



8888 University Drive, Burnaby, BC Canada V5A 1S6
TEL: 778.782.6654 FAX: 778.782.5876
avpacad@sfu.ca www.sfu.ca/vpacademic

MEMORANDUM

ATTENTION Senate
FROM Wade Parkhouse, Chair
Senate Committee on
Undergraduate Studies
RE: New Course Proposals

DATE May 3, 2019
PAGES 1/1

For information:

Acting under delegated authority at its meeting of May 2, 2019 SCUS approved the following curriculum revisions effective Spring 2020.

a. Faculty of Applied Sciences (SCUS 19-34)**1. The School of Engineering Science**

(i) New Course Proposals: ENSC 413-4, Deep Learning Systems in Engineering

b. Faculty of Science (SCUS 19-35)**1. Department of Biology**

(i) New Course Proposals:

MASC 414-3/6, Coastal Biodiversity and Conservation
MASC 416-3/6, Coastal Community Ecology
MASC 417-3, Crustacean Biology
MASC 418-3/6, Behavioural Ecology of Marine Organisms
MASC 419-3, Subtidal Science
MASC 420-3/6, Marine Phycology
MASC 421-3/6, Freshwater and Terrestrial Conservation
MASC 435-3/6, Biological Oceanography
MASC 436-3, Applied Data Analysis in Marine Science

Senators wishing to consult a more detailed report of curriculum revisions may do so on the Senate Docushare repository at
<https://docushare.sfu.ca/dsweb/View/Collection-12682>.

COURSE SUBJECT ENSC

NUMBER 413

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

Deep Learning Systems in Engineering

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

Deep Learning Systems

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.

Machine learning basics, generalization theory, training, validation, and testing. Introduction to artificial neural networks: feedforward, convolutional, recurrent networks. Types of layers in deep models. Architectural and memory calculations. Regularization and optimization. Hardware architectures for deep learning. The course culminates in a major project focusing on engineering applications of deep learning.

REPEAT FOR CREDIT ☐ YES ☒ NO Total completions allowed 1 Within a term? ☐ YES ☐ NO

LIBRARY RESOURCES

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RATIONALE FOR INTRODUCTION OF THIS COURSE

Many engineering systems are nowadays being designed and built around deep learning models. It is important for engineering students to understand the basics of deep learning, be able to implement and test deep learning models, and understand the challenges around their training and deployment. This course teaches deep learning "as a tool" to be used in various engineering systems.

SCHEDULING AND ENROLLMENT INFORMATION

Effective term and year (e.g. FALL 2016) Term in which course will typically be offered ☒ Spring ☐ Summer ☐ FallOther (describe) Will this be a required or elective course in the curriculum? ☐ Required ☒ ElectiveWhat is the probable enrollment when offered? Estimate:

UNITS

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

OTHER

FACULTY

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

WQB DESIGNATION

(attach approval from Curriculum Office)

PREREQUISITE AND / OR COREQUISITE

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.

ENSC 813

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)

After completing this course, the students should:

- Understand key ideas behind deep learning
- Understand the terminology and be able to follow the literature in the field
- Be able to formulate a machine learning problem, implement and test a deep learning model for the problem in the relevant software

RESOURCES

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

N/A

OTHER IMPLICATIONS

Final exam required ☐ YES ☒ NO

Criminal Record Check required ☐ YES ☒ NO

OVERLAP CHECK

Checking for overlap is the responsibility of the Associate Dean.

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

Name of Originator

Ivan Bajic

COURSE SUBJECT MASC

NUMBER 414

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

Coastal Biodiversity and Conservation

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

Coastal Biodiv. & Conservation

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.

Current topics, concepts, and practice in coastal conservation biology, with a focus on biodiversity within marine, intertidal, and terrestrial ecosystems.

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

MASC (Marine Science) courses are offered through Bamfield Marine Science Centre, of which SFU is a partner. Students from partner institutions take courses at Bamfield but receive credit through their home institutions. This course has been offered at Bamfield for several years, but previously students got credit as an MASC Special Topics course. This course is offered regularly, and Bamfield recommends assigning a permanent course number.

Notes.

Projected enrollment appears low because it reflects only the students in the course whose home institution is SFU.

Bamfield Marine Science Centre runs summer courses in 3 or 6 week blocks. They would like the flexibility to offer these courses in either block. If the course duration is 6 weeks, the students will receive 6 units; if the course duration is 3 weeks, the students will receive 3 units. This has been proposed following consultation with Susan Rhodes, the Director of University Curriculum and Institutional Liaison.

SCHEDULING AND ENROLLMENT INFORMATION

Effective term and year (e.g. FALL 2016) Term in which course will typically be offered ☐ Spring ☒ Summer ☐ FallOther (describe) Will this be a required or elective course in the curriculum? ☐ Required ☒ ElectiveWhat is the probable enrollment when offered? Estimate:

UNITS

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

OTHER

FACULTY

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

WQB DESIGNATION

(attach approval from Curriculum Office)

PREREQUISITE AND / OR COREQUISITE

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

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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.

REM 375 Ecology and Conservation of Coastal BC

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.]

Students who have taken Special Topics course MASC 477 Coastal Conservation and Biodiversity may not take MASC 414 for further credit.

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:

None by SFU. All resources are provided by Bamfield Marine Sciences Centre.

OTHER IMPLICATIONS

Final exam required ☐ YES ☒ NO

Criminal Record Check required ☐ YES ☒ NO

OVERLAP CHECK

Checking for overlap is the responsibility of the Associate Dean.

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

Name of Originator

Kathleen Fitzpatrick

COURSE SUBJECT MASC

NUMBER 416

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

Coastal Community Ecology

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

Coastal Community Ecology

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.

Key ideas and concepts on how ecological and evolutionary forces shape natural communities. Using a hands-on approach, students explore key topics in community ecology including island biogeography, community succession, dispersal, marine terrestrial interactions, niche theory, climate change, and techniques to measure species diversity.

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

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Notes.

Projected enrollment appears low because it reflects only the students in the course whose home institution is SFU.

Bamfield Marine Science Centre runs summer courses in 3 or 6 week blocks. They would like the flexibility to offer these courses in either block. If the course duration is 6 weeks, the students will receive 6 units; if the course duration is 3 weeks, the students will receive 3 units. This has been proposed following consultation with Susan Rhodes, the Director of University Curriculum and Institutional Liaison.

SCHEDULING AND ENROLLMENT INFORMATION

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UNITS

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

OTHER

FACULTY

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

WQB DESIGNATION

(attach approval from Curriculum Office)

PREREQUISITE AND / OR COREQUISITE

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

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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.]

Students who have taken Special Topics course MASC 477 Coastal Community Ecology may not take MASC 416 for further credit.

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:

None by SFU. All resources are provided by Bamfield Marine Sciences Centre.

OTHER IMPLICATIONS

Final exam required ☐ YES ☒ NO

Criminal Record Check required ☐ YES ☒ NO

OVERLAP CHECK

Checking for overlap is the responsibility of the Associate Dean.

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

Name of Originator

Kathleen Fitzpatrick

COURSE SUBJECT MASC

NUMBER 417

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

Crustacean Biology

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

Crustacean Biology

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.

The taxonomic diversity, ecology and morphological, behavioural and life-history adaptations of crustaceans. Laboratory and field activities include crustacean collection, identification, and the terminology used in identification keys. A student field research project is required.

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

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Notes.

Projected enrollment appears low because it reflects only the students in the course whose home institution is SFU.



SCHEDULING AND ENROLLMENT INFORMATION

Effective term and year (e.g. FALL 2016)

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:

UNITS

Indicate number of units:

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

OTHER

FACULTY

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

WQB DESIGNATION

(attach approval from Curriculum Office)

PREREQUISITE AND / OR COREQUISITE



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

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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.]

Students who have taken Special Topics course MASC 475 Crustacean Biology may not take MASC 417 for further credit.

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:

None by SFU. All resources are provided by Bamfield Marine Sciences Centre.

OTHER IMPLICATIONS

Final exam required ☐ YES ☒ NO

Criminal Record Check required ☐ YES ☒ NO

OVERLAP CHECK

Checking for overlap is the responsibility of the Associate Dean.

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

Name of Originator

Kathleen Fitzpatrick

COURSE SUBJECT NUMBER

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

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

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.

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

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Notes.

Projected enrollment appears low because it reflects only the students in the course whose home institution is SFU.

Bamfield Marine Science Centre runs summer courses in 3 or 6 week blocks. They would like the flexibility to offer these courses in either block. If the course duration is 6 weeks, the students will receive 6 units; if the course duration is 3 weeks, the students will receive 3 units. This has been proposed following consultation with Susan Rhodes, the Director of University Curriculum and Institutional Liaison.



SCHEDULING AND ENROLLMENT INFORMATION

Effective term and year (e.g. FALL 2016)

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:

UNITS

Indicate number of units:

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

OTHER

FACULTY

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

WQB DESIGNATION

(attach approval from Curriculum Office)

PREREQUISITE AND / OR COREQUISITE



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

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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.]

Students who have taken Special Topics course MASC 476 Marine Behavioural Ecology may not take MASC 418 for further credit.

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:

None by SFU. All resources are provided by Bamfield Marine Sciences Centre.

OTHER IMPLICATIONS

Final exam required ☐ YES ☒ NO

Criminal Record Check required ☐ YES ☒ NO

OVERLAP CHECK

Checking for overlap is the responsibility of the Associate Dean.

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

Name of Originator

Kathleen Fitzpatrick

COURSE SUBJECT MASC

NUMBER 419

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

Subtidal Science

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

Subtidal Science

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

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

An introduction to the techniques and practical aspects of performing research underwater using SCUBA, and the theory for the field techniques, including designing effective surveys, dealing with logistics and safety, and analyzing data.

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

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Notes.

Projected enrollment appears low because it reflects only the students in the course whose home institution is SFU.



SCHEDULING AND ENROLLMENT INFORMATION

Effective term and year (e.g. FALL 2016)

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:

UNITS

Indicate number of units:

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

OTHER

FACULTY

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

WQB DESIGNATION

(attach approval from Curriculum Office)

PREREQUISITE AND / OR COREQUISITE

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

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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.]

Students who have taken Special Topics course MASC 470 Scientific Diving or MASC 470 Subtidal Science may not take MASC 419 for further credit.

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:

None by SFU. All resources are provided by Bamfield Marine Sciences Centre.

OTHER IMPLICATIONS

Final exam required ☐ YES ☒ NO

Criminal Record Check required ☐ YES ☒ NO

OVERLAP CHECK

Checking for overlap is the responsibility of the Associate Dean.

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Name of Originator

Kathleen Fitzpatrick

COURSE SUBJECT MASC

NUMBER 420

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

Marine Phycology

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

Marine Phycology

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.

Biodiversity, ecology and human relationship to algae - in particular the seaweeds. Topics include major lineages and diversity of algae, their characteristics, relatedness, major evolutionary events, and the importance of seaweed in coastal marine ecosystems.

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

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RATIONALE FOR INTRODUCTION OF THIS COURSE

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SCHEDULING AND ENROLLMENT INFORMATION

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Other (describe)

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

What is the probable enrollment when offered? Estimate:

UNITS

Indicate number of units:

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

OTHER

FACULTY

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

WQB DESIGNATION

(attach approval from Curriculum Office)

PREREQUISITE AND / OR COREQUISITE

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).]

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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.]

Students who have taken Special Topics course MASC 472 Marine Phycology may not take MASC 420 for further credit.

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:

None by SFU. All resources are provided by Bamfield Marine Sciences Centre.

OTHER IMPLICATIONS

Final exam required ☐ YES ☒ NO

Criminal Record Check required ☐ YES ☒ NO

OVERLAP CHECK

Checking for overlap is the responsibility of the Associate Dean.

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

Name of Originator

Kathleen Fitzpatrick

COURSE SUBJECT MASC

NUMBER 421

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

Freshwater and Terrestrial Conservation

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

Freshwater & Terrestrial Cons.

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.

Modern theory and practice in conservation ecology as applied to terrestrial and freshwater habitats. Emphasis on field experience, supplemented by lectures including global biodiversity, ecosystem services, links between conservation and livelihoods, legislation protecting habitats and species and local and global solutions.

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

MASC (Marine Science) courses are offered through Bamfield Marine Science Centre, of which SFU is a partner. Students from partner institutions take courses at Bamfield but receive credit through their home institutions. This course has been offered at Bamfield for several years, but previously students got credit as an MASC Special Topics course. This course is offered regularly, and Bamfield recommends assigning a permanent course number.

Notes.

Projected enrollment appears low because it reflects only the students in the course whose home institution is SFU.

Bamfield Marine Science Centre runs summer courses in 3 or 6 week blocks. They would like the flexibility to offer these courses in either block. If the course duration is 6 weeks, the students will receive 6 units; if the course duration is 3 weeks, the students will receive 3 units. This has been proposed following consultation with Susan Rhodes, the Director of University Curriculum and Institutional Liaison.



SCHEDULING AND ENROLLMENT INFORMATION

Effective term and year (e.g. FALL 2016)

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:

UNITS

Indicate number of units:

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

OTHER

FACULTY

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

WQB DESIGNATION

(attach approval from Curriculum Office)

PREREQUISITE AND / OR COREQUISITE

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.]

Students who have taken Special Topics course MASC 473 Terrestrial and Freshwater Conservation may not take MASC 421 for further credit.

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:

None by SFU. All resources are provided by Bamfield Marine Sciences Centre.

OTHER IMPLICATIONS

Final exam required ☐ YES ☒ NO

Criminal Record Check required ☐ YES ☒ NO

OVERLAP CHECK

Checking for overlap is the responsibility of the Associate Dean.

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

Name of Originator

Kathleen Fitzpatrick

COURSE SUBJECT MASC

NUMBER 435

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

Biological Oceanography

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

Biological Oceanography

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 the organisms of the open sea and coastal zone, their adaptations to the environment, and the factors that control their productivity, distribution and abundance.

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

MASC (Marine Science) courses are offered through Bamfield Marine Science Centre, of which SFU is a partner. Students from partner institutions take courses at Bamfield but receive credit through their home institutions. This course has been offered at Bamfield for several years, but previously students got credit as an MASC Special Topics course. This course is offered regularly, and Bamfield recommends assigning a permanent course number.

Notes.

Projected enrollment appears low because it reflects only the students in the course whose home institution is SFU.

Bamfield Marine Science Centre runs summer courses in 3 or 6 week blocks. They would like the flexibility to offer these courses in either block. If the course duration is 6 weeks, the students will receive 6 units; if the course duration is 3 weeks, the students will receive 3 units. This has been proposed following consultation with Susan Rhodes, the Director of University Curriculum and Institutional Liaison.

SCHEDULING AND ENROLLMENT INFORMATION

Effective term and year (e.g. FALL 2016) Term in which course will typically be offered ☐ Spring ☒ Summer ☐ FallOther (describe) Will this be a required or elective course in the curriculum? ☐ Required ☒ ElectiveWhat is the probable enrollment when offered? Estimate:

UNITS

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

OTHER

FACULTY

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

WQB DESIGNATION

(attach approval from Curriculum Office)

PREREQUISITE AND / OR COREQUISITE



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.

REM 370 - Global Issues in Oceanography

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.]

Students who have taken Special Topics course MASC 477 Biological Oceanography may not take MASC 435 for further credit.

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:

None by SFU. All resources are provided by Bamfield Marine Sciences Centre.

OTHER IMPLICATIONS

Final exam required ☐ YES ☒ NO

Criminal Record Check required ☐ YES ☒ NO

OVERLAP CHECK

Checking for overlap is the responsibility of the Associate Dean.

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

Name of Originator

Kathleen Fitzpatrick

COURSE SUBJECT MASC

NUMBER 436

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

Applied Data Analysis in Marine Science

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

Data Analysis in Marine Sci

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

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

This course provides students with skills for experimental design, data analysis, and scientific inference in Marine Science.

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

MASC (Marine Science) courses are offered through Bamfield Marine Science Centre, of which SFU is a partner. Students from partner institutions take courses at Bamfield but receive credit through their home institutions. This course is offered as part of Bamfield's Fall Program. It replaces MASC 480 Seminar and Papers in Marine Science. In recent years, students have received credit as an MASC Special Topics course. This course is offered regularly, and Bamfield recommends assigning a permanent course number.

Notes.

Projected enrollment appears low because it reflects only the students in the course whose home institution is SFU.

Because of the application process for Bamfield's Fall Program, this course does not require any preclusion statements.



SCHEDULING AND ENROLLMENT INFORMATION

Effective term and year (e.g. FALL 2016)

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:

UNITS

Indicate number of units:

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

OTHER

FACULTY

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

WQB DESIGNATION

(attach approval from Curriculum Office)

PREREQUISITE AND / OR COREQUISITE



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).]

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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:

None by SFU. All resources are provided by Bamfield Marine Sciences Centre.

OTHER IMPLICATIONS

Final exam required ☐ YES ☒ NO

Criminal Record Check required ☐ YES ☒ NO

OVERLAP CHECK

Checking for overlap is the responsibility of the Associate Dean.

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

Name of Originator

Kathleen Fitzpatrick