S.18-5

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MEMORANDUM

ATTENTION Senate
DATE December 8, 2017
FROM Daniel Leznoff, Chair Senate Committee on Undergraduate Studies
PAGES 1/1
RE: New Course Proposals (SCUS 17-55)

For information:

Acting under delegated authority at its meeting of December 7, 2017 SCUS approved the following curriculum revisions effective Fall 2018.

a. Faculty of Environment

1. Resource and Environmental Management

(i) New Course Proposal:

- REM 406-4, Indigenous People and Co-management (Spring 2019)
- REM 407-4, Indigenous Governance and Resource Relationships
- REM 423-4, Research Methods in Fisheries Assessment
- REM 427-4, Avalanche Risk Management (Fall 2019)
- REM 446-4, Environment and Social Impact Assessment
- REM 454-4, Water Security
- REM 495-4, Resource and Environmental Management Capstone (Spring 2019)

SFU SENATE COMMITTEE ON UNDERGRADUATE STUDIES

NEW COURSE PROPOSAL
1 OF 4 PAGES

COURSE SUBJECT REM **NUMBER** 406

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

Indigenous People and Co-management

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

CO-MANAGEMENT

CAMPUS where course will be normally taught: ☑ Burnaby ☐ Surrey ☐ Vancouver ☐ Great Northern Way ☐ Off campus

COURSE DESCRIPTION — 50 words max. Attach a course outline. Don't include WQB or prerequisites info in this description box.

Introduces several basic co-management models, a framework for analyzing conditions which permit co-management institutions to develop and thrive, the dilemmas of communities involved in co-management and the challenges for governments working with them, with special but not exclusive attention to Canadian Indigenous communities.

REPEAT FOR CREDIT ☐ YES ☑ NO Total completions allowed ☐ Within a term? ☐ YES ☑ NO

LIBRARY RESOURCES

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

RATIONALE FOR INTRODUCTION OF THIS COURSE

The rationale for introducing this course is to make an existing specialized graduate seminar that has been very successful available to 4th year undergraduates, recognizing that the undergraduate version will have somewhat reduced expectations and course requirements. By limiting undergraduate enrollment to 15, the course will be able to retain a seminar's quality while spreading REM graduate teaching more broadly, thus making more efficient use of faculty resources.

SCHEDULING AND ENROLLMENT INFORMATION

Term and year course would first be offered (e.g. FALL 2016) SPRING 2019

Term in which course will typically be offered ☑ Spring ☐ Summer ☐ Fall

Other *(describe)*

Will this be a required or elective course in the curriculum? ☐ Required ☑ Elective

What is the probable enrollment when offered? Estimate: 20

UNITS

Indicate number of units: 4

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

OTHER

FACULTY

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

Dr. Evelyn Pinkerton

WQB DESIGNATION

(attach approval from Curriculum Office)

PREREQUISITE AND / OR COREQUISITE

REM 356 and 75 units.

EQUIVALENT COURSES [For more information on equivalency, see Equivalency Statements under Information about Specific Course components.]

1. SEQUENTIAL COURSE [is not hard coded in the student information management system (SIMS).]

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

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

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

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

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

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

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

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

FEES

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

COURSE – LEVEL EDUCATIONAL GOALS (OPTIONAL)

RESOURCES

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

OTHER IMPLICATIONS

Final exam required ☐ YES ☑ NO

Criminal Record Check required ☐ YES ☑ NO

OVERLAP CHECK

Checking for overlap is the responsiblity of the Associate Dean.

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

Name of Originator

Evelyn Pinkerton

SFU SENATE COMMITTEE ON UNDERGRADUATE STUDIES

NEW COURSE PROPOSAL

COURSE SUBJECT REM **NUMBER** 407

COURSE TITLE LONG — for Calendar/schedule, no more than 100 characters including spaces and punctuation
Indigenous Governance and Resource Relationships

COURSE TITLE SHORT — for enrollment/transcript, no more than 30 characters including spaces and punctuation
Indig. Gov. & Res. Relations.

CAMPUS where course will be normally taught: ☑ Burnaby ☐ Surrey ☐ Vancouver ☐ Great Northern Way ☐ Off campus

COURSE DESCRIPTION — 50 words max. Attach a course outline. Don't include WQB or prerequisites info in this description box.

Explores diverse Indigenous pepspectives on governance, resource, land and water management, intergovernmental relations and economic development in the context of contemporary settler colonialism in Canada. Skills include critical thinking, anti-colonial, economic, political and policy analyses.

REPEAT FOR CREDIT ☐ YES ☑ NO Total completions allowed Within a term? ☐ YES ☑ NO

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

RATIONALE FOR INTRODUCTION OF THIS COURSE

1. While many REM faculty members, their research, and some course content address Indigenous issues, there is no course dealing directly with Indigenous governance and resource and environmental management from an Indigenous perspective.

2. This course will provide an opportunity for students to engage with unique Indigenous perspectives and world views on otherwise familiar issues, including resource relationships of respect, reciprocity, responsibility and accountability.

3. The insights gained in this course will aid many students who, after graduate, will inevitably work for and with Indigenous communities.

4. In addition to Indigenous perspectives, the course material and discussions will examine other anti-colonial/anti-capitalist critiques and alternatives to mainstream resource and environmental management.

SCHEDULING AND ENROLLMENT INFORMATION

Term and year course would first be offered (e.g. FALL 2016) FALL , 2018

Term in which course will typically be offered ☑ Spring ☐ Summer ☐ Fall

Other *(describe)*

Will this be a required or elective course in the curriculum? ☐ Required ☑ Elective

What is the probable enrollment when offered? Estimate: 15-20

UNITS

Indicate number of units: 4

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

OTHER

FACULTY

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

Clifford Atleo

WQB DESIGNATION

(attach approval from Curriculum Office)

PREREQUISITE AND / OR COREQUISITE

75 credit hours or permission of instructor

EQUIVALENT COURSES [For more information on equivalency, see Equivalency Statements under Information about Specific Course components.]

1. SEQUENTIAL COURSE [is not hard coded in the student information management system (SIMS).]

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

N/A

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

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

N/A

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

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

N/A

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

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

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

FEES

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

COURSE – LEVEL EDUCATIONAL GOALS (OPTIONAL)

Once you complete this course, you will:

1. Understand various Indigenous perspectives on resource and environmental management issues, particularly in British Columbia.

2. Have a basic understanding of Indigenous governance institutions, community priorities and complications.

3. Develop critical thinking skills, especially from anti-colonial and anti-capitalist perspectives.

4. Learn to cultivate and nurture empathy, solidarity, allyship with Indigenous communities with respect to resource and environmental management.

RESOURCES

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

N/A

OTHER IMPLICATIONS

Final exam required ☐ YES ☑ NO

Criminal Record Check required ☐ YES ☑ NO

OVERLAP CHECK

Checking for overlap is the responsiblity of the Associate Dean.

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

Name of Originator

Clifford Atleo

SFU SENATE COMMITTEE ON UNDERGRADUATE STUDIES

NEW COURSE PROPOSAL

COURSE SUBJECT REM **NUMBER** 423

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

Research Methods in Fisheries Assessment

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

Research Methods Fisheries Assessment

CAMPUS where course will be normally taught: ☑ Burnaby ☐ Surrey ☐ Vancouver ☐ Great Northern Way ☐ Off campus

COURSE DESCRIPTION — 50 words max. Attach a course outline. Don't include WQB or prerequisites info in this description box.

Introduction to quantitative methods for providing scientific advice on the status, productivity and effects of fishing of fish stocks. Includes development and application fish population dynamics models, data analysis, and the quantification of uncertainty. Focus will be primarily on biological aspects of fisheries assessment while illustrating how these interface with economic, social and institutional concerns of management agencies.

REPEAT FOR CREDIT ☐ YES ☑ NO Total completions allowed ☐ Within a term? ☐ YES ☑ NO

LIBRARY RESOURCES

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

RATIONALE FOR INTRODUCTION OF THIS COURSE

At present, REM does not offer an undergraduate course in Fisheries despite having several highly regarded researchers in this field. Thus, this course will be the first and will importantly broaden the scope of our program by adding training in fisheries stock assessment, fisheries management and systems modeling in general.

SCHEDULING AND ENROLLMENT INFORMATION

Term and year course would first be offered (e.g. FALL 2016) Fall 2018

Term in which course will typically be offered ☐ Spring ☐ Summer ☑ Fall

Other *(describe)*

Will this be a required or elective course in the curriculum? ☐ Required ☑ Elective

What is the probable enrollment when offered? Estimate: 20

UNITS

Indicate number of units: 4

Indicate no. of contact hours: 2 Lecture Seminar Tutorial 2 Lab Other; explain below

OTHER

FACULTY

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

Dr. Sean Cox

WQB DESIGNATION

(attach approval from Curriculum Office)

PREREQUISITE AND / OR COREQUISITE

BISC 204 or GEOG 215; STAT 101 or 201 or 203 or equivalent; MATH 151 or 154 or 157 or equivalent; 60 units.

EQUIVALENT COURSES [For more information on equivalency, see Equivalency Statements under Information about Specific Course components.]

1. SEQUENTIAL COURSE [is not hard coded in the student information management system (SIMS).]

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

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

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

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

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

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

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

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

FEES

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

COURSE – LEVEL EDUCATIONAL GOALS (OPTIONAL)

RESOURCES

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

No additional resources required.

OTHER IMPLICATIONS

Final exam required ☐ YES ☑ NO

Criminal Record Check required ☐ YES ☑ NO

OVERLAP CHECK

Checking for overlap is the responsiblity of the Associate Dean.

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

Name of Originator

Dr. Sean Cox

SFU SENATE COMMITTEE ON UNDERGRADUATE STUDIES

NEW COURSE PROPOSAL

COURSE SUBJECT REM **NUMBER** 427

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

Avalanche Risk Management

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

Avalanche Risk Management

CAMPUS where course will be normally taught: ☑ Burnaby ☐ Surrey ☐ Vancouver ☐ Great Northern Way ☐ Off campus

COURSE DESCRIPTION — 50 words max. Attach a course outline. Don't include WQB or prerequisites info in this description box.

Interdisciplinary introduction to snow avalanches and the management of the associated risks. Embedded in an overall risk management framework, the course discusses the physics of avalanche formation, identification and characterization of avalanche terrain, the fundamentals of hazard assessment, and mitigation approaches in different contexts with practical examples from in Canada.

REPEAT FOR CREDIT ☐ YES ☑ NO Total completions allowed ☐ Within a term? ☐ YES ☑ NO

LIBRARY RESOURCES

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

RATIONALE FOR INTRODUCTION OF THIS COURSE

Snow avalanches claim about 14 lives in Canada every year and about 150 lives in the western world, more than any other natural hazard. Most victims are backcountry recreationists, but avalanches also threaten villages, utility lines, resource operations and cause traffic hazard and economic loss by blocking critical transportation corridors. Managing avalanche hazard effectively is therefore of critical importance for the economy of western Canada. However, to my knowledge, there are currently no academic courses offered in avalanche risk management at any postsecondary institution in western Canada.

The proposed course aims to address this void by offering an applied introduction to snow avalanches and the management of the associated risks. The interdisciplinary course provides a comprehensive overview that covers both the physical processes involved in avalanche formation and the human dimensions of avalanche hazard assessment and risk mitigation. The overall objective is to provide graduates with a solid academic starting point for entering the community of avalanche safety professionals in Canada.

The course is aimed at both undergraduate and graduate students from a range of programs including resource and environmental management, environmental science, geography, earth science and engineering. Since there are currently no comparable courses offered at any other local universities, I also expect enrollment from non-SFU students in the course. The course also plays a critical role in the training of undergraduate and graduate students involved in the research program of the NSERC Industrial Research Chair in Avalanche Risk Management in SFU's School for Resource and Environmental Management.

SCHEDULING AND ENROLLMENT INFORMATION

Term and year course would first be offered (e.g. FALL 2016): Fall 2019

Term in which course will typically be offered: ☐ Spring ☐ Summer ☑ Fall

Other *(describe)*:

Will this be a required or elective course in the curriculum? ☐ Required ☑ Elective

What is the probable enrollment when offered? Estimate: 20

UNITS

Indicate number of units: 4

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

OTHER

FACULTY

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

Dr. Pascal Haegeli

WQB DESIGNATION

(attach approval from Curriculum Office)

PREREQUISITE AND / OR COREQUISITE

60 units, including one of MATH 150, MATH 151, MATH 154 or MATH 157 and one of STAT 101, STAT 201, STAT 203, STAT 270 or GEOG 251. Or permission of the instructor.

EQUIVALENT COURSES [For more information on equivalency, see Equivalency Statements under Information about Specific Course components.]

1. SEQUENTIAL COURSE [is not hard coded in the student information management system (SIMS).]

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

n/a

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

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

n/a

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

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

n/a

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

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

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

n/a

FEES

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

COURSE – LEVEL EDUCATIONAL GOALS (OPTIONAL)

Once you have completed this course, you will be able to:
1) Describe the organizational landscape and key stakeholders in avalanche safety in Canada
2) Explain the physical factor contributing to the formation of the snowpack and the layer structure necessary for the formation of avalanches.
3) Explain the mechanical properties of snow and our current understanding of the fracture mechanical processes that lead to avalanche release.
4) Recognize avalanche terrain and explain the principles for assessing its severity in different avalanche safety applications.
5) Explain the process of assessing avalanche hazard and risk and point out similarities and differences among different avalanche safety applications.
6) Explain common mitigation practices in different avalanche safety applications.
7) Apply course concepts to suggest solutions to a current avalanche safety challenge.

RESOURCES

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

n/a

OTHER IMPLICATIONS

Final exam required ☑ YES ☐ NO

Criminal Record Check required ☐ YES ☑ NO

OVERLAP CHECK

Checking for overlap is the responsiblity of the Associate Dean.

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

Name of Originator

Pascal Haegeli

COURSE SUBJECT REM **NUMBER** 446

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

Environmental and Social Impact Assessment

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

Environmental Impact Assessmt

CAMPUS where course will be normally taught: ☑ Burnaby ☐ Surrey ☐ Vancouver ☐ Great Northern Way ☐ Off campus

COURSE DESCRIPTION — 50 words max. Attach a course outline. Don't include WQB or prerequisites info in this description box.

Theory and practice of environmental and social impact assessment. The course will review and critically evaluate the regulatory frameworks, institutions and methods associated with impact assessment for resource and industrial development, transportation, public utilities, regional planning and public policy, using examples from British Columbia and Canada.

REPEAT FOR CREDIT ☐ YES ☑ NO Total completions allowed ☐ Within a term? ☐ YES ☑ NO

LIBRARY RESOURCES

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RATIONALE FOR INTRODUCTION OF THIS COURSE

1. This course on environmental impact assessment complements the growing undergraduate programs in REM, including the REM minor and REM Major in the Bachelor of Environment. Students in these programs should have the opportunity to learn about environmental impact assessment, as it is one of the primary means through which the potential adverse environmental and social effects of projects, programs and activities are evaluated and mitigated. Many graduates of environmental programs end up working in fields related to environmental impact assessment in industry, consulting firms or government agencies.

2. The course will also have broad appeal to students in other programs. Environmental impact assessment processes have been prominent and controversial in BC and elsewhere in the world in recent years; and interest in the subject is high. The course will be accessible to all higher level students at SFU who have taken one of the introductory REM courses on issues in resource and environmental and management. We expect students in other programs will be attracted to this course as an elective, including students from environmental sciences, geography, biology and health sciences.

3. There is no comparable course currently offered at SFU. Both UBC and the University of Victoria have undergraduate courses in environmental impact assessment and those courses appear to be doing well.

SCHEDULING AND ENROLLMENT INFORMATION

Term and year course would first be offered (e.g. FALL 2016) FALL 2018

Term in which course will typically be offered ☐ Spring ☐ Summer ☑ Fall

Other *(describe)*

Will this be a required or elective course in the curriculum? ☐ Required ☑ Elective

What is the probable enrollment when offered? Estimate: 20

UNITS

Indicate number of units: 4

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

OTHER

FACULTY

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

Dr. Murray Rutherford

WQB DESIGNATION

(attach approval from Curriculum Office)

PREREQUISITE AND / OR COREQUISITE

REM 100 or 200 and 75 units.

EQUIVALENT COURSES [For more information on equivalency, see Equivalency Statements under Information about Specific Course components.]

1. SEQUENTIAL COURSE [is not hard coded in the student information management system (SIMS).]

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

N/A

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

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

N/A

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

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

N/A

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

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

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

FEES

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

COURSE – LEVEL EDUCATIONAL GOALS (OPTIONAL)

RESOURCES

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

OTHER IMPLICATIONS

Final exam required ☑ YES ☐ NO

Criminal Record Check required ☐ YES ☑ NO

OVERLAP CHECK

Checking for overlap is the responsiblity of the Associate Dean.

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

Name of Originator

Dr. Murray Rutherford

COURSE SUBJECT REM **NUMBER** 454

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

Water Security

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

Water Security

CAMPUS where course will be normally taught: ☑ Burnaby ☐ Surrey ☐ Vancouver ☐ Great Northern Way ☐ Off campus

COURSE DESCRIPTION — 50 words max. Attach a course outline. Don't include WQB or prerequisites info in this description box.

Students investigate dimensions of the global environmental crisis related to water security, including: human rights, political science, development economics, gender policies, geopolitics, regional integration and security, international law, national legislation, public health, trade, agriculture, energy generation, and water resources management.

REPEAT FOR CREDIT ☐ YES ☑ NO Total completions allowed ☐ Within a term? ☐ YES ☑ NO

LIBRARY RESOURCES

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

RATIONALE FOR INTRODUCTION OF THIS COURSE

Water security – comprising universal access to water for sustaining livelihoods and human well-being, and protection against water-related disasters – has become central to global environment and development agenda. The World Economic Forum in Davos consistently ranks water security among its top concerns. However, its achievement remains elusive. Over 600 million people have no access to an improved drinking water source and over 2 billion have no access to toilets. Even Canada, with numerous boil water advisories and major environmental and pollution stressors to its watersheds, is not immune to water insecurity despite its ample water endowment.

Water security as a topic also aligns strongly with and complements the REM academic approach in that it is trans-discplinary in nature and bridges between social and natural sciences. In using a problem-based learning approach for the course, it offers students practical and hands-on experience in sustainable resource management and formulation of effective environmental policies and practices. The ramifications of water resource planning and management decisions for the hydrological, societal, economic, and institutional systems are actively discussed.

This course was first offered as Special Topics, ENV 499 in Fall 2016. It was well-received by the students, with an overall rating of 3.75 for the course and 4.00 for the instructor. The following comments were offered in the course evaluation: "This was an excellent class – a good balance between theory, case studies, and practical problem solving." "Great class, a very unique topic and very relevant to contemporary issues." "Strengths: knowledge of material, course content, related to real world, class discussions. Weakness: we could have more into Policy formulation, decision making process of real world examples."

SCHEDULING AND ENROLLMENT INFORMATION

Term and year course would first be offered (e.g. FALL 2016) Fall 2018

Term in which course will typically be offered ☐ Spring ☐ Summer ☑ Fall

Other *(describe)*

Will this be a required or elective course in the curriculum? ☐ Required ☑ Elective

What is the probable enrollment when offered? Estimate: 20

UNITS

Indicate number of units: 4

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

OTHER

One hour lecture is followed by one hour, in-class and guided discussion session.

FACULTY

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

Dr. Adeel Zafar

WQB DESIGNATION

(attach approval from Curriculum Office)

PREREQUISITE AND / OR COREQUISITE

75 units and REM 100 or EVSC 100 or GEOG 100.

EQUIVALENT COURSES [For more information on equivalency, see Equivalency Statements under Information about Specific Course components.]

1. SEQUENTIAL COURSE [is not hard coded in the student information management system (SIMS).]

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

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

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

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

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

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

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

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

FEES

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

COURSE – LEVEL EDUCATIONAL GOALS (OPTIONAL)

Through a problem-based learning (PBL) approach, coupled with investigating real-world problems, students gain insights into how achieving water security constitutes the keystone for eradicating poverty, achieving human wellbeing, and assuring sustainable economic growth.

Following are the specific goals:
(a) Learning about core concepts of water security;
(b) Awareness and understanding of major water challenges around the world; and,
(c) Equipping students with basic tools for addressing water security challenges.

RESOURCES

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

OTHER IMPLICATIONS

Final exam required ☐ YES ☑ NO

Criminal Record Check required ☐ YES ☑ NO

OVERLAP CHECK

Checking for overlap is the responsiblity of the Associate Dean.

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

Name of Originator

Dr. Zafar Adeel

SFU SENATE COMMITTEE ON UNDERGRADUATE STUDIES

NEW COURSE PROPOSAL

COURSE SUBJECT REM **NUMBER** 495

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

Resource and Environmental Management Capstone

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

REM Capstone

CAMPUS where course will be normally taught: ☑ Burnaby ☐ Surrey ☐ Vancouver ☐ Great Northern Way ☐ Off campus

COURSE DESCRIPTION — 50 words max. Attach a course outline. Don't include WQB or prerequisites info in this description box.

By guiding students through the inception, development and communication of a novel interdisciplinary research project, this course will provide students with an opportunity to integrate the knowledge and skills they gained through their undergraduate degree. Students will work corroboratively to conceive, investigate and present an original research project that addresses a real-world environmental issue of the students' choice.

REPEAT FOR CREDIT ☐ YES ☑ NO Total completions allowed ☐ Within a term? ☐ YES ☑ NO

LIBRARY RESOURCES

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

RATIONALE FOR INTRODUCTION OF THIS COURSE

A Capstone course forms one of the pillars of the new Bachelor of Environment degree. Although a degree-wide Capstone was created earlier (ENV 495 - Environmental Capstone) we believe a dedicated course for REM majors will be more effective and given the rapid growth in enrollments the critical mass of students to fill the course now or is close to existing.

SCHEDULING AND ENROLLMENT INFORMATION

Term and year course would first be offered (e.g. FALL 2016) Spring 2019

Term in which course will typically be offered ☑ Spring ☐ Summer ☐ Fall

Other *(describe)*

Will this be a required or elective course in the curriculum? ☑ Required ☐ Elective

What is the probable enrollment when offered? Estimate: 20

UNITS

Indicate number of units: 4

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

OTHER

FACULTY

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

Dr. Anne Salomon will be the instructor for this course but all other REM faculty are fully capable of teaching it when the need arises.

WQB DESIGNATION

(attach approval from Curriculum Office)

none

PREREQUISITE AND / OR COREQUISITE

90 units or permission of instructor.

EQUIVALENT COURSES [For more information on equivalency, see Equivalency Statements under Information about Specific Course components.]

1. SEQUENTIAL COURSE [is not hard coded in the student information management system (SIMS).]

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

REM 491 - Directed Studies taken as the REM Capstone only

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

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

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

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

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

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

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

FEES

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

COURSE – LEVEL EDUCATIONAL GOALS (OPTIONAL)

REM 495-4 will address the following educational goals:

• Integrate and demonstrate the knowledge and skills gained in the major through development and implementation of a project in their final year of study;

• Apply analytical skills and tools in understanding the biophysical and socio-cultural aspects of an environmental challenge in order to develop possible alternatives;

• Communicate complexity of an environmental problem and its possible solutions using a variety of media and representation; and

• Work collaboratively with a group of fellow students to accomplish the above goals.

RESOURCES

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

none

OTHER IMPLICATIONS

Final exam required ☐ YES ☑ NO

Criminal Record Check required ☐ YES ☑ NO

OVERLAP CHECK

Checking for overlap is the responsiblity of the Associate Dean.

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

Name of Originator

Duncan Knowler, Undergraduate Chair, REM