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MEMORANDUM

ATTENTION

Senate

DATE

May 3, 2019

FROM

Wade Parkhouse, Chair

PAGES 1/

Senate Committee on

Undergraduate Studies

RE:

Course Modifications (SCUS 19-33)

#### 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 Environment

- 1. The School of Resource and Environmental Management
  - (i) B-Soc designation for PLAN 200
  - (ii) Change to the equivalent statement for REM 370 and 375

### b. Faculty of Science

- 1. Department of Biological Sciences
  - (i) Prerequisite change for BISC 313
  - (ii) Description change for BISC 497W, 498 and 499
  - (iii) Prerequisite change for MASC 400, 401, 410, 412, 415, 425, 430, 437, 440, 470, 471, 472, 473, 474, 475, 476, 477, 478 and 479
  - (iv) Unit change for MASC 410, 412, 430 and 440
  - (v) Deletion of MASC 411, 445, 446 and 480
- 2. Department of Chemistry
  - (i) Equivalent statement change for CHEM 109, 110 and 111
  - (ii) Prerequisite change for CHEM 120 and 121

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



# UNIVERSITY CURRICULUM AND INSTITUTIONAL LIAISON OFFICE OF THE VICE-PRESIDENT, ACADEMIC

8888 University Drive, Burnaby, BC Canada V5A 1S6 TEL: 778.782.3312 FAX: 778.782.5876 slrhodes@sfu.ca www.sfu.ca/ugcr

MEMORANDUM -

ATTENTION

Paul Kingsbury, Associate Dean,

DATE

April 15, 2019

Susan Rhodes.

PAGES

1

Director, University Curriculum &

Institutional Liaison

RE:

FROM

PLAN 200 B approval

The University Curriculum Office has approved **B-Soc** designation for the following new course in Resource and Environmental Management, to be offered in Spring 2020 (1201):

PLAN 200-3 Introduction to Planning

Please forward this memo with the new course proposal material to the Faculty UCC, SCUS and Senate for final approvals.

cc: Duncan Knowler, UGC Chair, School of Resource and Environmental Management



COURSE ST	JBJECT	REM <b>NUMBE</b> F	370	TITLE	Global Resourc Oceanography	e Issues in	
TYPE OF CH	ANGES. I	Please type 'X' for the ap	propriat	te revision(s):			
Course number		Units		Prere	quisite 🗆		
Title		Description			ivalent 🗵 ement		
expand. Please review the "Equivalency statements" section under Information about specific course components if changing equivalent statement(s).  Global Resource Issues in Oceanography REM 370(4)  Introduces principles of oceanography, including ocean circulation, ocean carbon cycling, nutrients and biological productivity, oceans and the climate system, and ocean resource contributions to global food supply. Provides basic understanding of ocean resource management including transportation, recreation, fisheries, and mining. Prerequisite: EVSC 100, or GEOG 111, or REM 100, and 45 units. Students with credit for MASC 435 may not take REM 370 for further credit.							
EFFECTIVE TERM AND YEAR FOR CHANGES Fall, Spring, Summer and year (please enter in textbox)  Spring 2020							
RATIONALE (must be included)							
To add equ	ivalency s	statement for new MASC	C course	s at Bamfield Ma	arine Sciences C	entre.	



COURSE SUBJECT	REM NUME	BER 375		cology and Consoastal BC	servation (			
<b>TYPE OF CHANGES.</b> Please type 'X' for the appropriate revision(s):								
Course $\square$	Units		Prerequ	iisite 🗆				
Title $\square$	Description	on 🗆	Equiva Staten					
allows, drag the energy expand. Please revise specific course com  Ecology and Cor  Investigates the economia. Exam anthropogenic drag management. President and president	WORDING/DESCRIPTION EDITS. Indicate deleted or changed text using strike through, indicate added or new text using underline. If you need to enter more text than the box allows, drag the endpoint of the text box to make it bigger, as it will not automatically expand. Please review the "Equivalency statements" section under Information about specific course components if changing equivalent statement(s).  Ecology and Conservation of Coastal BC REM 375 (3)  Investigates the ecosystems and environmental challenges of coastal British Columbia. Examines the major flora and fauna, fundamental ecological principles, anthropogenic drivers of change, and the role of applied science in conservation and management. Prerequisite: 45 units. Students with credit for MASC 414 cannot take REM 375 for further credit.							
EFFECTIVE TERM AND YEAR FOR CHANGES Fall, Spring, Summer and year (please enter in textbox)  Spring 2020  RATIONALE (must be included)								
To add equivalency statement for new MASC courses at Bamfield Marine Sciences Centre.								



COURSE SU	BISC BISC	NUMBER	313		onmental Toxicology: A anistic Perspective		
TYPE OF C	<b>HANGES.</b> Pleas	e type 'X' for the ap	propriate re	vision(s):			
Course number		Units		Prerequisi	te 🗹		
x Title		Description		Equivale: Stateme			
WORDING/DESCRIPTION EDITS. Indicate deleted or changed text using strike through, indicate added or new text using underline. If you need to enter more text than the box allows, drag the endpoint of the text box to make it bigger, as it will not automatically expand. Please review the "Equivalency statements" section under Information about specific course components if changing equivalent statement(s).  Prerequisite: BISC 101, and one of: BISC 204, GEOG 215, or MBB 231; all with a grade of C- or better.							
Fall, Spring,	Summer and y	CAR FOR CHANGES ear (please enter in					
Spring 202	20 E (must be inclu	ıded)					
This cours (including strictly need	e is taken by st REM). The inst ded for BISC313	udents from outsid ructor for this course B. We have expanded her programs who ha	has determine the list of pr	ned that content fre- e-req options to m	rom MBB 231 is not take the course more		



COURSE SUB	JECT	BISC	NUMBER	497W	TITLE	Undergra Writing I	duate Research: ntensive		
<b>TYPE OF CHANGES.</b> Please type 'X' for the appropriate revision(s):									
Course number			Units		Prei	requisite			
x Title			Description	Ø		uivalent atement			
indicate adde allows, drag the expand. Pleas specific cours  Directed stabiology or prior writte who will all presentations	WORDING/DESCRIPTION EDITS. Indicate deleted or changed text using strike through, indicate added or new text using underline. If you need to enter more text than the box allows, drag the endpoint of the text box to make it bigger, as it will not automatically expand. Please review the "Equivalency statements" section under Information about specific course components if changing equivalent statement(s).  Directed study, and research or scientific communication, in an area of biology or biological pedagogy. A student may enrol in this course only with prior written agreement of a faculty member to act as a research supervisor, who will also provide instruction and feedback on the writing and presentation of results from the research. A maximum of three upper division research courses can be applied towards the major requirements.								
EFFECTIVE TERM AND YEAR FOR CHANGES Fall, Spring, Summer and year (please enter in textbox)  Spring 2020									
RATIONALE (must be included)									
Biological Sciences major program allows students to take up to two upper division research-intensive courses. Having this statement in the course description is not necessary and it causes confusion.									



COURSE SU	BJECT BIS	SC NUMBER	498	TITLE Undergraduate Research				
TYPE OF C	<b>TYPE OF CHANGES.</b> Please type 'X' for the appropriate revision(s):							
Course number		Units		Prerequisite $\square$				
x Title		Description	$\square$	Equivalent $\square$ Statement				
indicate add allows, drag expand. Plea	<b>WORDING/DESCRIPTION EDITS.</b> Indicate deleted or changed text using strike through, indicate added or new text using <u>underline</u> . If you need to enter more text than the box allows, drag the endpoint of the text box to make it bigger, as it will not automatically expand. Please review the "Equivalency statements" section under <u>Information about specific course components</u> if changing equivalent statement(s).							
biology of prior writ A maximu	r biological p tten agreem	pedagogy. A studen ent of a faculty men <del>apper division resc</del>	it may o mber to	nunication, in an area of enrol in this course only with act as a research supervisor.  ourses can be applied				
EFFECTIVE TERM AND YEAR FOR CHANGES Fall, Spring, Summer and year (please enter in textbox)  Spring 2020								
RATIONALE	E (must be inc	luded)						
research-in		es. Having this state		to take up to two upper division in the course description is not necessary				



COURSE SUBJECT	BISC NUMBER	499	TITLE Undergraduate Research					
TYPE OF CHANGES	. Please type 'X' for the ap	propriate	revision(s):					
Course $\square$	Units		Prerequisite $\square$					
x Title □	Description		Equivalent $\square$ Statement					
indicate added or ne allows, drag the end expand. Please revie	<b>WORDING/DESCRIPTION EDITS.</b> Indicate deleted or changed text using strike through, indicate added or new text using <u>underline</u> . If you need to enter more text than the box allows, drag the endpoint of the text box to make it bigger, as it will not automatically expand. Please review the "Equivalency statements" section under <u>Information about specific course components</u> if changing equivalent statement(s).							
biology or biolog prior written agr A maximum of th	Directed study, and research or scientific communication, in an area of biology or biological pedagogy. A student may enrol in this course only with prior written agreement of a faculty member to act as a research supervisor. A maximum of three upper division research courses can be applied towards the major requirements.							
	EFFECTIVE TERM AND YEAR FOR CHANGES Fall, Spring, Summer and year (please enter in textbox)							
RATIONALE (must )	pe included)							
	courses. Having this stat		ts to take up to two upper division the course description is not necessary					



Page 1 of 1

COURSE SUBJECT	MASC	NUMBER	All MASC courses	TITLE	All MASC	courses			
TYPE OF CHANGES	<b>TYPE OF CHANGES.</b> Please type 'X' for the appropriate revision(s):								
Course number	Uı	nits		Prei	requisite	$\square$			
Title	De	escription			uivalent atement				
indicate added or n allows, drag the end expand. Please revi specific course com	<b>WORDING/DESCRIPTION EDITS.</b> Indicate deleted or changed text using strike through, indicate added or new text using <u>underline</u> . If you need to enter more text than the box allows, drag the endpoint of the text box to make it bigger, as it will not automatically expand. Please review the "Equivalency statements" section under <u>Information about specific course components</u> if changing equivalent statement(s).								
Request: To remore requisite for all ex				nts, and c	hange the	pre-			
Prerequisite: <u>Pre-</u> normally include					entre, and				
EFFECTIVE TERM AND YEAR FOR CHANGES Fall, Spring, Summer and year (please enter in textbox)									
Spring 2020									

### RATIONALE (must be included)

MASC courses are offered at Bamfield Marine Science Centre. Students interested in Bamfield courses get most of their info (including pre-req info) from Bamfield's website and they apply directly to Bamfield for admission to courses. Currently, the pre-req statements vary among courses, and in some cases are unnecessarily long. The new statement is short, and is less likely to need updating over time. This change will make the course pre-req statement consistent across all MASC courses.



#### DEPARTMENT OF BIOLOGICAL SCIENCES

Erin Barley Senior Lecturer 8888 University Drive, Burnaby, BC Canada V5A 1S6

TEL 778.782.4972 ebarley@sfu.ca

April 19, 2019

Re: Pre-requisite change for MASC courses.

Motion 23: To change the pre-requisite statement for all MASC courses.

Rationale. MASC courses are offered at Bamfield Marine Science Centre. Students interested in Bamfield courses get most of their info (including pre-req info) from Bamfield's website and they apply directly to Bamfield for admission to courses. Currently, the pre-req statements vary among courses, and in some cases are unnecessarily long. The new statement is short, and is less likely to need updating over time. This change will make the course pre-req statement consistent across all MASC courses.

Course	Pre-requisite from:	Pre-requisite to:
MASC 400	(Currently no pre-reqs)	Pre-requisites are set by
MASC 401	Offerings of the MASC	Bamfield Marine
MASC 410	courses may vary from	Science Centre, and
MASC 412	summer to summer because	normally include
MASC 415	instructors are drawn from	completion of lower
MASC 425	different universities. For	division core courses.
MASC 430	that reason, prerequisites	
MASC 437	may vary slightly. In	
MASC 440	general, upper division	
	standing in biology is	
	required, and admission is	
	usually competitive.	
	Students are encouraged to	
	consult the brochure	
	published each fall by the	
	Bamfield Marine Sciences	
	Centre for full and specific	
	details. The brochure will	
	be available from the	
	Department of Biological	
	Sciences.	
MASC 470	Prerequisite: Will vary and	
MASC 471	will be announced in	
MASC 472		

MASC 473	advance of the course	
MASC 474	offering.	,
MASC 475	7	;
MASC 476		
MASC 477		
MASC 478		,
MASC 479		

Erin Barley and Dr. Kathleen Fitzpatrick (DUCC Chair, Biological Sciences)



COURSE SU	вјест п	MASC NUMBER	410	TITLE Marine Invertebrate Zoolo				
TYPE OF CH	<b>IANGES.</b> Pl	ease type 'X' for the ap	propriate	e revision(s):				
Course number		Units x		Prerequisite				
Title		Description		Equivalent $\square$ Statement				
indicate add allows, drag expand. Plea	WORDING/DESCRIPTION EDITS. Indicate deleted or changed text using strike through, indicate added or new text using <u>underline</u> . If you need to enter more text than the box allows, drag the endpoint of the text box to make it bigger, as it will not automatically expand. Please review the "Equivalency statements" section under <u>Information about specific course components</u> if changing equivalent statement(s).							
Current ur New units								
		¥						
	Summer an	O YEAR FOR CHANGES and year (please enter in						
RATIONALE	E (must be i	ncluded)						
like the fle students w units. This	xibility to o vill receive of change has	ffer these courses in e 6 units; if the course d	ither bloc uration is consultat	s in 3 or 6 week blocks. They would k. If the course duration is 6 weeks, the 3 weeks, the students will receive 3 ion with Susan Rhodes, the Director of				



COURSE SUBJECT MASC NUMBER 412 TITLE Biology of Marine Fishes								
TYPE OF CHANGES. Please type 'X' for the appropriate revision(s):								
Course $\square$ Units x $\square$ Prerequisite $\square$ number								
Title Description Equivalent Statement								
WORDING/DESCRIPTION EDITS. Indicate deleted or changed text using strike through, indicate added or new text using underline. If you need to enter more text than the box allows, drag the endpoint of the text box to make it bigger, as it will not automatically expand. Please review the "Equivalency statements" section under Information about specific course components if changing equivalent statement(s).								
Current units: 6 New units: 3 or 6								
EFFECTIVE TERM AND YEAR FOR CHANGES Fall, Spring, Summer and year (please enter in textbox)  Spring 2020								
RATIONALE (must be included)								
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 change has been made following consultation with Susan Rhodes, the Director of University Curriculum and Institutional Liaison.								





COURSE SUBJE	ECT MASC	NUMBER	430	TITLE	Marine E	cology	
TYPE OF CHAN	NGES. Please ty	pe 'X' for the ap	propriate re	vision(s):			
Course number		Units x		Pre	requisite		
Title		Description			quivalent catement		
WORDING/DESCRIPTION EDITS. Indicate deleted or changed text using strike through, indicate added or new text using underline. If you need to enter more text than the box allows, drag the endpoint of the text box to make it bigger, as it will not automatically expand. Please review the "Equivalency statements" section under Information about specific course components if changing equivalent statement(s).  Current units: 6  New units: 3 or 6							
EFFECTIVE TERM AND YEAR FOR CHANGES Fall, Spring, Summer and year (please enter in textbox)  Spring 2020							
like the flexibit students will in units. This cha	ine Science Cen ility to offer the receive 6 units; ange has been r	d)  atre runs summerse courses in eit; if the course du made following enstitutional Liais	ther block. If tration is 3 w consultation	f the cour veeks, the	se duration students v	n is 6 weeks, the will receive 3	





COURSE SUBJECT	MASC NUMBER	440	TITLE Biology of	Marine Birds
TYPE OF CHANGES	. Please type 'X' for the ap	propriate	e revision(s):	
Course $\square$ number	Units x		Prerequisite	
Title $\square$	Description		Equivalent Statement	
indicate added or ne allows, drag the end expand. Please revie	PTION EDITS. Indicate down text using underline. If point of the text box to make the "Equivalency states bonents" if changing equivalency states are the control of the text bonents.	you need ake it bigg ments" se	l to enter more text than ger, as it will not automa ction under <u>Information</u>	the box tically
	ND YEAR FOR CHANGES and year (please enter in			
RATIONALE (must b	pe included)			
Bamfield Marine Solike the flexibility to students will receive units. This change	cience Centre runs summ o offer these courses in ei ve 6 units; if the course do has been made following lum and Institutional Liai	ither bloc uration is consultat	k. If the course duration 3 weeks, the students w	is 6 weeks, the ill receive 3



#### **EXISTING COURSE DELETION FORM**

1 OF 1 PAGE

COURSE SUBJECT MASC

NUMBER 411

TITLE Comparative Embryology of Marine Invertebra

#### RATIONALE (must be included)

MASC (Marine Science) courses are offered through Bamfield Marine Science Center (BMSC), of which SFU is a partner. Bamfield has recommended deleting this course as it has not been offered for many years, and there is no expectation that it will be offered again.

#### EFFECTIVE TERM AND YEAR FOR CHANGES

Fall, Spring, Summer and year (enter in textbox) Spring 2020

#### PLEASE DO THE FOLLOWING:

- 1. Attach a program impact list along with your course deletion form. Contact the Senate and Academic Services Office (sfucal@sfu.ca) for a program impact list.
- 2. Once you have the program impact list, please review how deleting this course affects each program's requirements.
- 3. If more substantial changes are required to programs as a result of this deletion, please also submit a program modification form.
- 4. If no further changes other than deletion is required in program requirements, please list those programs in the box below:

<sup>5.</sup> Lastly, please conduct a course impact analysis, which reviews the effect of a course number change and/or course deletion on course prerequisites. For instructions on how to do a course impact analysis, please visit our page and click on "deleting a course" and review Step 2. Course Impact Analysis.





COURSE SUBJECT MASC

NUMBER 445

TITLE Biology of Marine Mammals

#### RATIONALE (must be included)

MASC (Marine Science) courses are offered through Bamfield Marine Science Center (BMSC), of which SFU is a partner. Bamfield has recommended deleting this course as it has not been offered for many years, and there is no expectation that it will be offered again.

#### **EFFECTIVE TERM AND YEAR FOR CHANGES**

Fall, Spring, Summer and year (enter in textbox) Spring 2020

#### PLEASE DO THE FOLLOWING:

- 1. Attach a program impact list along with your course deletion form. Contact the Senate and Academic Services Office (sfucal@sfu.ca) for a program impact list.
- 2. Once you have the program impact list, please review how deleting this course affects each program's requirements.
- 3. If more substantial changes are required to programs as a result of this deletion, please also submit a program modification form.
- 4. If no further changes other than deletion is required in program requirements, please list those programs in the box below:

<sup>5.</sup> Lastly, please conduct a course impact analysis, which reviews the effect of a course number change and/or course deletion on course prerequisites. For instructions on how to do a course impact analysis, please visit our page and click on "deleting a course" and review Step 2. Course Impact Analysis.

### **EXISTING COURSE DELETION FORM**



SENATE COMMITTEE ON UNDERGRADUATE STUDIES

COURSE SUBJECT MASC

NUMBER 446

TITLE Comparative Ethology

#### RATIONALE (must be included)

MASC (Marine Science) courses are offered through Bamfield Marine Science Center (BMSC), of which SFU is a partner. Bamfield has recommended deleting this course as it has not been offered for many years, and there is no expectation that it will be offered again.

#### **EFFECTIVE TERM AND YEAR FOR CHANGES**

Fall, Spring, Summer and year (enter in textbox) Spring 2020

#### PLEASE DO THE FOLLOWING:

- 1. Attach a program impact list along with your course deletion form. Contact the Senate and Academic Services Office (sfucal@sfu.ca) for a program impact list.
- 2. Once you have the program impact list, please review how deleting this course affects each program's requirements.
- 3. If more substantial changes are required to programs as a result of this deletion, please also submit a program modification form.
- 4. If no further changes other than deletion is required in program requirements, please list those programs in the box below:

<sup>5.</sup> Lastly, please conduct a course impact analysis, which reviews the effect of a course number change and/or course deletion on course prerequisites. For instructions on how to do a course impact analysis, please visit our page and click on "deleting a course" and review Step 2. Course Impact Analysis.

# EXISTING COURSE DELETION FORM 1 OF 1 PAGE



COURSE SUBJECT MASC

NUMBER 480

TITLE Seminars and Papers in Marine Science

#### RATIONALE (must be included)

MASC (Marine Science) courses are offered through Bamfield Marine Science Center (BMSC), of which SFU is a partner. Bamfield has recommended deleting this course as it has not been offered for many years, and there is no expectation that it will be offered again. It has been replaced by a new course MASC 436 Applied Data Analysis in Marine Science.

#### **EFFECTIVE TERM AND YEAR FOR CHANGES**

Fall, Spring, Summer and year (enter in textbox) Spring 2020

#### PLEASE DO THE FOLLOWING:

- 1. Attach a program impact list along with your course deletion form. Contact the Senate and Academic Services Office (sfucal@sfu.ca) for a program impact list.
- 2. Once you have the program impact list, please review how deleting this course affects each program's requirements.
- 3. If more substantial changes are required to programs as a result of this deletion, please also submit a program modification form.
- 4. If no further changes other than deletion is required in program requirements, please list those programs in the box below:

<sup>5.</sup> Lastly, please conduct a course impact analysis, which reviews the effect of a course number change and/or course deletion on course prerequisites. For instructions on how to do a course impact analysis, please visit our page and click on "deleting a course" and review Step 2. Course Impact Analysis.



	1 0
COURSE SUBJECT CHEM NUMBER 109 TITLE Introduction to Chemistry Health Careers	r fo
TYPE OF CHANGES. Please type 'X' for the appropriate revision(s):	
Course	
Title □ Description □ Equivalent ⊠ Statement	
WORDING/DESCRIPTION EDITS. Indicate deleted or changed text using strike through, indicate added or new text using underline. If you need to enter more text than the box allows, drag the endpoint of the text box to make it bigger, as it will not automatically expand. Please review the "Equivalency statements" section under Information about specific course components if changing equivalent statement(s).  General concepts of chemistry for those with no chemistry background who are interested in pursuing careers in health sciences. Principles of atomic structure, chemical bonding, gases, liquids and solutions, chemical kinetics and equilibrium are covered. The chemistry of everyday materials, drugs and poisons, and environmental issues are surveyed. Prerequisite: Pre-Calculus 12 (or equivalent) or MATH 100 (may be taken concurrently). This course is open only to students in the Aboriginal pre-health program. Students with credit for a grade of C or better in Chemistry 12 (or equivalent), or who have credit for any university chemistry course may not take this course for further credit. Quantitative/Breadth-Science.	
EFFECTIVE TERM AND YEAR FOR CHANGES Fall, Spring, Summer and year (please enter in textbox)  Spring 2020  RATIONALE (must be included)  To allow students to take this course for credit if they have not met prerequisite grade requirements.	





TYPE OF CH	ANGES. Pl	ease type 'X' for the a	ppropriat	e revision(s):
Course number		Units		Prerequisite
Γitle		Description		Equivalent ⊠ Statement
General fur calculation liquids, soli course has Students w CHEM 111	se review to see component of the same left of the same left of the instead. Province the same left of the s	che "Equivalency state lents if changing equi- concepts and nomend and atomic structures utions; chemical kine ecture component as to take further labora rerequisite: Pre-Calcul	ements" so valent sta clature; st s, chemica tics and c CHEM 11 tory cour lus 12 (or	oichiometry and chemical l bonding; properties of gases, nemical equilibrium. This 1 but no laboratory work. ses in chemistry should take equivalent), MATH 100 (may
chemistry i	is required ry 12 (or e	for this course. Stude quivalent), <u>or who ha</u>	ents with ove credit	
chemistry i in Chemistr university of Quantitativ	is required ry 12 (or eachemistry re/Breadth	for this course. Stude quivalent), or who had course may not take to Science.  O YEAR FOR CHANGE	ents with eve credit	eredit for a grade of C or better for CHEM 111, or any e for further credit.
chemistry in Chemistry in Chemistry of Chemi	is required ry 12 (or echemistry of the second seco	for this course. Stude quivalent), or who has course may not take to Science.	ents with eve credit	eredit for a grade of C or better for CHEM 111, or any e for further credit.
chemistry i in Chemistr university of Quantitativ	is required ry 12 (or echemistry of the second seco	for this course. Stude quivalent), or who had course may not take to Science.  O YEAR FOR CHANGE	ents with eve credit	eredit for a grade of C or better for CHEM 111, or any e for further credit.
chemistry in Chemistry in Chemistry of Chemi	is required ry 12 (or eachemistry of the second sec	for this course. Stude quivalent), or who had course may not take to Science.  O YEAR FOR CHANGE and year (please enter in the second s	ents with eve credit	eredit for a grade of C or better for CHEM 111, or any e for further credit.





COURSE SUBJECT	СНЕМ	NUMBER	111	TITLE	Introductory Chemistry and Laboratory			
<b>TYPE OF CHANGES.</b> Please type 'X' for the appropriate revision(s):								
Course number					requisite $\square$			
Title $\square$	Description □ Equivalent ⊠ Statement							
allows, drag the endpoint of the text box to make it bigger, as it will not automatically expand. Please review the "Equivalency statements" section under Information about specific course components if changing equivalent statement(s).  General fundamental concepts and nomenclature; stoichiometry and chemical calculations; nuclear and atomic structures, chemical bonding; properties of gases, liquids, solids and solutions; chemical kinetics and chemical equilibrium. This course includes a laboratory component. Prerequisite: Pre-Calculus 12 (or equivalent), MATH 100 (may be taken concurrently), or permission of the Department. No previous training in chemistry is required for this course. Students with credit for a grade of C or better in Chemistry 12 (or equivalent), or who have credit for CHEM 110, or any university chemistry course may not take this course for further credit. Quantitative/Breadth-Science.								
Fall, Spring, Summer and year (please enter in textbox)  Spring 2020								
RATIONALE (must be included)								
To allow students requirements.	to take this co	ourse for cree	dit if they ha	ve not me	et prerequisite grade			



COURSE S	ивјест сне	M NUMBER	120	TITLE General Chemistry I				
TYPE OF (	CHANGES. Please	e type 'X' for the ap	propriat	e revision(s):				
Course number	. 🗆	Units		Prerequisite ⊠				
Title		Description		Equivalent $\square$ Statement				
allows, dra expand. Ple specific compone further la prindimum	WORDING/DESCRIPTION EDITS. Indicate deleted or changed text using strike through, indicate added or new text using underline. If you need to enter more text than the box allows, drag the endpoint of the text box to make it bigger, as it will not automatically expand. Please review the "Equivalency statements" section under Information about specific course components if changing equivalent statement(s).  Atomic and molecular structure; chemical bonding; thermochemistry; elements; periodic table; gases, liquids, solids, and solutions. This course has the same lecture component as CHEM 121 but no laboratory work. Students who intend to take further laboratory courses in chemistry should take CHEM 121 instead.  Prerequisite: Chemistry 12 with a minimum grade of C, or CHEM 110 or 111 with a minimum grade of C Students with credit for CHEM 121 or CHEM 123 may not take this course for further credit. Quantitative/Breadth-Science.							
EFFECTIVE TERM AND YEAR FOR CHANGES Fall, Spring, Summer and year (please enter in textbox)  Spring 2020  RATIONALE (must be included)								
To clarify	the high school	chemistry grade re	equireme	ent.				





COURSE SU	JBJECT	СНЕМ	NUMBER	121	TITLE	General Chemistry and Laboratory I	
TYPE OF CHANGES. Please type 'X' for the appropriate revision(s):							
Course number		U	nits		Pre	requisite 🛚	
Title		D	escription			quivalent $\square$ tatement	
indicate added or new text using <u>underline</u> . If you need to enter more text than the box allows, drag the endpoint of the text box to make it bigger, as it will not automatically expand. Please review the "Equivalency statements" section under <u>Information about specific course components</u> if changing equivalent statement(s).  Atomic and molecular structure; chemical bonding; thermochemistry; elements; periodic table; gases liquids, solids, and solutions. This course includes a laboratory component. Prerequisite: Chemistry 12 <u>with a minimum grade of C</u> , or CHEM 109 or 111 with a minimum grade of C Students with credit for CHEM 120 or 123 may not take this course for further credit. Quantitative/Breadth-Science.							
EFFECTIVE TERM AND YEAR FOR CHANGES Fall, Spring, Summer and year (please enter in textbox)  Spring 2020							
RATIONALE (must be included)							
To clarify the high school chemistry grade requirement.							