



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	DATE	May 3, 2019
FROM	Wade Parkhouse, Chair Senate Committee on Undergraduate Studies	PAGES	1/1
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 Environment1. 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 Science1. 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 <https://docushare.sfu.ca/dsweb/View/Collection-12682>.



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

SCUS 19-33a(i)

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,
FENV

DATE April 15, 2019

FROM Susan Rhodes,
Director, University Curriculum &
Institutional Liaison

PAGES 1

RE: 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 SUBJECT

REM

NUMBER

370

TITLE

Global Resource Issues in
Oceanography

TYPE OF CHANGES. Please type 'X' for the appropriate revision(s):

Course
number
☐

Units

☐

Prerequisite

☐

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).

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 equivalency statement for new MASC courses at Bamfield Marine Sciences Centre.



COURSE SUBJECT

REM

NUMBER

375

TITLE

Ecology and Conservation of
Coastal BC

TYPE OF CHANGES. Please type 'X' for the appropriate revision(s):

Course
number

☐

Units

☐

Prerequisite

☐

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).

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 SUBJECT	BISC	NUMBER	313	TITLE	Environmental Toxicology: A Mechanistic Perspective
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TYPE OF CHANGES. Please type 'X' for the appropriate revision(s):

Course number	☐	Units	☐	Prerequisite	☒
x 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).

Prerequisite: BISC 101, and one of: BISC 204, GEOG 215, or MBB 231; all with a grade of C- or better.

EFFECTIVE TERM AND YEAR FOR CHANGES

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

Spring 2020

RATIONALE (must be included)

This course is taken by students from outside of BISC, including MBB, FHS, and FENV (including REM). The instructor for this course has determined that content from MBB 231 is not strictly needed for BISC313. We have expanded the list of pre-req options to make the course more accessible for students in other programs who have completed at least one related 200 level course.

COURSE SUBJECT	BISC	NUMBER	497W	TITLE	Undergraduate Research: Writing Intensive
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TYPE OF CHANGES. Please type 'X' for the appropriate revision(s):

Course number	☐	Units	☐	Prerequisite	☐
x 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).

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 SUBJECT BISC NUMBER 498 TITLE Undergraduate Research I

TYPE OF CHANGES. Please type 'X' for the appropriate revision(s):

Course number	☐	Units	☐	Prerequisite	☐
x 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).

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 prerequisites.~~

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 SUBJECT	BISC	NUMBER	499	TITLE	Undergraduate Research II
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TYPE OF CHANGES. Please type 'X' for the appropriate revision(s):

Course number	☐	Units	☐	Prerequisite	☐
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).

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)

Spring 2020

RATIONALE (must be included)

Biological Sciences major and 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 SUBJECT

MASC

NUMBER

All MASC
courses

TITLE

All MASC courses

TYPE OF CHANGES. Please type 'X' for the appropriate revision(s):Course
number☐

Units

☐Prerequisite ☒

x

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).

Request: To remove the lengthy MASC pre-req statements, and change the pre-requisite for all existing MASC courses, as follows.

Prerequisite: Pre-requisites are set by Bamfield Marine Science Centre, and normally include completion of lower division core courses.

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 Bamfield Marine Science Centre, and normally include completion of lower division core courses.
MASC 401	Offerings of the MASC courses may vary from summer to summer because instructors are drawn from different universities. For that reason, prerequisites may vary slightly. In 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 410		
MASC 412		
MASC 415		
MASC 425		
MASC 430		
MASC 437		
MASC 440		
MASC 470	Prerequisite: Will vary and will be announced in	
MASC 471		
MASC 472		

MASC 473	advance of the course offering-	
MASC 474		
MASC 475		
MASC 476		
MASC 477		
MASC 478		
MASC 479		

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

COURSE SUBJECT MASC NUMBER 410 TITLE Marine Invertebrate Zoology

TYPE OF CHANGES. Please type 'X' for the appropriate revision(s):

Course number ☐ Units x ☐ Prerequisite ☐

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 SUBJECT NUMBER TITLE

TYPE OF CHANGES. Please type 'X' for the appropriate revision(s):

Course number	☐	Units x	☐	Prerequisite	☐
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)

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 SUBJECT	MASC	NUMBER	430	TITLE	Marine Ecology
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TYPE OF CHANGES. Please type 'X' for the appropriate revision(s):

Course number	☐	Units x	☐	Prerequisite	☐
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Title	☐	Description	☐	Equivalent Statement	☐
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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 SUBJECT	MASC	NUMBER	440	TITLE	Biology of Marine Birds
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TYPE OF CHANGES. Please type 'X' for the appropriate revision(s):

Course number	☐	Units x	☐	Prerequisite	☐
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 SUBJECT MASC

NUMBER 411

TITLE Comparative Embryology of Marine Invertebrates

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:

MASC courses are not listed in any programs. (Program Impact email attached.) MASC courses do not serve as pre-requisites or co-requisites for other courses.

5. 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:

MASC courses are not listed in any programs. (Program Impact email attached.) MASC courses do not serve as pre-requisites or co-requisites for other courses.

5. 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 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:

MASC courses are not listed in any programs. (Program Impact email attached.) MASC courses do not serve as pre-requisites or co-requisites for other courses.

5. 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 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:

MASC courses are not listed in any programs. (Program Impact email attached.) MASC courses do not serve as pre-requisites or co-requisites for other courses.

5. 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	CHEM	NUMBER	109	TITLE	Introduction to Chemistry for Health Careers
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TYPE OF CHANGES. Please type 'X' for the appropriate revision(s):

Course number	☐	Units	☐	Prerequisite	☐
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.



COURSE SUBJECT NUMBER TITLE

TYPE OF CHANGES. Please type 'X' for the appropriate revision(s):

Course number ☐ Units ☐ Prerequisite ☐

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 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 has the same lecture component as CHEM 111 but no laboratory work. Students who intend to take further laboratory courses in chemistry should take CHEM 111 instead. 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 111, or 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)

RATIONALE (must be included)

To allow students to take this course for credit if they have not met prerequisite grade requirements.

COURSE SUBJECT	CHEM	NUMBER	111	TITLE	Introductory Chemistry and Laboratory
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TYPE OF CHANGES. Please type 'X' for the appropriate revision(s):

Course number	☐	Units	☐	Prerequisite	☐
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 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.

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.



COURSE SUBJECT CHEM NUMBER 120 TITLE General Chemistry I

TYPE OF CHANGES. Please type 'X' for the appropriate revision(s):

Course number	☐	Units	☐	Prerequisite	☒
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).

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 requirement.



COURSE SUBJECT	CHEM	NUMBER	121	TITLE	General Chemistry and Laboratory I
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TYPE OF CHANGES. Please type 'X' for the appropriate revision(s):

Course number	☐	Units	☐	Prerequisite	☒
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).

Atomic and molecular structure; chemical bonding; thermochemistry; elements; periodic table; gases liquids, solids, and solutions. This course includes a laboratory component. Prerequisite: Chemistry 12 with a minimum grade of C, 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.