

# OFFICE OF THE ASSOCIATE VICE-PRESIDENT, ACADEMIC

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1/1

**MEMORANDUM** 

ATTENTION

FROM

Senate

Wade Parkhouse, Chair

**PAGES** 

DATE

May 3, 2019

Senate Committee on

**Undergraduate Studies** 

RE:

**New Course Proposals** 

#### 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: ENS 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	
	— for Calendar/schedule, no more than 100 char stems in Engineering	racters including spaces and punctuation	
Deep Learning Sy	stems in Engineering		
	T — for enrollment/transcript, no more than 30 c	characters including spaces and punctuation	
Deep Learning Sy	rstems		
CAMPUS where course	will be normally taught: 🔽 Burnaby 🔲 S	urrey Vancouver Great Northern	Way Off campus
COURSE DESCRIPTION	<b>N</b> — 50 words max. Attach a course outline. Dor	a't include WQB or prerequisites info in this desc	ription box.
networks: feedfor memory calculation	basics, generalization theory, training ward, convolutional, recurrent netwo ons. Regularization and optimization ajor project focusing on engineering	rks. Types of layers in deep models. Hardware architectures for deep lea	Architectural and
REPEAT FOR CREDIT	YES NO Total completion	s allowed 1 Within a term?	YES NO
materials. Each new cour	wed (S.93-11) that no new course should be approse proposal must be accompanied by the email the a/about/overview/collections/course-assessments	at serves as proof of assessment. For more inform	l for necessary library ation,
RATIONALE FOR INTR	ODUCTION OF THIS COURSE		
Many engineering sys	stems are nowadays being designed and built the basics of deep learning, be able to impland deployment. This course teaches deep le	ement and test deep learning models, and up	nderstand the challenges





Effective term and year (e.g. FALL 2016) Spring 2020
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: 30
UNITS Indicate number of units: 4
Indicate no. of contact hours: 4 Lecture Seminar Tutorial 2 Lab Other; explain below
OTHER
FACULTY
Which of your present CFL faculty have the expertise to offer this course?
Ivan Bajic, Jie Liang
WQB DESIGNATION
(attach approval from Curriculum Office)
PREREQUISITE AND / OR COREQUISITE
MATH 251, ENSC 280, ENSC 351, ENSC 380.



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

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
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

N/A
OTHER IMPLICATIONS
Final exam required YES VO
Criminal Record Check required YES 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  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 <a href="https://www.lib.sfu.ca/about/overview/collections/course-assessments">www.lib.sfu.ca/about/overview/collections/course-assessments</a> .
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.
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Effective term and year (e.g. FALL 2016) Spring 2020
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: 5
UNITS Indicate number of units: 3 or 6
Indicate no. of contact hours:  Lecture  Seminar  Tutorial  Lab  X  Other; explain below
OTHER
Combination of lectures, labs, field trips and independent research.
FACULTY
Which of your present CFL faculty have the expertise to offer this course?
Courses are taught by rotating Faculty members at Bamfield.
•
WQB DESIGNATION
(attach approval from Curriculum Office)
PREREQUISITE AND / OR COREQUISITE
Pre-requisites are set by Bamfield Marine Science Centre, and normally include completion of lower division core courses.



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

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 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

None by SFU. All resources are provided by Bamfield Marine Sciences Centre.
OTHER IMPLICATIONS
Final exam required YES VINO
Criminal Record Check required YES 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 N	MASC	NUMBER 416	
Course TITLE LONG -	— for Calendar/schedule, no more than 100 chara ty Ecology	acters including spaces and punctuation	
Course TITLE SHORT	·— for enrollment/transcript, no more than 30 cl ty Ecology	haracters including spaces and punctuation	
CAMPUS where course v	will be normally taught: Burnaby St	urrey Vancouver Great Northern	Way Off campus
COURSE DESCRIPTION	√ — 50 words max. Attach a course outline. Don	't include WQB or prerequisites info in this descr	ription box.
hands-on approach	cepts on how ecological and evolution, students explore key topics in commission, dispersal, marine terrestrial intestions diversity.	munity ecology including island bio	geography,
REPEAT FOR CREDIT	YES NO Total completions	allowed Within a term?	YES NO
materials. Each new cours	ved (S.93-11) that no new course should be approse proposal must be accompanied by the email the habout/overview/collections/course-assessments.	at serves as proof of assessment. For more informa	
RATIONALE FOR INTR	ODUCTION OF THIS COURSE		
partner institutions tak Bamfield for several y	ce) courses are offered through Bamfield Ma te courses at Bamfield but receive credit thro ears, but previously students got credit as an ends assigning a permanent course number.	ough their home institutions. This course has	s been offered at
Notes. Projected enrollment a	appears low because it reflects only the stude	ents in the course whose home institution is	SFU.
either block. If the cou	nce Centre runs summer courses in 3 or 6 warse duration is 6 weeks, the students will recast been proposed following consultation with	ceive 6 units; if the course duration is 3 wee	ks, the students will
			5





Effective term and year (e.g. FALL 2016) Spring 2020
Term in which course will typically be offered Spring Summer Fall  Other (describe)
Other (aestroe)
Will this be a required or elective course in the curriculum? Required Elective
What is the probable enrollment when offered? Estimate: 5
UNITS Indicate number of units: 3 or 6
Indicate no. of contact hours:  Lecture  Seminar  Tutorial  Lab  X  Other; explain below
OTHER
Combination of lectures, labs, field trips and independent research.
FACHITY
FACULTY  Which of your present CFL faculty have the expertise to offer this course?
Courses are taught by rotating Faculty members at Bamfield.
WQB DESIGNATION
(attach approval from Curriculum Office)
PREREQUISITE AND / OR COREQUISITE
Pre-requisites are set by Bamfield Marine Science Centre, and normally include completion of lower division core courses.





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 477 Coastal Community Ecology may not take MASC 416 for further credit. **FEES** ✓ YES Are there any proposed student fees associated with this course other than tuition fees? COURSE - LEVEL EDUCATIONAL GOALS (OPTIONAL)



### RESOURCES

None by SFU. All resources are provided by Bamfield Marine Sciences Centre.
OTHER IMPLICATIONS Final exam required YES VO
Criminal Record Check required YES 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	
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 campu	15
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.	٠
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 <a href="https://www.lib.sfu.ca/about/overview/collections/course-assessments">www.lib.sfu.ca/about/overview/collections/course-assessments</a> .	
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.	





Effective term and year (e.g. FALL 2016) Spring 2020
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: 5
UNITS Indicate number of units: 3
Indicate no. of contact hours:  Lecture  Seminar  Tutorial  Lab  X  Other; explain below
OTHER
Combination of lectures, labs, field trips and independent research.
FACULTY  Which of your present CFL faculty have the expertise to offer this course?
Courses are taught by rotating Faculty members at Bamfield.
WQB DESIGNATION (attach approval from Curriculum Office)
PREREQUISITE AND / OR COREQUISITE
Pre-requisites are set by Bamfield Marine Science Centre, and normally include completion of lower division core courses.



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

1. 2
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.
The same and the s
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?
COURSE - LEVEL EDUCATIONAL GOALS (OPTIONAL)





## RESOURCES

None by SFU. All resources are provided by Bamfield Marine Sciences Centre.
OTHER IMPLICATIONS
Final exam required YES VO
Criminal Record Check required YES 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 418
COURSE TITLE LONG — for Calendar/schedule, no more than 100 characters including spaces and punctuation  Behavioural Ecology of Marine Organisms
COURSE TITLE SHORT — for enrollment/transcript, no more than 30 characters including spaces and punctuation  Marine Behavioural 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.
Introduction to the principles of behavioural ecology and how they can help us understand the far-reaching impacts of environmental change on populations of marine animals.
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 <a href="https://www.lib.sfu.ca/about/overview/collections/course-assessments">www.lib.sfu.ca/about/overview/collections/course-assessments</a> .
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.





Effective term and year (e.g. FALL 2016) Spring 2020
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: 5
UNITS Indicate number of units: 3 or 6
Indicate no. of contact hours:  Lecture  Seminar  Tutorial  Lab  X  Other; explain below
OTHER
Combination of lectures, labs, field trips and independent research.
FACULTY
Which of your present CFL faculty have the expertise to offer this course?
Courses are taught by rotating Faculty members at Bamfield.
WQB DESIGNATION
(attach approval from Curriculum Office)
PREREQUISITE AND / OR COREQUISITE
Pre-requisites are set by Bamfield Marine Science Centre, and normally include completion of lower division core courses.



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 476 Marine Behavioural Ecology may not take MASC 418 for further credit. **FEES** ✓ YES NO Are there any proposed student fees associated with this course other than tuition fees? COURSE - LEVEL EDUCATIONAL GOALS (OPTIONAL)



### RESOURCES

None by SFU. All resources are provided by Bamfield Marine Sciences Centre.
OTHER IMPLICATIONS
Final exam required YES VO
Criminal Record Check required YES 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	<b>3</b> — for Calendar/schedule, no more than 100 cha	racters including spaces and punctuation	
Subtract Science			
Subtidal Science	RT — for enrollment/transcript, no more than 30 c	haracters including spaces and punctuation	
CAMPUS where course	e will be normally taught: Burnaby S	urrey Vancouver Great Northern	Way Off campus
COURSE DESCRIPTION	ON — 50 words max. Attach a course outline. Dor	n't include WQB or prerequisites info in this desc	cription box.
An introduction the theory for the analyzing data.	to the techniques and practical aspects e field techniques, including designing	of performing research underwater effective surveys, dealing with logis	using SCUBA, and stics and safety, and
REPEAT FOR CREDIT	YES NO Total completion	s allowed Within a term?	YES NO
materials. Each new cor	roved (S.93-11) that no new course should be apprurse proposal must be accompanied by the email the ca/about/overview/collections/course-assessments	at serves as proof of assessment. For more inform	l for necessary library ation,
RATIONALE FOR INT	RODUCTION OF THIS COURSE		
partner institutions to Bamfield for several	ence) courses are offered through Bamfield Make courses at Bamfield but receive credit through years, but previously students got credit as a mends assigning a permanent course number.	ough their home institutions. This course han MASC Special Topics course. This course	s been offered at
Notes. Projected enrollment	t appears low because it reflects only the stude	ents in the course whose home institution is	SFU.





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

24017ALERT 600163E3 [15] more information on equivalency, see Equivalency Statements under <u>information about specific Course components</u> .
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

None by SFU. All resources are provided by Bamfield Marine Sciences Centre.
OTHER IMPLICATIONS
Final exam required YES VINO
Criminal Record Check required YES 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 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
<b>COURSE DESCRIPTION</b> — 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
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 <a href="https://www.lib.sfu.ca/about/overview/collections/course-assessments">www.lib.sfu.ca/about/overview/collections/course-assessments</a> .
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.



Effective term and year (e.g. FALL 2016) Spring 2020
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: 5
UNITS Indicate number of units: 3 or 6
Indicate no. of contact hours:  Lecture  Seminar  Tutorial  Lab  X  Other; explain below
OTHER
Combination of lectures, labs, field trips and independent research.
FACULTY
Which of your present CFL faculty have the expertise to offer this course?
Courses are taught by rotating Faculty members at Bamfield.
WQB DESIGNATION
(attach approval from Curriculum Office)
PREREQUISITE AND / OR COREQUISITE
Pre-requisites are set by Bamfield Marine Science Centre, and normally include completion of lower division core courses.



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

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

None by SFU. All resources are provided by Bamfield Marine Sciences Centre.
OTHER IMPLICATIONS
Final exam required YES VO
Criminal Record Check required YES 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			
<b>COURSE DESCRIPTION</b> — 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 <a href="https://www.lib.sfu.ca/about/overview/collections/course-assessments">www.lib.sfu.ca/about/overview/collections/course-assessments</a> .			
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.			





Effective term and year (e.g. FALL 2016) Spring 2020
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: 5
UNITS Indicate number of units:  3 or 6
Indicate no. of contact hours:  Lecture  Seminar  Tutorial  Lab  X  Other; explain below
OTHER
Combination of lectures, labs, field trips and independent research.
FACULTY
Which of your present CFL faculty have the expertise to offer this course?
Courses are taught by rotating Faculty members at Bamfield.
WQB DESIGNATION
(attach approval from Curriculum Office)
PREREQUISITE AND / OR COREQUISITE
Pre-requisites are set by Bamfield Marine Science Centre, and normally include completion of lower division core courses.



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 ✓** YES Are there any proposed student fees associated with this course other than tuition fees? COURSE - LEVEL EDUCATIONAL GOALS (OPTIONAL)





## RESOURCES

None by SFU. All resources are provided by Bamfield Marine Sciences Centre.
OTHER IMPLICATIONS
Final exam required YES VO
Criminal Record Check required YES 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	BER 435			
COURSE TITLE LONG — for Calendar/schedule, no more than 100 characters in Biological Oceanography	cluding spaces and punctuation			
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	e 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 S materials. Each new course proposal must be accompanied by the email that serves please visit <a href="https://www.lib.sfu.ca/about/overview/collections/course-assessments">www.lib.sfu.ca/about/overview/collections/course-assessments</a> .	senate until funding has been committed for necessary library as proof of assessment. For more information,			
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	he 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.				



Effective term and year (e.g. FALL 2016) Spring 2020
Term in which course will typically be offered Spring Summer Fall  Other (describe)
Other (aestroe)
Will this be a required or elective course in the curriculum? Required Elective
What is the probable enrollment when offered? Estimate: 5
UNITS Indicate number of units: 3 or 6
Indicate no. of contact hours:  Lecture  Seminar  Tutorial  Lab  X  Other; explain below
OTHER
Combination of lectures, labs, field trips and independent research.
FACULTY
Which of your present CFL faculty have the expertise to offer this course?
Courses are taught by rotating Faculty members at Bamfield.
WQB DESIGNATION  (the learned for Control of
(attach approval from Curriculum Office)
PREREQUISITE AND / OR COREQUISITE
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EQUIVALENT COURSES [For more information on equivalency, see Equivalency Statements under Information about Specific Course components.]

Exorvalency Statements under Information about Specific Course components.]
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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.]
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**

None by SFU. All resources are provided by Bamfield Marine Sciences Centre.
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OTHER IMPLICATIONS
OTHER IMPLICATIONS
Final exam required YES VO
Criminal Record Check required YES YES NO
OVERLAP CHECK
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Name of Originator
Kathleen Fitzpatrick



COURSE SUBJECT	MASC	NUMBER 436	
	<b>6</b> — for Calendar/schedule, no more than 100 charmalysis in Marine Science	acters including spaces and punctuation	
Data Analysis in	RT — for enrollment/transcript, no more than 30 cl Marine Sci	haracters including spaces and punctuation	
CAMPUS where cours	se will be normally taught: Burnaby Su	urrey Vancouver Great Northern	Way Off campus
COURSE DESCRIPTI	<b>ON</b> — 50 words max. Attach a course outline. Don	't include WQB or prerequisites info in this desc	ription box.
This course prov Marine Science.	ides students with skills for experimen	tal design, data analysis, and scienti	fic inference in
REPEAT FOR CREDI	T YES NO Total completions	allowed Within a term?	YES NO
materials. Each new co	roved (S.93-11) that no new course should be approurse proposal must be accompanied by the email that.ca/about/overview/collections/course-assessments.	at serves as proof of assessment. For more inform	
RATIONALE FOR INT	RODUCTION OF THIS COURSE		
partner institutions t Bamfield's Fall Prog	ence) courses are offered through Bamfield Ma ake courses at Bamfield but receive credit thro gram. It replaces MASC 480 Seminar and Pape Il Topics course. This course is offered regular	ough their home institutions. This course is ers in Marine Science. In recent years, stude	offered as part of ents have received credit
Notes. Projected enrollmen	t appears low because it reflects only the stude	ents in the course whose home institution is	SFU.
Because of the appli	ication process for Bamfield's Fall Program, th	is course does not require any preclusion st	atements.
			,
941			





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

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

None by SFU. All resources are provided by Bamfield Marine Sciences Centre.
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OTHER IMPLICATIONS
Final exam required YES VO
Criminal Record Check required YES YES NO
OVERLAP CHECK
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Each new course proposal must have confirmation of an overlap check completed prior to submission to the Faculty Curriculum Committee.
Name of Originator
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