics and Physics. The program allows students to transfer into single-discipline science majors built on a foundation of Biology, Chemistry, Mathematics and Physics, or alternatively to switch from them to the BSc (Integrated). This program may be useful to students planning to pursue studies in various post-baccalaureate professional areas. Students should consult with the appropriate professional school(s) to ensure inclusion of all the required courses to be eligible for entry into programs in the desired professional area. Prior to starting the first year of study, students are strongly encouraged to consult with an appropriate Student Advisor for their anticipated Area of Specialization.

Areas of Specialization are:

1. Biology, Ecology and Biochemistry & Molecular Biology
2. Chemistry, Biochemistry and Molecular Biology
3. Computer Science
4. Environmental and Earth Sciences
5. Geography (Science) and GIS
6. Mathematics and Statistics
7. Natural Resources and Forestry
8. Physics

Students enrolled in the Bachelor of Science (Integrated) must successfully complete a total of 120 credit hours including a minimum of 45 credit hours from upper-division (300- or 400- level) courses, and not less than 15 credit hours, at any level, of Humanities and Social Science courses. Humanities and Social Science

courses may be selected from among the areas that are considered Humanities and Social Science for purposes of the BA (General). Students must complete two areas of Specialization listed above. Students must ensure completion of course prerequisites before registering in any course.

Program 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 Lab I
CHEM 121-1 General Chemistry Lab II
MATH 100-3 Calculus
and MATH 101-3 Calculus II
or
MATH 152-3 Calculus for Non-majors
and STAT 240-3 Basic Statistics
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

Upper-Division Requirement

Students must complete 18 upper-division credit hours within each of two areas of Specialization for a minimum of 36 credit hours.

Note that if a course falls into more than one Area of Specialization, it may be counted in only one Area of Specialization.

1. Eligible courses for the Biology, Ecology, and Biochemistry & Molecular Biology Area of Specialization

BCMB 306-3 Intermediary Metabolism
BCMB 308-3 Biochemistry Lab II
BCMB 330-3 Nucleic Acids
BCMB 340-3 Physical Biochemistry
BCMB 405-3 Topics in Biochemistry
All upper-division BIOL courses

2. Eligible courses for the Chemistry, Biochemistry & Molecular Biology Area of Specialization

BIOL 423-3 Molecular Evolution and Ecology
BIOL 424-3 Molecular Cell Physiology
BIOL 425-3 Applied Genetics and Biotechnology
All upper-division BCMB and CHEM courses.

3. Eligible courses for the Computer Science Area of Specialization

Students considering this Area of Specialization should include in the first year:
CPSC 100-4 Computer Programming I
CPSC 141-3 Discrete Computational Mathematics
CPSC 101-4 Computer Programming II
All upper-division CPSC courses except CPSC 311-3 Computer Applications Programming

4. Eligible courses for the Environmental and Earth Sciences Area of Specialization

ENPL 305-3 Environmental Impact Assessment
FSTY 315-3 Forest Soil Management
FSTY 425-3 Soil Formation and Classification
FSTY 455-3 Biogeochemical Processes in Soil Systems
GEOG 310-3 Hydrology
GEOG 311-3 Concepts in Geomorphology
GEOG 405-3 Fluvial Geomorphology
GEOG 411-3 Quaternary and Surficial Geology
GEOG 412-3 Geomorphology of Cold Regions
GEOG 414-3 Weathering Processes
NREM 410-3 Watershed Management
PHYS 307-3 Selected Topics in Environmental Physics
All upper-division ENSC courses except ENSC 417-6 Designing Solutions in Environmental Engineering

5. Eligible courses for the Geography (Science) and GIS Area of Specialization

GEOG 300-3 Geographic Information Systems
GEOG 310-3 Hydrology
GEOG 311-3 Concepts in Geomorphology
GEOG 405-3 Fluvial Geomorphology
GEOG 411-3 Quaternary and Surficial Geology
GEOG 412-3 Geomorphology of Cold Regions
GEOG 413-3 Advanced GIS
GEOG 414-3 Weathering Processes
GEOG 432-3 Remote Sensing
GEOG 457-3 Advanced Remote Sensing

6. Eligible courses for the Mathematics & Statistics Area of Specialization

All upper-division MATH courses except MATH 342-3 Biostatistics.

7. Eligible courses for the Natural Resources and Forestry Area of Specialization

All upper-division FSTY courses except FSTY 310-3 Forest Economics
All upper-division NREM courses except NREM 306-3 Society, Policy and Administration
All upper-division NRES courses

8. Eligible courses for the Physics Area of Specialization

All upper-division PHYS courses except PHYS 307-3 Selected Topics in Environmental Physics

Elective and Academic Breadth

Elective credit hours as necessary to ensure completion of a minimum of 120 credit hours including any additional credit hours necessary to meet the Academic Breadth requirement of the University (see Academic Regulation 15).

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

BSc (Integrated)

The Bachelor of Science (Integrated) provides a broad science base and integrates more than one area of study. Students must complete two Areas of Specialization listed ~~above~~ below. The program is built upon a foundation of Biology, Chemistry, Mathematics and Physics. The program allows students to transfer into single-discipline science majors built on a foundation of Biology, Chemistry, Mathematics and Physics~~,~~ or, alternatively, to switch from ~~them~~ those majors to the BSc (Integrated). This program may be useful to students planning to pursue studies in various post-baccalaureate professional areas. In order to be eligible for entry into a ~~programs in the desired~~ professional ~~area~~ program, students should consult with the appropriate professional school(s) to ensure ~~inclusion of all the required courses~~ they have met all requirements. ~~to be eligible for entry into programs in the desired professional area~~. Prior to starting the first year of study, students are strongly encouraged to consult with an appropriate Student Advisor for their anticipated Areas of Specialization.

Areas of Specialization are:

- Biology, Ecology, and Biochemistry ~~&~~ and Molecular Biology
- Chemistry~~,~~ and Biochemistry and Molecular Biology
- Computer Science
- Environmental and Earth Sciences
- Geography (Science) and GIS
- Mathematics and Statistics
- Natural Resources and Forestry
- Physics

Students enrolled in the Bachelor of Science (Integrated) must successfully complete a total of 120 credit hours including a minimum of 45 credit hours from upper-division (300- or 400- level) courses, and not less than 15 credit hours, at any level, of Humanities and Social Sciences courses. Humanities and Social Sciences courses may be selected from among the areas that are considered Humanities and Social Sciences for purposes of the BA (General). ~~Students must complete two areas of Specialization listed above.~~ Students must ensure completion of course prerequisites before registering in any course.

Program Requirements

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BIOL 124-1 Introductory Biology II Laboratory
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CHEM 101-3 General Chemistry II
CHEM 120-1 General Chemistry Lab I
CHEM 121-1 General Chemistry Lab II
MATH 100-3 Calculus
and MATH 101-3 Calculus II
or
MATH 152-3 Calculus for Non-majors
and STAT 240-3 Basic Statistics
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

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Note that if a course falls into more than one Area of Specialization, it may be counted in only one Area of Specialization.

1. Eligible courses for the Biology, Ecology, and Biochemistry & and Molecular Biology Area of Specialization

BCMB 306-3 Intermediary Metabolism
BCMB 308-3 Biochemistry Lab II
BCMB 330-3 Nucleic Acids
BCMB 340-3 Physical Biochemistry
BCMB 405-3 Topics in Biochemistry and Molecular Biology
All upper-division BIOL courses

2. Eligible courses for the Chemistry, Biochemistry & and Molecular Biology Area of Specialization

BIOL 312-3 Molecular Cell Physiology
BIOL 423-3 Molecular Evolution and Ecology
BIOL 424-3 Molecular Cell Physiology
BIOL 425-3 Applied Genetics and Biotechnology
All upper-division BCMB and CHEM courses.

3. Eligible courses for the Computer Science Area of Specialization

Students considering this Area of Specialization should include in the first year:
CPSC 100-4 Computer Programming I
CPSC 141-3 Discrete Computational Mathematics
CPSC 101-4 Computer Programming II
All upper-division CPSC courses except CPSC 311-3 Computer Applications Programming

4. Eligible courses for the Environmental and Earth Sciences Area of Specialization

ENPL 305-3 Environmental Impact Assessment
FSTY 315-3 Forest Soil Management
FSTY 415-3 Forest Soils
FSTY 425-3 Soil Formation and Classification
FSTY 455-3 Biogeochemical Processes in Soil Systems
GEOG 310-3 Hydrology
GEOG 311-3 Concepts in Geomorphology Drainage Basin Geomorphology
GEOG 405-3 Fluvial Geomorphology
GEOG 411-3 Quaternary and Surficial Geology
GEOG 412-3 Geomorphology of Cold Regions
GEOG 414-3 Weathering Processes
GEOG 416-3 Mountains
NREM 410-3 Watershed Management
PHYS 307-3 Selected Topics in Environmental Physics
All upper-division ENSC courses except ENSC 417-6 Designing Solutions in Environmental Engineering

5. Eligible courses for the Geography (Science) and GIS Area of Specialization

GEOG 300-3 Geographic Information Systems
GEOG 310-3 Hydrology
GEOG 311-3 ~~Concepts in Geomorphology~~ Drainage Basin Geomorphology
GEOG 357-3 Introduction to Remote Sensing
GEOG 405-3 Fluvial Geomorphology
GEOG 411-3 Quaternary and Surficial Geology
~~GEOG 412-3 Geomorphology of Cold Regions~~
GEOG 413-3 Advanced GIS
~~GEOG 414-3 Weathering Processes~~
GEOG 416-3 Mountains
~~GEOG 432-3 Remote Sensing~~
GEOG-450 Advanced Geospatial Analysis
GEOG 457-3 Advanced Remote Sensing

~~6.~~ **Eligible courses for the Mathematics & Statistics Area of Specialization**

All upper-division MATH courses ~~except MATH 342-3 Biostatistics.~~

~~7.~~ **Eligible courses for the Natural Resources and Forestry Area of Specialization**

All upper-division FSTY courses except FSTY 310-3 Forest Economics
All upper-division NREM courses except NREM 306-3 Society, Policy and Administration
All upper-division NRES courses

~~8.~~ **Eligible courses for the Physics Area of Specialization**

All upper-division PHYS courses except PHYS 307-3 Selected Topics in Environmental Physics

Elective and Academic Breadth

Elective credit hours as necessary to ensure completion of a minimum of 120 credit hours including any additional credit hours necessary to meet the Academic Breadth requirement of the University (see Academic Regulation 15).

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

Program / Academic / Administrative Unit: CSAM

SCCC Reviewed: March 25, 2019

College: Science and Management

College Council Motion Number: CSAMCC 2019:04:11:47

College Council Approval Date: April 11, 2019

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 (fill in number of pages, or indicate "0" if there are no attachments)

INFORMATION TO BE COMPLETED AFTER SENATE COMMITTEE ON ACADEMIC AFFAIRS MEETING

Brief Summary of Committee Debate:

Motion No.: SCAAF201905.52

Moved by: L. Roldan-Flores **Seconded by:** E. Jensen

Committee Decision: CARRIED

Approved by SCAAF: May 8, 2019 _____
Date **Chair's Signature**

For recommendation to ✓, or information of _____ Senate.

UNBC UNIVERSITY OF NORTHERN BRITISH COLUMBIA

Motion Number (assigned by Steering Committee of Senate): **S-201905.61**

SENATE COMMITTEE ON ACADEMIC AFFAIRS

PROPOSED REVISION OF CALENDAR ENTRY

Motion: That the change(s) to ENPL 430-3 Undergraduate Thesis in the 2018/2019 undergraduate calendar, be approved as proposed.

1. **Effective date:** September 2019

2. **Rationale for the proposed revisions:** The credit hours for a thesis should reflect the amount of work that goes into a research study and written thesis. This increase in credit hours would also put this course in line with other thesis courses in CSAM. The course description was lacking an informed description and the new one has important information about the course and expectations. The School has decided to remove the prerequisite of ENPL 420; this is not necessary for completion of the thesis.

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

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

ENPL 430-3 Undergraduate Thesis. This is an optional course, allowing students to devote time to a concentrated piece of research.

Co-prerequisites: ENPL 420-1
Precluded: ENVS 430-3

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

ENPL 430-~~36~~ Undergraduate Thesis. ~~This is an optional course, allowing students to devote time to a concentrated piece of research.~~ In this course students pursue an independent research project under the direct supervision of a faculty member from the School of Environmental Planning. Students are expected to design and implement a research methodology, analyze data~~,~~ and present findings in thesis format. The final grade in this course is based in part on a written research proposal, a written thesis, a public presentation of research results, and the evaluation of the thesis by a second reader. The thesis is normally completed over the September and January semesters.

~~Co-~~Prerequisites: ~~ENPL 420~~ 90 credit hours ~~of study~~ including all lower-division ~~degree~~ requirements, and permission of an Academic Supervisor and the Program Chair.
Precluded: ENVS 430-3

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

Program / Academic / Administrative Unit: School of Environmental Planning

SCCC Reviewed: March 25, 2019

College: CSAM

College Council Motion Number: CSAMCC 2019:04:11:48

College Council Approval Date: April 11, 2019

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: 0 pages

INFORMATION TO BE COMPLETED AFTER SENATE COMMITTEE ON ACADEMIC AFFAIRS MEETING

Brief Summary of Committee Debate:

Motion No.: SCAAF201905.53

Moved by: E. Jensen **Seconded by:** L. Haslett

Committee Decision: CARRIED

Approved by SCAAF: May 8, 2019 (**Date**)  (**Chair's Signature**)

For recommendation to ✓, or information of _____ Senate.

UNBC UNIVERSITY OF NORTHERN BRITISH COLUMBIA

Motion Number (assigned by Steering Committee of Senate): **S-201905.62**

SENATE COMMITTEE ON ACADEMIC AFFAIRS

PROPOSED REVISION OF CALENDAR ENTRY

Motion: That the changes to the program requirements for the B.PI, on pages 106-110 of the 2018/19 undergraduate calendar, be approved as proposed."

1. **Effective date:** July 2019

2. **Rationale for the proposed revisions:** To update the ENPL portion of the calendar with correct information and to make consistent with other programs. Changes include:
   - Language cleanup
   - Credit hour counts
   - Adding GEOG 205
   - Insertion of ENPL 430, ENPL 431, ENPL 440 into electives pick list
   - Removal of ENPL 420-1

3. **Implications of the changes for other programs, etc., if applicable:** The only change that will affect other programs is that of adding GEOG 205 as an optional course. The Geography department is aware of the addition of the course and has agreed.

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

School of Environmental Planning (BPl)
Andrew D. Seidel, Professor and Chair
Mark Groulx, Assistant Professor
Darwin Horning, Assistant Professor
Daniela Fisher, Adjunct Professor
Theresa Healy, Adjunct Professor
Richard Krehbiel, Adjunct Professor
Angel Ransom, Adjunct Professor
Finlay Sinclair, Adjunct Professor
Andrew Young, Adjunct Professor
Website: www.unbc.ca/environmental-planning

The degree provides a broad education in environmental planning. The focus is on understanding the relationship between people and the environment and on reducing the environmental impact of human activities.

The study of planning examines public processes that improve the quality of decisions affecting the environment. Responsible planning integrates various private and public interests and identifies viable, workable options. Planners play a vital role in decision-making processes concerning the future of human settlements, resource management, environmental protection, human health and well-being,

economic development, and many other areas. Ultimately, the work of planners becomes part of, or a catalyst to, public policy.

To achieve its purposes, Environmental Planning offers a comprehensive program of courses, such as environmental assessment, ecological design, economic development, First Nations planning, land use planning, and sustainable communities. Each course provides a creative and challenging learning environment for students to tackle today's most contentious issues such as sustainability, climate change, biodiversity, environmental stewardship, and urban sprawl. Environmental Planning offers unique perspectives on a rapidly evolving field of study and solutions for an increasingly complex world.

Environmental Planning is dedicated to upholding professional standards of practice and is accredited by the Canadian Institute of Planners (CIP) and the Planning Institute of British Columbia (PIBC). Accreditation is a system for promoting national standards of education in planning and for recognizing educational institutions for a level of performance, integrity, and quality.

Accreditation benefits students in Environmental Planning in three ways:
- Current students can apply for Student Membership in PIBC;
- Graduates are eligible for Full Membership in PIBC and CIP after only two years of professional planning experience; and
- Employers in the planning field look for students graduating from an accredited planning program, thus significantly improving graduates' job prospects.

Three majors are available to students completing the Bachelor of Planning:
- Northern and Rural Community Planning
- First Nations Planning
- Natural Resources Planning

Planning students complete a set of program requirements totaling 69 credit hours in addition to completing the specialized course requirements for each major.

Program Requirements for all Majors in Planning

Lower-Division General Environmental Planning Requirement

100 Level
ECON 100-3 Microeconomics
ENPL 104-3 Introduction to Planning

One of the following:
ENGL 170-3 Writing and Communication Skills
or POLS 290-3 Research and Writing for Political Science
or NRES 100-3 Communications in Natural Resources and Environmental Studies

200 Level
ENPL 204-3 Principles and Practices of Planning
ENPL 205-3 Environment and Society

ENPL 206-3 Planning Analysis and Techniques
ENPL 207-3 Introduction to Computer Aided Design
ENPL 208-3 First Nations Community and Environmental Planning
GEOG 210-3 Introduction to Earth Science
POLS 200-3 Canadian Government and Politics

One of the following:
GEOG 204-3 Introductory GIS for the Social Sciences
or GEOG 300-3 Geographic Information Systems

One of the following:
ECON 205-3 Statistics for Business and the Social Sciences
or STAT 240-3 Basic Statistics
or STAT 371-3 Probability and Statistics for Scientists and Engineers

Upper-Division General Environmental Planning Requirement

300 Level
ENPL 301-3 Sustainable Communities: Structure and Sociology
ENPL 303-3 Spatial Planning with Geographical Information Systems
ENPL 304-3 Mediation, Negotiation and Public Participation
ENPL 305-3 Environmental Impact Assessment
ENPL 313-3 Rural Community Economic Development
ENPL 318-3 Professional Planning Practice
ENPL 319-3 Social Research Methods

400 Level
ENPL 401-3 Environmental Law
ENPL 410-3 Land Use Planning
ENPL 411-3 Planning Theory, Process and Implementation
ENPL 415-3 Ecological Design
ENVS 414-3 Environmental and Professional Ethics

In addition, students may undertake ENPL 420-1 Research Methodology, ENPL 430-3 Undergraduate Thesis, ENPL 431-3 Professional Report, ENPL 440 (2-6) Internship as part of their electives.

Major Requirements
Students must choose to specialize in one major. All course requirements in the major must be completed.

Major in Northern and Rural Community Planning

The focus of this major is to promote an understanding of the complexity and diversity of environmental problems, to develop an appreciation of community change processes, and to provide planners with knowledge which will improve the quality of the built environment and reduce the impact of human activities on the natural world. The unique planning requirements of smaller communities and rural regions demand a grounding in both physical and social science methods and an understanding of the relationship between northern

communities and surrounding rural resource regions. Environmental planning necessitates strategic thought and action combined with knowledge grounded in professional practice. The northern rural and community planning major combines concepts such as bioregionalism, sustainability, and landscape design within the context of physical land use planning, social planning and community economic development.

Northern and Rural Community Planning is the application of environmental planning principles and practices to the often unique social, economic, and ecological issues confronting northern and circumpolar communities in Canada and elsewhere in the northern hemisphere. Successfully addressing these issues requires an appreciation of how and why communities change, an understanding of relationships between northern communities and surrounding rural resource regions, an understanding of the place and function of northern communities and rural regions in the global environment, and a grounding in both physical and social science methods of research and analysis.

Students enrolled in the Northern and Rural Community Planning Major must successfully complete 120 credit hours. Students must ensure that all prerequisites are fulfilled prior to registering in any courses.

Program requirement for all majors in planning:	69 credit hours
Major requirement:	15 credit hours
Major elective requirement:	18 credit hours
General elective requirement:	18 credit hours

The minimum requirement for a Bachelor of Planning with a Major in Northern and Rural Community Planning is 120 credit hours.

Major Requirements

Lower-Division Requirements

BIOL 110-3 Introductory Ecology

One of the following:
ENVS 101-3 Introduction to Environmental Citizenship
or GEOG 206-3 Social Geography

Three of the following:

- ANTH 213-3 Peoples and Cultures
- ENVS 306-3 Human Ecology (regional campus only)
- FNST 100-3 The Aboriginal Peoples of Canada
- GEOG 101-3 Planet Earth
- GEOG 200-3 British Columbia: People and Places
- GEOG 202-3 Resources, Economies, and Sustainability
- GEOG 206-3 Social Geography
- INTS 100-3 Introduction to Global Studies
- MATH 115-3 Precalculus
- POLS 100-3 Contemporary Political Issues
- SOCW 201-3 Introduction to Social Welfare

Upper-Division Requirements

POLS 350-3 Law and Municipal Government

One of the following:
NREM 306-3 Society, Policy and Administration
or POLS 316-3 Municipal Government and Politics
or POLS 320-3 Canadian Politics and Policy

One of the following:
GEOG 424-3 Northern Communities
or POLS 434-3 Resource Communities in Transition
or POLS 415-3 Comparative Northern Development

Three of the following:
ANTH 316-3 The Social Theory and Structure of Contemporary Canadian Society
ANTH 413-(3-6) Environmental Anthropology
ECON 411-3 Cost Benefit Analysis
ENSC 404-3 Waste Management
ENSC 302-3 Low Carbon Energy Development
FNST 350-3 Law and Aboriginal Peoples
GEOG 305-3 Political Ecology: Environmental Knowledge and Decision-Making
GEOG 403-3 First Nations and Indigenous Geographies
GEOG 424-3 Northern Communities
NREM 306-3 Society, Policy and Administration
POLS 302-3 Canadian Public Administration
POLS 316-3 Municipal Government and Politics
POLS 320-3 How Government Works
POLS 332-3 Community Development
POLS 351-3 Local Services and Public Policy
POLS 360-3 Local Government Finance
POLS 415-3 Comparative Northern Development
POLS 434-3 Resource Communities in Transition
SOCW 320-3 Critical Social Policy

Students must ensure that all prerequisites are fulfilled prior to taking the course.

General electives courses comprise of a total of 18 credit hours. Students are encouraged to use the general electives to take a minor offered in Geography and Political Science, First Nations Studies, or other fields associated with community development.

Major in First Nations Planning

First Nation communities have significant and growing demands for qualified planners. As many First Nations move to define land claims in Canada, potentially giving First Nations significant responsibilities for land and community planning, and as others work to build upon existing treaties, the availability of skilled planners becomes essential. However, planning by, and with, First Nations requires specific skills and abilities in the planners, whether or not they themselves are First Nation.

For most First Nation communities few distinctions are made between ecological/environmental planning and planning for social and cultural needs. Cultural and social needs are developed from within, and are

grounded in, the ecosystem. First Nations planning must necessarily integrate all; First Nations wish to remain grounded in tradition and seek to move into the future through sound community economic development and skilled land management. Most face significant community development needs, including infrastructure development, housing, and health planning. Students need not just a sound grasp of planning principles, but also an understanding of the protocols, history, social structure, and ecology of Canadian First Nations. Further, cross cultural translation skills, community participation techniques, and a solid grounding in ethics are required.

Students enrolled in the First Nations Planning Major must successfully complete 121 credit hours. Major and elective course requirements must also be met.

Program requirement for all majors in planning:	69 credit hours
Major requirement:	19 credit hours
Major elective requirement:	8 credit hours
General elective requirement:	15 credit hours

The minimum requirement for a Bachelor of Planning with a Major in First Nations Planning is 121 credit hours.

Lower-Division Requirements

BIOL 110-3 Introductory Ecology
FNST 100-3 The Aboriginal Peoples of Canada
FNST 131-3 First Nations Language Level 1

Three of the following:

- ANTH 213-3 Peoples and Cultures
- ENVS 101-3 Introduction into Environmental Citizenship
- FNST 161-3 First Nations Culture Level 1
- FNST 200-3 Perspectives in First Nations Studies
- FNST 203-3 Introduction to Traditional Ecological Knowledge
- HHSC 102-3 Introduction to Health Sciences II: Rural and Aboriginal Issues
- MATH 115-3 Precalculus
- NREM 210-4 Integrated Resource Management

Upper-Division Requirements

ENPL 409-4 Advanced First Nations Community and Environmental Planning
FNST 304 -3 Indigenous Environmental Philosophy
FNST 350-3 Law and Indigenous Peoples

Three of the following:

- BIOL 350-3 Ethnobotany
- FNST 303-3 First Nations Religion and Philosophy
- FNST 305-3 Seminar in First Nations Studies
- FNST 407-3 First Nations Perspectives on Race, Class, Gender and Power
- GEOG 403-3 First Nations and Indigenous Geographies
- NREM 303-3 Aboriginal Perspectives on Land and Resource Management

ORTM 306-3 Indigenous Tourism and Recreation
POLS 350-3 Law and Municipal Government
SOCW 455-3 First Nations Governance and Social Policy
SOCW 457-3 Individual and Community Wellness

Of the above lower and upper-division course requirements, students must select a minimum of three FNST courses (9 credit hours). Students must ensure that all prerequisites are fulfilled prior to registering in any courses.

General electives courses comprise a total of 15 credit hours. Students are encouraged to use the general electives to take a minor offered in First Nations Studies or other courses associated with aboriginal and First Nations issues.

Major in Natural Resources Planning

The major in Natural Resources Planning is designed to provide students with an understanding of the complexities of including the natural and cultural environment in planning decision-making. The major is intended to address both project-level and large-scale environmental planning issues that occur in developments that impact the natural environment.

The objective of this major is to familiarize students with planning and decision-making in a variety of sectors that include provincial land use planning, environmental assessment, watershed planning and integrated resource and environmental management. These areas of planning are characterized by complex and intricate problems that revolve around how to use our natural resources and who should decide. The multidimensional aspects of environmental management include natural and cultural complexity, different desired futures, value differences, assessment and monitoring tools, and integration methods. This major emphasizes an understanding of planning in both the substantive realm (natural and social sciences) and the procedural realm (the process of including people in the decision-making process).

Students enrolled in the Natural Resources Planning Major must successfully complete 120 credit hours. Major and elective course requirements must also be met. Students must ensure that they complete course prerequisites before registering in any course. Students interested in working with biological and environmental aspects of natural resource planning should take BIOL 103/BIOL 123 and BIOL 104/124 as elective courses and BIOL 201 as the ecology elective as they are prerequisite courses for many of the other biological and environmental courses. Furthermore, those students interested in the environmental sciences should also consider taking first- and second-year Chemistry courses as part of the general electives. Students interested in integrated natural resource planning are encouraged to take BIOL 104/124 and a mix of courses in areas of Political Science, First Nations (FNST or ENPL), Environment Sciences (ENSC), Geography and Outdoor Recreation and Tourism Management, and International Studies and Economics.

Program requirement for all majors in planning: 69 credit hours

Major requirement: 17 credit hours
Major elective requirement: 18 - 22 credit hours
General elective requirement: Elective credit hours as necessary to ensure the completion of 120 credit hours.
The minimum requirement for a Bachelor of Planning with a Major in Natural Resource Planning is 120 credit hours.

Lower-Division Requirements

NREM 210 - 4 Integrated Resource Management
GEOG 205 - 3 Cartography and Geomatics

One of the following:
- BIOL 110 -3 Introductory Ecology
- or BIOL 201-3 Ecology

Three of the following:
- BIOL 103-3 Introductory Biology I
- and BIOL 123-1 Introductory Biology I Laboratory
- BIOL 104-3 Introductory Biology II
- and BIOL 124-1 Introductory Biology II Laboratory
- ENSC 201-3 Weather and Climate
- ENSC 202-3 Introduction to Aquatic Systems
- FNST 100-3 Aboriginal Peoples of Canada
- FNST 203-3 Introduction to Traditional Ecological Knowledge
- FSTY 205-3 Introduction to Soil Science
- INTS 100-3 Introduction to Global Studies
- MATH 115-3 Precalculus
- NREM 101-3 Introduction to Natural Resources Management and Conservation
- NREM 203-3 Resource Inventories and Measurements
- NREM 204-3 Introduction to Wildlife & Fisheries
- ORTM 200-3 Sustainable Recreation and Tourism

Upper-Division Requirements

NREM 400-4 Natural Resources Planning
NREM 410-3 Watershed Management

Three of the following:
- BIOL 302-3 Limnology
- BIOL 411-3 Conservation Biology
- ECON 305-3 Environmental Economics and Environmental Policy
- ECON 331-3 Forestry Economics
- ECON 411-3 Cost Benefit Analysis
- ENPL 409-4 Advanced First Nations Community and Environmental Planning
- ENSC 302-3 Low Carbon Energy Development
- ENSC 308-3 Northern Contaminated Environments
- ENSC 312-3 Biometeorology
- ENSC 404-3 Waste Management
- ENSC 412-3 Air Pollution
- ENVS 326-3 Natural Resources, Environmental Issues and Public Engagement
- FNST 451-3 Traditional Use Studies

GEOG 401-3 Tenure, Conflict and Resource Geography
INTS 307-3 Global Resources
INTS 470-3 Global Environmental Governance
NREM 413-3 Agroforestry
ORTM 300-3 Recreation and Tourism Impacts
ORTM 305-3 Protected Area Planning and Management
ORTM 407-3 Recreation, Tourism, Communities
POLS 344-3 Society, Policy and Administration of Natural Resources
or NREM 306-3 Society, Policy and Administration
POLS 350-3 Law and Municipal Government

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

General elective courses comprise a total of 18 credit hours. Students are encouraged to use the general electives to take a minor offered in areas of Geography and Political Science, First Nations Studies, or other fields associated with community development.

Minor in Planning

The minor in Planning is designed to provide students with an opportunity to acquire a basic knowledge of planning theory and methods. The minor consists of 12 required credits (four designated courses) and six credits from a set of elective courses. A maximum of two courses (six credit hours) used to fulfill program requirements for a major or another minor may also be used to fulfill requirements for a minor in Planning.

The Minor in Planning requires the completion of 18 credit hours of ENPL Planning Courses, of which 12 credit hours must be at the upper-division level.

Required

ENPL 104-3 Introduction to Planning
ENPL 204-3 Principles and Practices of Planning
ENPL 301-3 Sustainable Communities: Structure and Sociology
ENPL 411-3 Planning Theory, Process and Implementation

Two of:
ENPL 305-3 Environmental Impact Assessment
ENPL 318-3 Professional Planning Practice
ENPL 410-3 Land Use Planning
ENPL 415-3 Ecological Design

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

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Website: www.unbc.ca/environmental-planning

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Three majors are available to students completing the Bachelor of Planning:
- Northern and Rural Community Planning;
- First Nations Planning;
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Planning students complete a set of program requirements totaling ~~69~~ 72 credit hours in addition to completing the specialized course requirements for each major.

Program Requirements for all Majors in Planning

Lower-Division General Environmental Planning Requirement

100 Level
ECON 100-3 Microeconomics
ENPL 104-3 Introduction to Planning

One of the following:
ENGL 170-3 Writing and Communication Skills
~~or~~ POLS 290-3 Research and Writing for Political Science
~~or~~ NRES 100-3 Communications in Natural Resources and Environmental Studies

200 Level
ENPL 204-3 Principles and Practices of Planning
ENPL 205-3 Environment and Society
ENPL 206-3 Planning Analysis and Techniques
ENPL 207-3 Introduction to Computer Aided Design
or GEOG 205-3 Cartography and Geomatics
ENPL 208-3 First Nations Community and Environmental Planning
GEOG 204-3 Introductory GIS for the Social Sciences
or GEOG 300-3 Geographic Information Systems
GEOG 210-3 Introduction to Earth Science
POLS 200-3 Canadian Government and Politics

One of the following:
ECON 205-3 Statistics for Business and the Social Sciences
~~or~~ STAT 240-3 Basic Statistics
~~or~~ STAT 371-3 Probability and Statistics for Scientists and Engineers

Upper-Division General Environmental Planning Requirement

300 Level
ENPL 301-3 Sustainable Communities: Structure and Sociology
ENPL 303-3 Spatial Planning with Geographical Information Systems
ENPL 304-3 Mediation, Negotiation and Public Participation
ENPL 305-3 Environmental Impact Assessment
ENPL 313-3 Rural Community Economic Development
ENPL 318-3 Professional Planning Practice
ENPL 319-3 Social Research Methods

400 Level
ENPL 401-3 Environmental Law
ENPL 410-3 Land Use Planning
ENPL 411-3 Planning Theory, Process and Implementation
ENPL 415-3 Ecological Design
ENVS 414-3 Environmental and Professional Ethics

~~In addition, students may undertake ENPL 420-1 Research Methodology, ENPL 430-3 Undergraduate Thesis, ENPL 431-3 Professional Report, ENPL 440 (2-6) Internship as part of their electives.~~

Major Requirements
Students must choose to specialize in one major. All course requirements in the major must be completed.

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The focus of this major is to promote an understanding of the complexity and diversity of environmental problems, to develop an appreciation of community change processes, and to provide planners with knowledge which will improve the quality of the built environment and reduce the impact of human activities on the natural world. The unique planning requirements of smaller communities and rural regions demand a grounding in both physical and social science methods and an understanding of the relationship between northern communities and surrounding rural resource regions. Environmental planning necessitates strategic thought and action combined with knowledge grounded in professional practice. The Northern Rural and Community Planning major combines concepts such as bioregionalism, sustainability~~,~~ and landscape design within the context of physical land -use planning, social planning and community economic development.

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~~Students enrolled in the Northern and Rural Community Planning M~~major ~~must successfully complete 120 credit hours.~~ Students must ensure that all prerequisites are fulfilled prior to registering in any courses.

Program requirement for all majors in planning:	~~69~~ 72 credit hours
Major requirement:	15 credit hours
Major elective requirement:	18 credit hours
~~General elective requirement:~~	~~18 credit hours~~
General elective requirement:	Elective credit hours as necessary to ensure the completion of 120 credit hours.

The minimum requirement for a Bachelor of Planning with a ~~M~~major in Northern and Rural Community Planning is 120 credit hours.

Major Requirements

Lower-Division Requirements

BIOL 110-3 Introductory Ecology

~~One of the following:~~
ENVS 101-3 Introduction to Environmental Citizenship
or GEOG 206-3 Social Geography

Three of the following:
- ANTH 213-3 Peoples and Cultures
- ENVS 306-3 Human Ecology (regional campus only)
- FNST 100-3 The Aboriginal Peoples of Canada
- GEOG 101-3 Planet Earth
- GEOG 200-3 British Columbia: People and Places
- GEOG 202-3 Resources, Economies, and Sustainability
- GEOG 206-3 Social Geography
- INTS 100-3 Introduction to Global Studies
- MATH 115-3 Precalculus
- POLS 100-3 Contemporary Political Issues
- SOCW 201-3 Introduction to Social Welfare

Upper-Division Requirements

POLS 350-3 Law and Municipal Government

One of the following:
- NREM 306-3 Society, Policy and Administration
- ~~or~~ POLS 316-3 Municipal Government and Politics
- ~~or~~ POLS 320-3 Canadian Politics and Policy

One of the following:
- GEOG 424-3 Northern Communities
- ~~or~~ POLS 415-3 Comparative Northern Development
- ~~or~~ POLS 434-3 Resource Communities in Transition
- ~~or POLS 415-3 Comparative Northern Development~~

Three of the following, minimum 9 credit hours:
- ANTH 316-3 The Social Theory and Structure of Contemporary Canadian Society
- ANTH 413-(3-6) Environmental Anthropology
- ECON 411-3 Cost Benefit Analysis
- ENPL 430-6 Undergraduate Thesis
- ENPL 431-3 Professional Report
- ENPL 440 (2-6) Internship
- ENSC 404-3 Waste Management
- ENSC 302-3 Low Carbon Energy Development
- FNST 350-3 Law and ~~Aboriginal~~ Indigenous Peoples
- GEOG 305-3 Political Ecology: Environmental Knowledge and Decision-Making
- GEOG 403-3 First Nations and Indigenous Geographies
- GEOG 424-3 Northern Communities
- NREM 306-3 Society, Policy and Administration
- POLS 302-3 ~~Canadian Public Administration~~ How Government Works
- POLS 316-3 Municipal Government and Politics
- POLS 320-3 ~~How Government Works~~ Canadian Politics and Policy
- POLS 332-3 Community Development

POLS 351-3 Local Services and Public Policy
POLS 360-3 Local Government Finance
POLS 415-3 Comparative Northern Development
POLS 434-3 Resource Communities in Transition
SOCW 320-3 Critical Social Policy

Students must ensure that all prerequisites are fulfilled prior to ~~taking the~~ registering in any course.

~~General electives courses comprise of a total of 18 credit hours.~~
Students are encouraged to use the general electives to take a minor offered in Geography and Political Science, First Nations Studies, or other fields associated with community development.

Major in First Nations Planning

First Nation communities have significant and growing demands for qualified planners. The opportunities for skilled planners increase as many First Nations move to define land claims and others build upon existing treaties in Canada, potentially giving First Nations significant responsibilities for land and community planning.~~, and as others work to build upon existing treaties. the availability of skilled planners becomes essential.~~ However, planning by~~,~~ and with~~,~~ First Nations requires specific skills and abilities in the planners, whether or not they themselves are First Nation.

For most First Nations communities few distinctions are made between ecological/environmental planning and planning for social and cultural needs~~. Cultural and social needs are~~ which are developed from within, and are grounded in, the ecosystem. First Nations planning must necessarily integrate all of these domains.~~;~~ First Nations wish to remain grounded in tradition and seek to move into the future through sound community economic development and skilled land management. Most face significant community development needs, including infrastructure development, housing~~,~~ and health planning. Students need not ~~just~~ only a sound grasp of planning principles, but also an understanding of the protocols, history, social structure~~,~~ and ecology of Canadian First Nations. ~~Further,~~ Cross-cultural translation skills, community participation techniques~~,~~ and a solid grounding in ethics are required.

~~Students enrolled in the First Nations Planning M~~major ~~must successfully complete 121~~ 120 ~~credit hours.~~ Students must ensure that all prerequisites are fulfilled prior to registering in any courses. ~~Major and elective course requirements must also be met.~~

Program requirement for all majors in planning:	~~69~~ 72 credit hours
Major requirement:	19 credit hours
Major elective requirement:	8 credit hours
~~General elective requirement:~~	~~15 credit hours~~
General elective requirement:	Elective credit hours as necessary to ensure the completion of 120 credit hours.

The minimum requirement for a Bachelor of Planning with a ~~M~~major in First Nations Planning is ~~121~~ 120 credit hours.

Lower-Division Requirements

BIOL 110-3 Introductory Ecology
FNST 100-3 The Aboriginal Peoples of Canada
FNST 131-3 A First Nations Language: Level 1

Three of the following:
- ANTH 213-3 Peoples and Cultures
- ENVS 101-3 Introduction into Environmental Citizenship
- FNST 161-3 A First Nations Culture: Level 1
- FNST 200-3 Perspectives in First Nations Studies
- FNST 203-3 Introduction to Traditional Ecological Knowledge
- HHSC 102-3 Introduction to Health Sciences II: Rural and Aboriginal Issues
- MATH 115-3 Precalculus
- NREM 210-4 Integrated Resource Management

Upper-Division Requirements

ENPL 409-4 Advanced First Nations Community and Environmental Planning
FNST 304-3 Indigenous Environmental Philosophy
FNST 350-3 Law and Indigenous Peoples

Three of the following:
- BIOL 350-3 Ethnobotany
- ENPL 430-6 Undergraduate Thesis
- ENPL 431-3 Professional Report
- ENPL 440 (2-6) Internship
- FNST 303-3 First Nations Religion and Philosophy
- FNST 305-3 Seminar in First Nations Studies
- FNST 407-3 First Nations Perspectives on Race, Class, Gender and Power
- GEOG 403-3 First Nations and Indigenous Geographies
- NREM 303-3 Aboriginal Perspectives on Land and Resource Management
- ORTM 306-3 Indigenous Tourism and Recreation
- POLS 350-3 Law and Municipal Government
- SOCW 455-3 First Nations Governance and Social Policy
- SOCW 457-3 Individual and Community Wellness

Of the above lower- and upper-division course requirements, students must select a minimum of three FNST courses (9 credit hours). Students must ensure that all prerequisites are fulfilled prior to registering in any courses.

~~General electives courses comprise a total of 15 credit hours.~~ Students are encouraged to use the general electives to take a minor offered in First Nations Studies or other courses associated with aboriginal and First Nations issues.

Major in Natural Resources Planning

The major in Natural Resources Planning is designed to provide students with an understanding of the complexities of including

the natural and cultural environment in planning decision-making. The major is intended to address both project-level and large-scale environmental planning issues that occur in developments that impact the natural environment.

The objective of this major is to familiarize students with planning and decision-making in a variety of sectors that include provincial land use planning, environmental assessment, watershed planning and integrated resource and environmental management. These areas of planning are characterized by complex and intricate ~~problems that revolve around~~ questions about how to use our natural resources and who should decide. The multidimensional aspects of environmental management include natural and cultural complexity, different desired futures, value differences, assessment and monitoring tools, and integration methods. This major emphasizes an understanding of planning in both the substantive realm (natural and social sciences) and the procedural realm (the process of including people in the decision-making process).

Students enrolled in the Natural Resources Planning ~~M~~major must successfully complete 120 credit hours. ~~Major and elective course requirements must also be met. Students must ensure that they complete course prerequisites before registering in any course.~~ Students interested in working with biological and environmental aspects of natural resource planning should take BIOL 103/BIOL 123 and BIOL 104/124 as elective courses and BIOL 201 as the ecology elective ~~as they are prerequisite courses~~ to satisfy prerequisites for many of the other biological and environmental courses. ~~Furthermore,~~ Those students interested in the environmental sciences should ~~also consider taking~~ take first- and second-year Chemistry courses as part of the general electives. Students interested in integrated natural resource planning ~~are encouraged to~~ should take BIOL 104/124 and a mix of courses in areas of Political Science, First Nations (FNST or ENPL), Environment Sciences (ENSC), Geography and Outdoor Recreation and Tourism Management, and International Studies and Economics.

Students must ensure that they complete course prerequisites before registering in any course.

Program requirement for all majors in planning:	~~69~~ 72 credit hours
Major requirement:	17 credit hours
~~Major elective requirement:~~	~~18 - 22 credit hours~~
General elective requirement:	Elective credit hours as necessary to ensure the completion of 120 credit hours.

The minimum requirement for a Bachelor of Planning with a ~~M~~major in Natural Resource Planning is 120 credit hours.

Lower-Division Requirements

BIOL 110-3 Introductory Ecology
or BIOL 201-3 Ecology
NREM 210-4 Integrated Resource Management
GEOG 205-3 Cartography and Geomatics

~~One of the following:~~

~~BIOL 110-3 Introductory Ecology~~
~~or BIOL 201-3 Ecology~~

Three of the following, minimum 9 credit hours:
BIOL 103-3 Introductory Biology I
and BIOL 123-1 Introductory Biology I Laboratory
BIOL 104-3 Introductory Biology II
and BIOL 124-1 Introductory Biology II Laboratory
ENSC 201-3 Weather and Climate
ENSC 202-3 Introduction to Aquatic Systems
FNST 100-3 The Aboriginal Peoples of Canada
FNST 203-3 Introduction to Traditional Ecological Knowledge
FSTY 205-3 Introduction to Soil Science
INTS 100-3 Introduction to Global Studies
MATH 115-3 Precalculus
NREM 101-3 Introduction to Natural Resources Management and Conservation
NREM 203-3 Resource Inventories and Measurements
NREM 204-3 Introduction to Wildlife & Fisheries
ORTM 200-3 Sustainable Recreation and Tourism

Upper-Division Requirements

NREM 400-4 Natural Resources Planning
NREM 410-3 Watershed Management

Three of the following, minimum 9 credit hours:
BIOL 302-3 Limnology
BIOL 411-3 Conservation Biology
ECON 305-3 Environmental Economics and Environmental Policy
ECON 331-3 Forestry Economics
ECON 411-3 Cost-Benefit Analysis
ENPL 409-4 Advanced First Nations Community and Environmental Planning
ENPL 430-6 Undergraduate Thesis
ENPL 431-3 Professional Report
ENPL 440 (2-6) Internship
ENSC 302-3 Low Carbon Energy Development
ENSC 308-3 Northern Contaminated Environments
ENSC 312-3 Biometeorology
ENSC 404-3 Waste Management
ENSC 412-3 Air Pollution
ENVS 326-3 Natural Resources, Environmental Issues and Public Engagement
FNST 451-3 Traditional Use Studies
GEOG 401-3 Tenure, Conflict and Resource Geography
INTS 307-3 Global Resources
INTS 470-3 Global Environmental Governance
NREM 413-3 Agroforestry
ORTM 300-3 Recreation and Tourism Impacts
ORTM 305-3 Protected Area Planning and Management
ORTM 407-3 Recreation, Tourism, Communities
POLS 344-3 Society, Policy and Administration of Natural Resources

or NREM 306-3 Society, Policy and Administration
POLS 350-3 Law and Municipal Government

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

~~General elective courses comprise a total of 18 credit hours.~~ Students are encouraged to use the general electives to take a minor offered in areas of Geography~~, and~~ Political Science, First Nations Studies, or other fields associated with community development.

Minor in Planning

The minor in Planning is designed to provide students with an opportunity to acquire a basic knowledge of planning theory and methods. The minor consists of 12 required credit~~s~~ hours (four designated courses) and ~~six~~ 6 credit~~s~~ hours ~~from a set~~ of upper-division elective courses listed below. A maximum of 6 credit hours ~~two courses~~ (2 courses) used to fulfill program requirements for a major or another minor may also be used to fulfill requirements for a minor in Planning.

~~The Minor in Planning requires the completion of 18 credit hours of ENPL Planning Courses, of which 12 credit hours must be at the upper-division level.~~

Required

ENPL 104-3 Introduction to Planning
ENPL 204-3 Principles and Practices of Planning
ENPL 301-3 Sustainable Communities: Structure and Sociology
ENPL 411-3 Planning Theory, Process and Implementation

Electives

Two of~~:~~ the following:
ENPL 305-3 Environmental Impact Assessment
ENPL 318-3 Professional Planning Practice
ENPL 410-3 Land Use Planning
ENPL 415-3 Ecological Design

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

Program / Academic / Administrative Unit: School of Environmental Planning

SCCC Reviewed: March 25, 2019

College: CSAM

College Council Motion Number: CSAMCC 2019041149

College Council Approval Date: April 11, 2019

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: **0** pages

INFORMATION TO BE COMPLETED AFTER SENATE COMMITTEE ON ACADEMIC AFFAIRS MEETING

Brief Summary of Committee Debate:

Motion No.: **Omnibus** SCAAF201905.54

Moved by: E. Jensen **Seconded by:** L. Haslett

Committee Decision: CARRIED

Approved by SCAAF: May 8, 2019 

Date **Chair's Signature**

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

UNBC UNIVERSITY OF NORTHERN BRITISH COLUMBIA

Motion Number (assigned by Steering Committee of Senate): **S-201905.63**

SENATE COMMITTEE ON ACADEMIC AFFAIRS

PROPOSED REVISION OF CALENDAR ENTRY

Motion: That the changes to the program description for Co-operative Education, on page 48-49 of the 2018/2019 undergraduate calendar, be approved as proposed.

1. **Effective date:** September 2019

2. **Rationale for the proposed revisions:** The proposed revisions aim to ensure that the Co-operative Education (Co-op) program description in the Academic Calendar contains policies relevant to the program. Some revisions were made to ensure the quality and integrity of UNBC's Co-op program is upheld and student participation in co-op would assist in developing and shaping their career goals. These revisions were also informed by Co-operative Education and Work-Integrated Learning (CEWIL) Canada guidelines.

3. **Implications of the changes for other programs, etc., if applicable:** Programs that are longer than four-years in length, e.g., the joint UNBC/UBC environmental engineering degree, will require students to complete more than three co-op work terms based on CEWIL Canada guidelines stating that co-op work terms must amount to at least 30% of a students' time spent in academic study.

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

Co-operative Education

UNBC's Co-operative Education (Co-op) program is an educational model that integrates a student's academic program with practical work experiences. In order to receive a Co-operative Education designation on their transcript, Students usually alternate academic and co-op work terms and are required to do the following:

- attend the required number of workshops as outlined by the UNBC Co-operative Education Student Handbook;

- pass three co-op work terms;

- end the Co-op program on an academic or parallel co-op work term prior to graduation.

UNBC's Co-op office is not obligated to guarantee Work Term placements.

Admission to the Program

Intake into the Co-op program occurs once at the beginning of September and January semesters. Students planning to enter the Coop program should contact the Co-op Office and attend an information session. To qualify for and continue in the Co-op program, students must:

- have completed 30 credit hours before participating in their first co-op work term;
- be enrolled full time (9 credit hours); and

- have a minimum cumulative grade point average of 2.50 with normally no grade lower than D.

Students required to withdraw from Co-op due to their academic standing may re-apply for admission based upon re-qualification.

Co-op Work Terms

A co-op work term is normally equal in length to an academic term (approximately 13 weeks). A co-op work term consists of full-time work relevant to a student's declared academic major or minor (approximately 455-520 hours of work experience, dependent on employer needs). Some co-op work terms are equal in length to two academic terms and will be considered as two co-op work terms. To be considered for two co-op work terms, work terms must be approximately 26 weeks in length and consist of full-time work, relevant to a student's declared academic major or minor (approximately 910-1,040 hours of work experience, dependent on employer needs). If students wish to be enrolled in an academic course while on a co-op work term, they must receive the approval of the Co-op office before registering.

Parallel Co-op Work Terms

A parallel co-op work term is normally equal in length to two academic terms (approximately 26 weeks) and consists of part-time work relevant to a student's declared academic major or minor (approximately 17.5-20 hours per week, for a total of 455-520 hours of work experience, dependent on employer needs). A parallel co-op work term is considered as one co-op work term. During parallel co-op work terms, students are expected to be enrolled in two academic courses (minimum 6 credit hours) per academic semester. If students wish to be enrolled in more than two academic courses in an academic semester, they must receive the approval of the Co-op office before registering.

Self-Developed Work Terms

A self-developed work term recognizes work term placements found as a result of students' own contacts and networks. Students who wish to discuss whether a particular work term should be declared self-developed should consult with the Co-op program office before beginning the work term. Co-operative Education Transferable Work Terms Co-op work terms successfully completed at a Canadian postsecondary institution will be eligible for transfer work term credit, as determined on an individual basis, if they meet the following requirements:

- the program in which the work term(s) was undertaken is provincially approved under the criteria of the Accountability Council of Co-operative Education and Work-Integrated Learning of BC or is nationally approved under the criteria of the Cooperative Education and Work-Integrated Learning Canada;
- the work term(s) is officially recognized (I.e. noted on the transcript) by the institution where the work term originated;
- the credit for a second work term was granted for work experience typical of a similar major or minor into which the student is transferring, and
- a student is accepted into the UNBC Co-op program and applies for assessment of a transfer of work terms.

Transfer students must complete the number of workshops outlined in the UNBC Co-operative Education Student Handbook before participating in their first co-op work term as a UNBC student.

Co-operative Education Work Term Credit Challenge

The UNBC Co-op program allows students to challenge their first work term on the basis of prior relevant and satisfactory work experience. Students should discuss any potential work term course challenge with the Co-op office. Work term course challenges are eligible for work term credit, as determined on an individual basis, upon verification of the following:

- an aggregate of approximately 455-520 hours of relevant work experience, dependent on employer needs, not previously counted toward work term credit, practicum, internship, and similar options;
- employment verification and performance evaluation by the employer;
- a job description providing evidence that the student acquired professional and personal knowledge and skills appropriate to the declared academic major or minor and;
- a portfolio which meets UNBC Co-operative Education Student Handbook guidelines.

If the work term course challenge is approved, the result is entered on the student's transcript on a pass or fail basis.

For additional information, including the UNBC Co-operative Education student and employer handbooks, please visit the Co-op program website at www.unbc.ca/co-op

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

Co-operative Education

UNBC's Co-operative Education (Co-op) program is an educational model that integrates a student's academic program with practical work experiences. In order to receive a Co-operative Education designation on their transcript, ~~Students~~students usually alternate academic and co-op work terms and are required to ~~do the following~~:

- attend the required number of workshops ~~as~~ outlined ~~by the UNBC Co-operative Education Student Handbook~~by the Co-op office;
- pass ~~three~~ the number of co-op work terms equal to at least 30% of a student's time spent in academic study (e.g., three co-op work terms for a four-year program);
- end the Co-op program on an academic ~~or parallel co-op work~~ term prior to graduation.

UNBC's Co-op office is not obligated to guarantee ~~Work Term~~ work term placements.

Admission to the Program

Intake into the Co-op program occurs ~~once~~ at the beginning of the September and January semesters. Students planning to enter the ~~Coop~~Co-op program should contact the Co-op ~~Office~~office and attend an information session. To qualify for and continue in the Co-op program, students must:

- have completed 30 credit hours before participating in their first co-op work term;
- be enrolled full time~~(9 credit hours)~~; and
- have a minimum ~~c~~Cumulative ~~grade point average~~ GPA of 2.50 ~~with normally no grade lower than D~~.

Students required to withdraw from the Co-op program due to their academic standing may re-apply for admission based upon re-qualification.

Co-op Work Terms

A co-op work term is normally equal in length to an academic term (~~approximately 13 weeks~~approximately four months in length). A minimum of 12 weeks are required for each work term. A co-op work term consists of full-time work relevant to a student's declared academic major or minor (approximately ~~455~~420-520 hours of work experience, dependent on employer needs). Some co-op work terms are equal in length to two academic terms and ~~will be~~ are considered ~~as~~ two co-op work terms. ~~To be considered for as two co-op work terms,~~ A two-work term placement must be approximately ~~26 weeks~~ eight months in length and consist of full-time work~~,~~ relevant to a student's declared academic major or minor (approximately ~~910~~840-1,040 hours of work experience, dependent on employer needs). If students wish to be enrolled in an academic course while on a co-op work term, they must receive the approval of the Co-op office before registering.

Parallel Co-op Work Terms

A parallel co-op work term is normally equal in length to two academic terms (approximately ~~26 weeks~~eight-months in length) and consists of part-time work relevant to a student's declared academic major or minor (approximately 17.5-20 hours per week, for a total of ~~455~~420-520 hours of work experience, dependent on employer needs). A parallel co-op work term is considered as one co-op work term. During parallel co-op work terms, students are expected to be enrolled in two academic courses (minimum ~~six~~ 6 credit hours) per academic semester. If students wish to be enrolled in more than two academic courses in an academic semester, they must receive the approval of the Co-op office before registering.

Self-Developed Work Terms

A self-developed work term recognizes work term placements found as a result of students' own contacts and networks. Students ~~who wish to discuss whether a particular work term should be declared~~ interested in self-developed work terms should consult with the Co-op ~~program~~ office before beginning the work term.

Co-operative Education Transferable Work Terms

Co-op work terms successfully completed at a Canadian postsecondary institution ~~will be~~ are eligible for transfer work term credit, as determined on an individual basis, if they meet the following requirements:

- the program in which the work term(s) was undertaken is ~~provincially~~ approved under the criteria of the Accountability Council of Co-operative Education and Work-Integrated Learning of BC or ~~is nationally approved under the criteria of the Cooperative~~Co-operative Education and Work-Integrated Learning Canada;
- the work term(s) is officially recognized (I.e. noted on the transcript) by the institution where the work term originated;
- the credit for a ~~second~~ transfer work term was granted for work experience typical of ~~a similar major or minor~~ the discipline into which the student is transferring~~, and~~;
- ~~a~~ the student is accepted into the UNBC Co-op program and applies for assessment of a transfer of work terms.

Transfer students must complete the number of workshops outlined ~~in the UNBC Co-operative Education Student Handbook~~by the Co-op office before participating in their first co-op work term as a UNBC student.

Co-operative Education Work Term Credit Challenge

The UNBC Co-op program allows students to challenge their first work term on the basis of prior relevant and satisfactory work experience. Students should discuss any potential work term course challenge with the Co-op office. Work term course challenges are eligible for work term credit, as determined on an individual basis, upon verification of the following:

- an aggregate of approximately ~~455~~420-520 hours of relevant work experience, dependent on employer needs, and not previously counted toward work term credit, practicum, internship, and similar options;
- employment verification and performance evaluation by the employer;
- a job description providing evidence that the student acquired professional and personal knowledge and skills appropriate to the declared academic major or minor; and
- ~~a portfolio which meets UNBC Co-operative Education Student Handbook guidelines~~ completion of assignments set by the Co-op office.

If the work term course challenge is approved, the result is entered on the student's transcript on a ~~p~~Pass or ~~f~~Fail basis.

For additional information~~, including the UNBC Co-operative Education student and employer handbooks~~, please visit the Co-op office or the program website at www.unbc.ca/co-op.

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

Program / Academic / Administrative Unit: Co-operative Education

College: Not applicable

SCCC Reviewed: April 29, 2019

College Council Motion Number:

College Council Approval Date:

Senate Committee on First Nations and Aboriginal Peoples Motion Number:

Senate Committee on First Nations and Aboriginal Peoples Meeting Date:

7. Other Information

Attachment Pages: 0 pages

INFORMATION TO BE COMPLETED AFTER SENATE COMMITTEE ON ACADEMIC AFFAIRS MEETING

Brief Summary of Committee Debate:

Motion No.: **Omnibus** SCAAF201905.55

Moved by: E. Jensen **Seconded by:** L. Haslett

Committee Decision: CARRIED

Approved by SCAAF: May 8, 2019 _____
Date **Chair's Signature**

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

UNBC UNIVERSITY OF NORTHERN BRITISH COLUMBIA

Motion Number (assigned by Steering Committee of Senate): _____

SENATE COMMITTEE ON ADMISSIONS AND DEGREES

PROPOSED REVISION OF CALENDAR ENTRY

Motion: That the changes to the admission requirements and maximum transfer credits under the Admission Requirements: Licensed Practical Nurse (LPN) Access, on page 165 of the 2018/2019 PDF undergraduate calendar, be approved as proposed.

1. **Effective date:** September 2019

2. **Rationale for the proposed revisions:**
After assessing performance of LPN students in the NCBNP, and further review of the LPN curriculum, adjustments were made to available transfer credit for LPN access and therefore maximum allowable transfer credit. The 1700 hours of practice have been removed since the courses for which the hours were required are no longer approved for transfer credit.

   NOTE: the maximum of 15 transfer credit hours for LPN coursework was in effect for Sept 2018 admissions, however, for calendar motion purposes, the effective date is Sept 2019.

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

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

Admission Requirements: Licensed Practical Nurse (LPN) Access

Licensed Practical Nurses (LPNs) who are applying for admission to the NCBNP must:

- meet all Northern Collaborative Baccalaureate Nursing Program admission requirements
- be a graduate of a Practical Nursing program recognized by the College of Licensed Practical Nurses of BC (CLPNBC) since 1994
- have current practising or be eligible for practising registration with the CLPNBC
- have practised as a LPN for a minimum of 1700 hours in a patient care setting during the last 4 years, OR graduated from a BC Practical Nursing Program within the year of application. Proof of worked hours must be submitted with application and can be obtained from employers

LPN applicants will be assessed on an individual basis and may be eligible for up to a maximum of 27 transfer credit hours of Nursing courses.

Applicants who have completed a BC Practical Nursing Certificate prior to 1994, or have completed a certificate or diploma from a program outside of British Columbia, may not be exempt from any of the first or second year nursing courses.

All successful LPN applicants must meet individually with the Nursing Advisor at the institution to which they are applying in order to be referred to a Nursing Faculty member for transfer credit and proficiency assessment.

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

Admission Requirements: Licensed Practical Nurse (LPN) Access

Licensed Practical Nurses (LPNs) who are applying for admission to the NCBNP must~~:~~

- meet all Northern Collaborative Baccalaureate Nursing Program admission requirements;
- be ~~a~~ graduates of a Practical Nursing program recognized by the ~~College of Licensed Practical Nurses of BC (CLPNBC)~~ British Columbia College of Nursing Professionals (BCCNP) since 1994;
- have current ~~practising~~ practicing registration or be eligible for ~~practising~~ practicing registration with the ~~CLPNBC~~ BCCNP.
- ~~have practised as a LPN for a minimum of 1700 hours in a patient care setting during the last 4 years, OR graduated from a BC Practical Nursing Program within the year of application. Proof of worked hours must be submitted with application and can be obtained from employers~~

LPN applicants are assessed on an individual basis and may be eligible for up to a maximum of 15 ~~27~~ transfer credit hours of ~~Nursing~~ NCBNP courses.

Applicants who have completed a BC Practical Nursing Certificate prior to 1994, or have completed a certificate or diploma from a program outside of British Columbia, or have graduated from an institution not listed in the BC Transfer Guide, may not be exempt from any of the ~~first or second year~~ Year 1 or Year 2 ~~nursing~~ NCBNP courses.

In order to have their documents referred to Nursing faculty members for transfer credit assessment, ~~A~~all successful LPN applicants must meet individually with the Nursing Advisor at the institution to which they are applying. ~~in order to be referred to a Nursing Faculty member for transfer credit and proficiency assessment.~~ Further criteria may be required in order to receive transfer credit.

6. Authorization:

Program / Academic / Administrative Unit: School of Nursing

SCCC Reviewed: March 25, 2019

College: College of Arts, Social and Health Sciences

College Council Motion Number: CASHSCC.2019.04.19.04

College Council Approval Date: April 18, 2019

Senate Committee on First Nations and Aboriginal Peoples Motion Number:

Senate Committee on First Nations and Aboriginal Peoples Meeting Date:

7. Other Information

Attachment Pages: 0 pages

INFORMATION TO BE COMPLETED AFTER SENATE COMMITTEE ON ADMISSIONS AND DEGREES MEETING

Brief Summary of Committee Debate:

Motion No.: SCAD

Moved by: **Seconded by:**

Committee Decision:

Approved by SCAD: _____ _____
Date **Chair's Signature**

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

UNBC UNIVERSITY OF NORTHERN BRITISH COLUMBIA

Motion Number (assigned by Steering Committee of Senate): _____

SENATE COMMITTEE ON ADMISSIONS AND DEGREES

PROPOSED REVISION OF CALENDAR ENTRY

Motion: That the change(s) to the Admission Requirements by Degree Groups on page 22 of the 2018-2019 Undergraduate Calendar be approved as proposed.

1. **Effective date: September 2019**

2. **Rationale for the proposed revisions:** With the introduction of Civil Engineering and the standalone UNBC Environmental Engineering programs, the admission requirements require revision.

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

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

Admission Requirements by Degree Groups

Nursing**** *see program regulations*	Bachelor of Health Sciences *see program regulations*	Environmental Engineering *see program regulations*
English 12 or English First Peoples 12 (70% minimum)**	English 12 or English First Peoples 12** (70% minimum)	English 12 or English First Peoples 12**
Foundations of Mathematics 11 or Pre-calculus 11 or Principles of Mathematics 11 (67% minimum) Chemistry 11 or equivalent (67% minimum)	Pre-calculus 11 or Principles of Mathematics 11 (70% minimum) Chemistry 11 or equivalent (70% minimum)	Principles of Mathematics 12 or Pre-Calculus 12
Biology 12 (73% minimum) within 5 years prior to the semester of admission to the NCBNP Two other approved* Grade 12 courses	Biology 12 (70% minimum) Two other approved* Grade 12 courses Biomedical Studies † see program regulations Pre-Calculus 12 recommended for prerequisite purposes	Two provincially examinable Science 12 courses: Chemistry 12 Physics 12 (recommended) Chemistry 11 see program regulations
A fifth Grade 12 course***	A fifth Grade 12 course***	A fifth Grade 12 course***
Minimum admission average 67%	Minimum admission average 70%	Minimum admission average 75%

* Approved Grade 12 Courses: Applications of Mathematics, BC First Nations Studies, Biology, Calculus, Chemistry, Comparative Civilizations, Economics, English Literature, Français, Français Langue Seconde-Immersion, French, German, Geography, Geology, History, Japanese, Latin, Law, Mandarin, Math Foundations, Middle Earth 12, Physics, Pre-Calculus, Principles of Mathematics, Punjabi, Social Justice, Spanish, Sustainable Resources, Technical and Professional Communications, Writing. Approved Advanced Placement Courses: AP Biology (General), AP Calculus AB or BC, AP Chemistry, AP Computer Science A or AB, AP English, AP Environmental Science, AP European History, AP French, AP German, AP History of Art, AP Human Geography, AP Latin, AP Microeconomics/Macroeconomics, AP Music Theory, AP Physics B and/or Physics C, AP Psychology, AP Spanish Literature, AP Spanish Language, AP Statistics, AP United States History, AP US Government & Politics, AP World History. Approved International Baccalaureate Courses: IB Biology, IB Business Management, IB Chemistry, IB Computer Science, IB Economics, IB English Language A, IB Environmental Systems, IB French Language A and/or French Language B, IB Geography, IB German, IB Greek, IB History, IB History - Asian, IB History - European, IB Latin, IB History and Culture of the Islamic World, IB Mathematics, IB Further Mathematics, IB Music, IB Philosophy, IB Physics, IB Psychology, IB Social & Cultural Anthropology, IB Spanish A and/ or Spanish B.

** Approved AP and IB (all standard level and higher level) courses can be used in place of any approved Grade 12 Canadian high school course.

*** A fifth Grade 12 Course: Any other of the approved Grade 12 courses, and also any Grade 12 course taught in the secondary school including locally-developed courses (e.g. First Nations Languages), career preparation courses (Construction 12, etc.), or others (Art 12, Band 12, Information Technology 12, Communications 12, CAPP 12, etc.), or any Advanced Placement or International Baccalaureate courses.

**** Nursing: UNBC's partner institutions, the College of New Caledonia (CNC) and Coast Mountain College (CMNT) are processing admissions to the Northern Collaborative Baccalaureate Nursing Program. If you wish to apply to our Prince George or Quesnel campuses, please apply through CNC: www.cnc.bc.ca; if you wish to apply to our Terrace campus, please apply through CMNT at www.coastmountaincollege.ca

† Students interested in pursuing the BHSc Biomedical Studies Major are strongly encouraged to take Pre-Calculus 12 or Principles of Mathematics 12, and Chemistry 12 before entering the Program.

Admission Average: For all provinces the best grade for each required course will be used (either the course mark or the course mark blended with the provincial exam).

Note: Table excludes entry to upper division (Social Work) or post-baccalaureate (Education) professional programs.

5. <u>Proposed revision with changes underlined and deletions indicated clearly using "~~strikethrough~~":</u>

Admission Requirements by Degree Groups

Nursing**** *see program regulations*	Bachelor of Health Sciences *see program regulations*	~~Environmental~~ Engineering *see program regulations*
English 12 or English First Peoples 12 (70% minimum)**	English 12 or English First Peoples 12** (70% minimum)	English 12 or English First Peoples 12**
Foundations of Mathematics 11 or Pre-calculus 11 or Principles of Mathematics 11 (67% minimum) Chemistry 11 or equivalent (67% minimum)	Pre-calculus 11 or Principles of Mathematics 11 (70% minimum) Chemistry 11 or equivalent (70% minimum)	Principles of Mathematics 12 or Pre-Calculus 12
Biology 12 (73% minimum) within 5 years prior to the semester of admission to the NCBNP Two other approved* Grade 12 courses	Biology 12 (70% minimum) Two other approved* Grade 12 courses Biomedical Studies † see program regulations Pre-Calculus 12 recommended for prerequisite purposes	Two provincially examinable Science 12 courses: Chemistry 12 Physics 12 (recommended) Chemistry 11 see program regulations
A fifth Grade 12 course***	A fifth Grade 12 course***	A fifth Grade 12 course***
Minimum admission average 67%	Minimum admission average 70%	Minimum admission average 75%

* Approved Grade 12 Courses: Applications of Mathematics, BC First Nations Studies, Biology, Calculus, Chemistry, Comparative Civilizations, Economics, English Literature, Français, Français Langue Seconde-Immersion, French, German, Geography, Geology, History, Japanese, Latin, Law, Mandarin, Math Foundations, Middle Earth 12, Physics, Pre-Calculus, Principles of Mathematics, Punjabi, Social Justice, Spanish, Sustainable Resources, Technical and Professional Communications, Writing. Approved Advanced Placement Courses: AP Biology (General), AP Calculus AB or BC, AP Chemistry, AP Computer Science A or AB, AP English, AP Environmental Science, AP European History, AP French, AP German, AP History of Art, AP Human Geography, AP Latin, AP Microeconomics/Macroeconomics, AP Music Theory, AP Physics B and/or Physics C, AP Psychology, AP Spanish Literature, AP Spanish Language, AP Statistics, AP United States History, AP US Government & Politics, AP World History. Approved International Baccalaureate Courses: IB Biology, IB Business Management, IB Chemistry, IB Computer Science, IB Economics, IB English Language A, IB Environmental Systems, IB French Language A and/or French Language B, IB Geography, IB German, IB Greek, IB History, IB History - Asian, IB History - European, IB Latin, IB History and Culture of the Islamic World, IB Mathematics, IB Further Mathematics, IB Music, IB Philosophy, IB Physics, IB Psychology, IB Social & Cultural Anthropology, IB Spanish A and/ or Spanish B.

** Approved AP and IB (all standard level and higher level) courses can be used in place of any approved Grade 12 Canadian high school course.

*** A fifth Grade 12 Course: Any other of the approved Grade 12 courses, and also any Grade 12 course taught in the secondary school including locally-developed courses (e.g. First Nations Languages), career preparation courses (Construction 12, etc.), or others (Art 12, Band 12, Information Technology 12, Communications 12, CAPP 12, etc.), or any Advanced Placement or International Baccalaureate courses.

**** Nursing: UNBC's partner institutions, the College of New Caledonia (CNC) and Coast Mountain College (CMNT) are processing admissions to the Northern Collaborative Baccalaureate Nursing Program. If you wish to apply to our Prince George or Quesnel campuses, please apply through CNC: www.cnc.bc.ca; if you wish to apply to our Terrace campus, please apply through CMNT at www.coastmountaincollege.ca

† Students interested in pursuing the BHSc Biomedical Studies Major are strongly encouraged to take Pre-Calculus 12 or Principles of Mathematics 12, and Chemistry 12 before entering the Program.

Admission Average: For all provinces the best grade for each required course will be used (either the course mark or the course mark blended with the provincial exam).

Note: Table excludes entry to upper division (Social Work) or post-baccalaureate (Education) professional programs.

6. Authorization:

Program / Academic / Administrative Unit: Civil Engineering and Environmental Engineering

SCCC Reviewed: March 20, 2019

College: CSAM

College Council Motion Number: CSAMCC 2019:04:11:04

College Council Approval Date: April 11, 2019

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 (fill in number of pages, or indicate "0" if there are no attachments)

INFORMATION TO BE COMPLETED AFTER SENATE COMMITTEE ON ADMISSIONS AND DEGREES MEETING

Brief Summary of Committee Debate:

Motion No.: SCAD

Moved by: **Seconded by:**

Committee Decision:

Approved by SCAD: _____ _____

Date **Chair's Signature**

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

Motion Number (assigned by SCS): _____

SENATE COMMITTEE ON SCHOLARSHIPS AND BURSARIES (SCSB)

PROPOSED MOTION

Motion: That the SCSB 2018-2019 Annual Report be approved.

Effective Date: March 2019

Rationale: The annual report is due to be submitted to Senate in April.

Proposed By: Linda Fehr, Coordinator – Awards & Financial Aid

External Relations Contact: N/A

Faculty / Academic Department: N/A

Date: March 27, 2019

TO BE COMPLETED AFTER SCSB MEETING

Brief Summary of Committee Debate: The Committee endorsed the motion.

Motion No.: SCSB20190327.04

Moved by: Hartley **Seconded by:** Massingham

Committee Decision: CARRIED **Attachments:** 3 Pages

Approved by SCSB: March 27, 2019 _____
Date **Chair's Signature**

For information of Senate.

Senate Committee on Scholarships and Bursaries

Annual Report to Senate

March 27, 2019

OVERVIEW

Since the last annual report in March of 2018 the Senate Committee on Scholarships and Bursaries has met eleven (11) times. During this time, and on behalf of Senate, the Committee has completed the following administrative tasks:

- Recommended to Senate the 2018/2019 general scholarships and bursaries fund expenditures
- Ratified nominations of 2018/2019 awards recipients
- Reviewed and approved fourteen Terms and Conditions for newly established awards
- Approved nine revisions to Terms and Conditions for existing awards
- Reviewed eight student requests for scholarship deferrals/reinstatements

STATISTICAL SUMMARY – 2018/2019

Award Type	**Number**	**Value**
Donor-Directed	681	$1,390,036.00
UNBC General Fund (not including waivers)	258	$ 668,350.00
UNBC Scholars Waivers	91	$ 420,264.92
Graduate Tuition Waivers	61	$ 239,993.68
Athletic Tuition Waivers	33	$ 184,976.50
Youth in Care Tuition Waivers	5	$ 18,080.84
Six and Fifteen Credit Hour Tuition Waivers	29	$ 37,224.59
School District 57 Waivers (matching)	4	$ 8,000.00
UNBC Tuition Awards for Excellence Waivers	9	$ 45,391.99
2018 BC Wildfires Tuition Waivers	2	$ 4,500.00
Canada 150th Anniv. Intn'l Scholarship Waivers	31	$ 43,000.00
Totals	**1,204***	**$3,059,818.52 ****

***** 1 % increase in number from 2017/2018
** .002% decrease in value from 2017/2018

Student Type	Number	
Self-declared Female Recipients	572	
Self-declared Male Recipients	309	
Self-declared Aboriginal Recipients	80	
Northern Residents	719	
Undergraduate Entrance Recipients	272	
In-Course Undergraduate Recipients	734	
Graduate Recipients	192	(includes only UNBC-administered awards)
NMP Recipients	6	
Number of individual recipients	881	(students who received one or more awards)

Award Category	Number	Value	Median Value
Needs-based Awards	388	609,324.59	$ 1,200.00
Merit-based Awards	816	2,450,493.93	$ 2,127.00

NEW DONOR-NAMED AWARDS ESTABLISHED IN 2018/2019

Name of Award	Number	Value/Award	Total Value
Israel Prabhudass Bursary	1	$1,000	$1,000
MBA Alumni Award	1	$ 500	$1,000
From VK to C in 50 Award	1	$2,000	$2,000
Janet Hamilton Memorial Award	1	$3,500	$3,500
BC Oil & Gas Commission NTP Bursary	2	$2,750	$5,500
BC Oil & Gas Commission Engineering Bursary	2	$2,250	$4,500
Klohn Crippen Berger Award	1	$2,000	$2,000
Kvist Family Award	1	$2,000	$2,000
Aux. to UNHBC 100th Anniversary Scholarship	1	$10,000	$10,000
Tom Dielissen Memorial Award	1	$1,000	$1,000
Lieutenant Governor's Medal	1	$0	$0
Brittany Fotsch Farm Heritage Award	1	$1,000	$1,000
CPABC Prince George Chapter Scholarship	1	$1,000	$1,000
Special Graduate Entrance Research Award	6	$5,000	$30,000
Totals	**21**	**$32,000**	**$64,500**

UNAWARDED SCHOLARSHIPS AND BURSARIES 2018/2019

Name Of Award	Reason	Value	# Times Not Awarded (past Five Years)
Aldyen Hamber Women's Studies Bursary	Program specific	$1,500	1
Anderson Memorial Prize	Specific Criteria	$250	1
Beta Sigma Phi Bursary	Specific Membership	$3,000	4
CPA Education Foundation Award	Specific Criteria	$1,000	1
George Baldwin Q.C. Graduate Scholarship	Program Specific	$3,000	3
Jessie Craig Bursary	Program Specific	$750	4
MBA Alumni Award	Program Specific	$500	1
Miriam Matejova Award	Specific Criteria	$1,200	3
Nordic Sport Leadership Award	Specific Criteria	$1,000	1
Northern BC Mining Research Award	Research Specific – industry partnership	$5,000	6
Northern BC Archives Graduate Research Scholarship	Research Specific	$5,000	1
Ricci Dalton Award	Program Specific	$500	1
Simons Foundation Bursaries for Lone Parents (1 of 2)	Enrollment in UNBC Day Care	$2,000	5
Van Adrichem Nisga'a Leadership Award	Campus Specific	$500	1
WWNI Community Development Bursary	Campus Specific	$900	1
Totals	15 awards*	$26,100**	

***Percentage of *number* of available awards not awarded in 2018.2019: .12%**
****Percentage of *value* of available awards not awarded in 2018/2019: .08%**