

## OFFICE OF THE ASSOCIATE VICE-PRESIDENT, ACADEMIC

| MEMORANDUM —  | 8888 University Drive,<br>Burnaby, BC<br>Canada V5A 1S6  | TEL: 778.782.6654<br>FAX: 778.782.5876 | avpacad@sfu.ca<br>www.sfu.ca/vpacademic |
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| ATTENTION     | Senate   | DATE                                   | January 10, 2020                        |
| FROM          | Wade Parkhouse, Chair  | PAGES                                  | 1/2                                     |
| RE:           | Senate Committee on<br>Undergraduate Studies<br>Course Changes (SCUS :   | 20-01)                                 | Ra low                                  |

## For information:

Acting under delegated authority at its meeting of January 9, 2020 SCUS approved the following curriculum revisions effective Fall 2020.

## a. Faculty of Applied Sciences

## 1. School of Computing Science

- (i) Prerequisite change for CMPT 371
- (ii) Prerequisite and description change for CMPT 376W

## b. Faculty of Arts and Social Sciences

## 1. Department of Psychology

(i) Prerequisite change for PSYC 425 and 426 adding an amendment to the Criminal Record Check section (Summer 2020)

## c. Beedie School of Business

- (i) Equivalent statement change for BUS 200, 201, and 202
- (ii) Description and prerequisite change for BUS 336

## d. Faculty of Science

## 1. Department of Biomedical Physiology and Kinesiology

- (i) Deletion of BPK 324, 417W,
- (ii) Equivalent statement change for BPK 325, 417
- (iii) Title and prerequisite change for BPK 443

## 2. Department of Chemistry

- (i) Prerequisite change for CHEM 364
- 3. Department of Earth Sciences
  - (i) Prerequisite change for EASC 401

#### 4. Department of Mathematics

(i) Course number change for MATH 310

(ii) Prerequisite changes for MATH 314, MACM 416, MATH 418 and 462

(iii) Course number, title, description, prerequisite change and equivalency statement for MATH 461

(iv) Title, description and prerequisite change for MATH 348

5. Department of Molecular Biology and Biochemistry

(i) Prerequisite change for MBB 326

### 6. Department of Physics

- (i) Prerequisite change for PHYS 211, 255, 384, 385, 395, and 413
- (ii) Prerequisite and equivalency statement changes to 321

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

SCUS 20-01a

|                  |          | MMITTEE ON<br>DUATE STUDIES |           | COURSE M                | ODIFICATION FORM<br>Page 1 of 1 |
|------------------|----------|-----------------------------|-----------|-------------------------|---------------------------------|
| COURSE SU        | IBJECT   | CMPT NUMBER                 | 371       |                         | ommunications and rking (3)     |
| TYPE OF CH       | ANGES. I | Please type 'X' for the ap  | propriate | erevision(s):           |                                 |
| Course<br>number |          | Units                       |           | Prerequisite            | $\boxtimes$                     |
| Title            |          | Description                 |           | Equivalent<br>Statement |                                 |

**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</u> specific course components if changing equivalent statement(s).

Prerequisite: CMPT 225, (CMPT 150, ENSC 150 or CMPT 295) and (MATH 151 or MATH 150). MATH 154 or MATH 157 with a grade of at least B+ may be substituted for MATH 151 (MATH 150).

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

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

Fall 2020

#### RATIONALE (must be included)

The reason CMPT 150/CMPT 295 is a prerequisite is a matter of history.

The learning outcomes for CMPT 295 do not match the learning incomes of CMPT 371.

|                  | SFU SENATE COMMITTEE ON<br>UNDERGRADUATE STUDIES |                 |             |             |             | SE MC             | DIFICATION FORM<br>Page 1 of 1   |
|------------------|--|-----------------|-------------|-------------|-------------|-------------------|----------------------------------|
| COURSE SU        | BJECT  | СМРТ            | NUMBER      | 376w        |             | Technic<br>Dynami | cal Writing and Group<br>ics (3) |
| TYPE OF CH       | ANGES. I   | Please type 'X' | for the app | ropriate r  | evision(s): |                   |                                  |
| Course<br>number |  | Uni             | ts          |             | Prereq      | uisite            | $\boxtimes$                      |
| Title            |  | Des             | cription    | $\boxtimes$ |             | valent<br>ement   |                                  |

Covers professional writing in computing science, including format conventions and technical reports. <u>Attention is paid to examines group dynamics</u>, including team leadership, dispute resolution, <u>cognitive bias</u>, professional ethics and collaborative writing. <u>Also covers Research methods are also discussed</u>. The use of LaTeX and various <u>version control tools are emphasized</u>. Prerequisites: <u>CMPT 105W</u> and (CMPT 275 or CMPT 276). Students with credit for CMPT 376 may not take this course for further credit. Writing.

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

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

Fall 2020

RATIONALE (must be included)

CMPT 105W is added as an additional prerequisite, thereby making the two W Computing courses a consistent full year technical writing module in the department.



## FACULTY OF ARTS AND SOCIAL SCIENCES

Office of the Dean

|           | 8888 University Drive, Burnaby, BC<br>Canada V5A 186   | TEL 778.782.4416<br>FAX 778.782.3033 | murraye@sfu.ca<br>http://www.sfu.ca/fass.html |
|-----------|--|--------------------------------------|---|
| MEMORAND  | UM   |                                      |   |
| ATTENTION | Wade Parkhouse, Chair<br>Senate Committee on<br>Undergraduate Studies                                | DATE 2 December 2019                 | ~0C   |
| FROM      | Catherine Murray, Chair<br>Faculty of Arts and Social Sciences<br>Undergraduate Curriculum Committee | PAGES 3                              | CA / hurnay                                   |
| RE:       | Course Changes- Amendment to SCUS  | 19-57-8(i)- PSYC 425 and             | PSYC 426                                      |

The Faculty of Arts and Social Sciences approved two new course proposals, PSYC 425 and PSYC 426 at the FASSUCC meeting of Thursday, October 17, 2019. However, the Associate Dean, acting under delegated authority approves the amendment to the Criminal Record Check sections for both courses, changing from "not required" to "required" at the request of the Department of Psychology. Participation will be subject to a criminal record check if the hosts/community partners requires it.

Please place these items on the agenda for the next SCUS meeting.

CM:ws

# SCUS 20-01b

| SFU<br>course su                               |                                    | OMMITTEE ON<br>Aduate studies   |   | COURSE MODIFICA  | TION FOR  |
|--|------------------------------------|---|---|--|-----------|
| COURSE SU                                      |                                    |   |   |  | Page 1 of |
|  | IBJECT                             | PSYC NUMBER   | 425   | TITLE Field School I   |           |
| TYPE OF CH                                     | ANGES.                             | Please type 'X' for the app   | propriate re                                  | vision(s):   |           |
| Course<br>number                               |                                    | Units   |   | Prerequisite 🛛   |           |
| Title  |                                    | Description   |   | Equivalent 🗆<br>Statement  |           |
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| from the Fie                                   | eld Schoo<br>cord Che              | ts, PSYC 201, other prerequ<br>ol Director <u>. Students may b</u><br>eck depending on the site o | e required to                                 |  |           |
| Fall, Spring, S                                | Summer                             | ND YEAR FOR CHANGES<br>and year (please enter in  |   |  |           |
| Summer 20                                      |                                    | e included)   |   |  |           |
| The field sc                                   | hool bei                           | ing offered in Vanuatu in S   |   | 0 will have students workin<br>ord Check needs to be adde  |           |

| FYPE OF CI   | HANGES. Pleas   | se type 'X' for the ap   | propriate  | revision(s)   |  |                  |  |
|--|---|--|--|---|--|------------------|--|
| Course<br>number   |   | Units  |  | Pre   | requisite                                  |                  |  |
| Title  |   | Description  |  |   | uivalent<br>atement                        |                  |  |
| Prerequisit<br>from the F  | ase review the<br>rse componen<br>te: 30 units, PS <sup>v</sup><br>ield School Dire<br>ecord Check de                             | "Equivalency staten<br>ts if changing equiva<br>YC 201, other prereque<br>ector <u>. Students may b</u><br>pending on the site c   | nents" sec<br>alent state<br>uisites vary<br><u>pe required</u>          | tion under<br>ment(s).<br>by topic of<br>to success | Informatic<br>fering, perr<br>fully comple | mission<br>ete a |  |
| expand. Plea<br>epecific cou<br>Prerequisit<br>from the F<br><u>Criminal R</u>   | ase review the<br>rse componen<br>te: 30 units, PS <sup>v</sup><br>ield School Dire<br>ecord Check de                             | "Equivalency staten<br>ts if changing equiva<br>YC 201, other prereque<br>ector <u>. Students may b</u>  | nents" sec<br>alent state<br>uisites vary<br><u>pe required</u>          | tion under<br>ment(s).<br>by topic of<br>to success | Informatic<br>fering, perr<br>fully comple | mission<br>ete a |  |
| Prerequisit<br>from the F<br><u>Criminal R</u><br>partners in  | ase review the<br>rse componen<br>te: 30 units, PS<br>ield School Dire<br>ecord Check de<br>ivolved.                              | "Equivalency staten<br>ts if changing equiva<br>YC 201, other prereque<br>ector <u>. Students may b</u>  | nents" sec<br>alent state<br>uisites vary<br>be required<br>of the field | tion under<br>ment(s).<br>by topic of<br>to success | Informatic<br>fering, perr<br>fully comple | mission<br>ete a |  |
| expand. Plea<br>pecific cou<br>Prerequisit<br>from the F<br><u>Criminal R</u><br>partners in<br>EFFECTIVE<br>Fall, Spring,<br>Summer 2 | ase review the<br>rse componen<br>te: 30 units, PSV<br>ield School Dire<br>ecord Check de<br>involved.                            | "Equivalency statem<br>ts if changing equiva-<br>YC 201, other prereque<br>ector <u>. Students may b</u><br>pending on the site of<br>EAR FOR CHANGES<br>year (please enter in | nents" sec<br>alent state<br>uisites vary<br>be required<br>of the field | tion under<br>ment(s).<br>by topic of<br>to success | Informatic<br>fering, perr<br>fully comple | mission<br>ete a |  |
| expand. Plea<br>pecific cou<br>Prerequisit<br>from the F<br><u>Criminal R</u><br>partners in<br>EFFECTIVE<br>Fall, Spring,<br>Summer 2 | ase review the<br>rse componen<br>te: 30 units, PS<br>ield School Dire<br>ecord Check de<br>wolved.<br>TERM AND Y<br>Summer and y | "Equivalency statem<br>ts if changing equiva-<br>YC 201, other prereque<br>ector <u>. Students may b</u><br>pending on the site of<br>EAR FOR CHANGES<br>year (please enter in | nents" sec<br>alent state<br>uisites vary<br>be required<br>of the field | tion under<br>ment(s).<br>by topic of<br>to success | Informatic<br>fering, perr<br>fully comple | mission<br>ete a |  |

# SCUS 20-01c

| SFU              | SENATE COMMIT<br>UNDERGRADUAT | State and a state of the second state of the s |          | COURSE MO               | DDIFICATION FORM<br>Page 1 of 1 |
|------------------|-------------------------------|--|----------|-------------------------|---------------------------------|
| COURSE SU        | J <b>BJECT</b> B              | US NUMBER  | 200      | TITLE Busines           | s Fundamentals                  |
| TYPE OF CH       | ANGES. Plea                   | se type 'X' for the ap   | propriat | e revision(s):          |                                 |
| Course<br>number |                               | Units  |          | Prerequisite            |                                 |
| Title            |                               | Description  |          | Equivalent<br>Statement |                                 |

**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</u> specific course components if changing equivalent statement(s).

Explore the fundamentals of modern business and organizational management. Working with case studies, students will build upon the basics of revenue, profits, contribution and costs, as well as integrate advanced aspects of business models, innovation, competitive advantage, core competence, and strategic analysis. Breadth-Social Sciences. <u>Students with credit for BUS 130 or 201 may not receive</u> <u>further credit for this course.</u>

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

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

Fall 2020

RATIONALE (must be included)

BUS 200 & BUS 201 are very similar in terms of content (although BUS 201 has additional co-curricular components) and should be considered equivalent. Business students admitted to Beedie in their first year are required to take BUS 201 and BUS 200 is for students outside of the Business Major or in the Business Minor. BUS 130 was an earlier iteration of BUS 201 that is no longer offered.

| SFU<br>course su                               |                                     | BUS NUMBER  | 201   | TITLE Introdu   | Page 1 of 1<br>action to Business |
|--|-------------------------------------|---|---|---|-----------------------------------|
| TYPE OF CH                                     | ANGES. I                            | Please type 'X' for the app   | oropriate rev                                     | ision(s):   |                                   |
| Course<br>number                               |                                     | Units   |   | Prerequisite  |                                   |
| Title  |                                     | Description   |   | Equivalent<br>Statement   | $\boxtimes$                       |
| indicate adde<br>allows, drag<br>expand. Pleas | ed or new<br>the endpo<br>se review | TION EDITS. Indicate de<br>text using <u>underline</u> . If y<br>pint of the text box to ma<br>the "Equivalency statem<br><u>nents</u> if changing equiva | vou need to e<br>ke it bigger, a<br>ents" section | enter more text that<br>as it will not auton<br>n under <u>Informatio</u> | an the box<br>natically           |

The management and operation of business, including the principles, concepts, ideas and tools used by managers. Management in the contemporary world of high technology is emphasized, featuring examples and cases involving high-tech firms. In addition, the course exposes students to international and local business issues, and to large companies as well as to smaller, entrepreneurial firms. Prerequisite: This course is only open to approved Business Administration majors admitted to the faculty through the Business Foundation Program - High School Stream. Students with credit for BUS 130 or <u>200</u> <del>202 or 301</del> may not receive further credit for this course, nor students with more than 30 units.

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

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

Fall 2020

## RATIONALE (must be included)

BUS 200 & BUS 201 are very similar in terms of content (although BUS 201 has additional co-curricular components) and should be considered equivalent. Business students admitted to Beedie in their first year are required to take BUS 201 and BUS 200 is for students outside of the Business Major or in the Business Minor. BUS 202 has dissimilar content and focuses more on team learning, collaboration, and an experiential product development project, so we are removing that equivalency. BUS 301 was essentially a pilot for BUS 202 and was replaced by BUS 202 in Fall 2014 and was only offered twice (Fall 2013 & Spring 2014) to transfer students.

| N F I II         |          | MMITTEE ON<br>DUATE STUDIES |             | COURSE      | MODIFICATION FORM<br>Page 1 of 1          |
|------------------|----------|-----------------------------|-------------|-------------|---|
| COURSE SU        | BJECT    | BUS NUMBER                  | 202         |             | dations for Collaborative<br>Environments |
| TYPE OF CH       | ANGES. I | Please type 'X' for the ap  | propriate r | evision(s): |   |
| Course<br>number |          | Units                       |             | Prerequisit | e 🗆                                       |
| Title            |          | Description                 |             | Equivaler   | it 🖂                                      |

The demand for innovation in the context of a globalized workforce has raised the importance of developing collaborative skills and managing workplace diversity. Foundations for Collaborative Work Environments expands students' skills in effectively collaborating with others while participating in the Beedie Product Management Experience to achieve team and business objectives. Prerequisite: This course is only open to approved Business Administration majors, joint majors, or second degree students admitted to the faculty through the Business Foundation Program - Transfer Stream. Students with credit for BUS 130 or 201 or 301 may not receive further credit for this course.

#### EFFECTIVE TERM AND YEAR FOR CHANGES

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

Fall 2020

#### RATIONALE (must be included)

BUS 200 & BUS 201 are very similar in terms of content (although BUS 201 has additional co-curricular components) and should be considered equivalent. Business students admitted to Beedie in their first year are required to take BUS 201 and BUS 200 is for students outside of the Business Major or in the Business Minor. BUS 202 has dissimilar content and focuses more on team learning, collaboration, and an experiential product development project, so we are removing that equivalency. BUS 301 was essentially a pilot for BUS 202 and was replaced by BUS 202 in Fall 2014 and was only offered twice (Fall 2013 & Spring 2014) to transfer students. BUS 130 was an earlier iteration of BUS 201 and is no longer offered.

| SFU  | UNDERGRADUAT   | TTEE ON<br>TE STUDIES   |   | Page   |
|--|--|---|---|--|
| COURSE SU  | J <b>BJECT</b> B   | US NUMBER   | <b>R</b> 336-4  | TITLE Data and Decisions II  |
| FYPE OF CH   | ANGES. Plea  | se type 'X' for the ap  | propriate rev   | ision(s):  |
| Course<br>number   |  | Units   |   | Prerequisite 🖄   |
| Title  |  | Description   | $\boxtimes$   | Equivalent 🗆<br>Statement  |
| This course<br>quantitativ<br>Beginning  | e is an extens<br>re models tha<br>with materia  |   | 2. It develops<br>elevant to bu<br>sion and fored   | and applies the<br>siness decisions.<br>casting modeling, the  |
| This course<br>quantitativ<br>Beginning<br>course mov<br>introductio   | e is an extens<br>re models tha<br>with materia<br>ves on to dec<br>on to optimiz                        | sion of <del>BUEC</del> <u>BUS</u> 23<br>at are most directly r<br>l on multiple regress<br>ision analysis, busin   | 2. It develops<br>elevant to bu<br>sion and forec<br>ess simulation<br>MATH 150, M                      | ent(s).<br>and applies the<br>siness decisions.<br>casting modeling, the<br>n, quality control, and an<br>ATH 151, MATH 154, |
| This course<br>quantitativ<br>Beginning<br>course mov<br>introductic<br>or 157; <del>BU</del>  | e is an extens<br>re models tha<br>with materia<br>ves on to dec<br>on to optimiz<br>EC <u>BUS</u> 232 o | sion of <del>BUEC</del> <u>BUS</u> 23<br>at are most directly r<br>l on multiple regress<br>ision analysis, busin<br>ation. Prerequisite: 1                         | 2. It develops<br>relevant to bu-<br>sion and forec<br>ess simulation<br>MATH 150, M<br>ts. Quantitativ | ent(s).<br>and applies the<br>siness decisions.<br>casting modeling, the<br>n, quality control, and an<br>ATH 151, MATH 154, |
| This course<br>quantitativ<br>Beginning<br>course mov<br>introductic<br>or 157; <del>BU</del>  | e is an extens<br>re models tha<br>with materia<br>ves on to dec<br>on to optimiz<br>EC <u>BUS</u> 232 o | sion of <del>BUEC</del> <u>BUS</u> 23<br>at are most directly r<br>l on multiple regress<br>ision analysis, busin<br>ation. Prerequisite: I<br>or STAT 270; 45 unit | 2. It develops<br>relevant to bu-<br>sion and forec<br>ess simulation<br>MATH 150, M<br>ts. Quantitativ | ent(s).<br>and applies the<br>siness decisions.<br>casting modeling, the<br>n, quality control, and an<br>ATH 151, MATH 154, |
| This course<br>quantitativ<br>Beginning<br>course mov<br>introductio<br>or 157; <del>BU</del><br>EFFECTIVE 7<br>Fall, Spring, S<br>Fall 2020 | e is an extens<br>re models tha<br>with materia<br>ves on to dec<br>on to optimiz<br>EC <u>BUS</u> 232 o | sion of <del>BUEC</del> <u>BUS</u> 23<br>at are most directly r<br>l on multiple regress<br>ision analysis, busin<br>ation. Prerequisite: I<br>or STAT 270; 45 unit | 2. It develops<br>relevant to bu-<br>sion and forec<br>ess simulation<br>MATH 150, M<br>ts. Quantitativ | ent(s).<br>and applies the<br>siness decisions.<br>casting modeling, the<br>n, quality control, and an<br>ATH 151, MATH 154, |

# SCUS 20-01d

| SFU  | SENATE COMMITTEE ON<br>UNDERGRADUATE STUDIES  | EXISTING COURSE DELETION FORM   |
|--|---|---|
| COURSE SUBJECT   | BPK NUMBER 324  | TITLE Principles of Human Anatomy   |
| RATIONALE (must be   | included)   |   |
| The course has ne  | ever been offered and there is not  | a plan to offer it in the future.   |
|  |   |   |
|  | ND YEAR FOR CHANGES<br>and year (enter in textbox) Fall 2020  | 0   |
| PLEASE DO THE FOL  |   |   |
| Office (sfuca<br>2. Once you<br>requirement<br>3. If more su<br>modification | al@sfu.ca) for a program impact list.<br>11 have the program impact list, pleas<br>ts.<br>12 ubstantial changes are required to pro<br>12 form. | course deletion form. Contact the Senate and Academic Services<br>e review how deleting this course affects each program's<br>ograms as a result of this deletion, please also submit a program<br>equired in program requirements, please list those programs in the |
|  |   | ication form submitted along with this motion.<br>ion submitted along with this motion.   |
| Hi Ryan,   |   |   |
| Here's the program   | n impact list for BPK 324:  |   |
| Biomedical Physic  | ology Minor   |   |
| Regards,   |   |   |
|  | ogram Assistant<br>nic Services   Simon Fraser Unive<br>Drive   Burnaby, BC V5A 1S6   | ersity  |
| course delet   | ease conduct a course impact analysi<br>ion on course prerequisites. For inst<br>ck on "deleting a course" and review                           | s, which reviews the effect of a course number change and/or<br>tructions on how to do a course impact analysis, please visit <u>our</u><br>w Step 2. Course Impact Analysis.   |



#### SENATE COMMITTEE ON UNDERGRADUATE STUDIES

| COURSE SUBJECT | BPK | NUMBER | 417W | TITLE | Obesity, Adipocyte Function and Weight Man |
|----------------|-----|--------|------|-------|--|
|                |     |        |      |       |  |

#### RATIONALE (must be included)

The course will not be offered it in the future. BPK will continue to offer BPK 417.

## EFFECTIVE TERM AND YEAR FOR CHANGES

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

Fall 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:

- 1. Kinesiology Major and Honours Program change form submitted along with this motion.
- 2. Biomedical Physiology Major and Honours Program changes passed through SCUS July 4th, 2019.
- 3. Removal of equivalency statement within BPK 417 submitted along with this motion.

Hi Ryan,

Here's the program impact list for BPK 417W:

Biomedical Physiology Major Biomedical Physiology Honours Kinesiology Major Kinesiology Honours

Regards,

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 <u>our</u> page and click on "deleting a course" and review Step 2. Course Impact Analysis.

| COURSES  | UBJECT BP  | K NUMBER   | 325   | TITLE Basic Human Anatomy   |
|--|--|--|---|---|
| YPE OF CI  | IANGES. Pleas  | e type 'X' for the app   | oropriate rev   | rision(s):  |
| Course<br>number   |  | Units  |   | Prerequisite 🗆  |
| Title  |  | Description  |   | Equivalent ⊠<br>Statement   |
| ndicate add<br>llows, drag<br>xpand. Ple<br><u>pecific cou</u><br>Students | led or new text<br>the endpoint<br>ase review the<br>rse component | t using <u>underline</u> . If y<br>of the text box to ma<br>"Equivalency statem<br><u>s</u> if changing equiva | you need to<br>ke it bigger,<br>nents" sectio<br>alent statem | nged text using <del>strike through</del> ,<br>enter more text than the box<br>as it will not automatically<br>on under <u>Information about</u><br>ent(s).<br>take this course for |

RATIONALE (must be included)

BPK 324 has never been offered and there is no plan to offer it in the future.

A motion to delete BPK 324 has been put forward.

| SFU                                 | SENATE COM<br>UNDERGRAD | IMITTEE ON<br>UATE STUDIES  |                               | COU                                  | RSE MO               | DIFICATION FORM<br>Page 1 of 1            |
|-------------------------------------|-------------------------|---|-------------------------------|--------------------------------------|----------------------|---|
| COURSE SI                           | UBJECT                  | BPK NUMBER  | 417                           | TITLE                                |                      | r, Adipocyte Function<br>eight Management |
| TYPE OF CH                          | <b>IANGES.</b> P        | lease type 'X' for the ap   | propriate re                  | vision(s):                           |                      |   |
| Course<br>number                    |                         | Units   |                               | Prere                                | quisite              |   |
| Title                               |                         | Description   |                               |                                      | ivalent<br>tement    |   |
| allows, drag                        | , the endpo             | text using <u>underline</u> . If<br>bint of the text box to ma<br>the "Equivalency stater<br><u>nents</u> if changing equiv | ake it bigger<br>nents" secti | , as it will r<br>on under <u>Ir</u> | ot autom             | atically                                  |
|                                     | <u>rse compo</u>        | nents in changing equiv   | arent staten                  | nent(s).                             |                      |   |
| Prerequisit                         |                         | 0, 306, 340. <del>Students wit</del>  |                               |                                      | may not r            | epeat this course for furt                |
| specific cour                       |                         |   |                               |                                      | <del>may not r</del> | epeat this course for fur                 |
| Prerequisit<br>credit.<br>EFFECTIVE | tes: BPK 11             |   | h credit for l                |                                      | <del>may not r</del> | epeat this course for fur                 |

BPK 417W is being deleted. BPK 417W has never been scheduled. KIN 417W was scheduled once in Spring 2012.

| Series of | SFU              |             | MMITTEE ON<br>DUATE STUDIES |                |               | COUF       | RSE MO            | DIFICATI             | ON FORM<br>Page 1 of 1 |   |
|-----------|------------------|-------------|-----------------------------|----------------|---------------|------------|-------------------|----------------------|------------------------|---|
|           | COURSE SI        | UBJECT      | ВРК                         | NUMBER         | 443           | TITLE      | Advanc<br>Prescri | ed Exercise<br>ption |                        | ] |
|           | TYPE OF CH       | HANGES. F   | Please type '               | X' for the app | oropriate rev | vision(s): |                   |                      |                        |   |
|           | Course<br>number |             | U                           | nits           |               | Prere      | quisite           | $\square$            |                        |   |
|           | Title            | $\boxtimes$ | D                           | escription     |               |            | ivalent<br>ement  |                      |                        |   |

Advanced Exercise Programming Prescription

Prerequisite: BPK 304W, 310 and 343 (one of which may be taken as a co-requisite).

## EFFECTIVE TERM AND YEAR FOR CHANGES

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

Fall 2020

RATIONALE (must be included)

Title: The term 'prescription' implies a one-time course of action, whereas the course discusses systematic long-term integrated program development. The term programming is also used within the course description.

Prerequisites: The prerequisites each provide assurance that the student is prepared for parts of the course and that the student is senior enough to benefit from the course. Students taking any one of the courses concurrently will be able to perform well. Adding this flexibility will allow more students to select this course as an option, as any of these third-year courses could be left until late in their program.

| YPE O<br>Course<br>numbe<br>Title<br>/ORDI<br>dicate<br>llows, o<br>xpand.<br><u>pecific</u><br>Quant<br>Funda<br>to aton<br>molec<br>285, M | e<br>T<br>NG/DESCRI<br>added or ne<br>lrag the end<br>Please revie | <b>S.</b> Please type 'X'<br>Uni   | its<br>scription<br>Indicate del<br><u>aderline</u> . If y<br>t box to mal | ropriate revi   | sion(s):<br>Prerequisite<br>Equivalen<br>Statemen<br>ged text using <del>st</del><br>nter more text tl | t 🔲<br>t<br><del>.rike through</del>                | <del>,</del>   |
|--|--|--|--|---|--|---|----------------|
| Course<br>numbe<br>Title<br>/ORDI<br>adicate<br>llows, o<br>xpand.<br><u>becific</u><br>Quant<br>Funda<br>to atom<br>molec<br>285, M         | e<br>T<br>NG/DESCRI<br>added or ne<br>lrag the end<br>Please revie | Uni<br>Des<br><b>IPTION EDITS.</b><br>New text using <u>ur</u><br>dpoint of the tex<br>iew the "Equivalo | its<br>scription<br>Indicate del<br><u>aderline</u> . If y<br>t box to mal | L<br>L<br>leted or chan<br>you need to e                    | Prerequisite<br>Equivalen<br>Statemen<br>ged text using <del>st</del><br>nter more text tl             | t 🔲<br>t<br><del>.rike through</del>                | ŧ,             |
| numbe<br>Title<br>/ORDI<br>dicate<br>llows, o<br>xpand.<br><u>pecific</u><br>Quant<br>Funda<br>to atom<br>molecc<br>285, M                   | er<br>NG/DESCRI<br>added or ne<br>lrag the end<br>Please revie     | Des<br><b>IPTION EDITS.</b><br>New text using <u>ur</u><br>dpoint of the tex<br>iew the "Equivale        | scription<br>Indicate del<br><u>aderline</u> . If y<br>t box to mal        | leted or chan<br>you need to e                              | Equivalen<br>Statemen<br>ged text using <del>st</del><br>nter more text tl                             | t 🔲<br>t<br><del>.rike through</del>                | ł,             |
| VORDI<br>adicate<br>llows, o<br>xpand.<br><u>pecific</u><br>Quant<br>Funda<br>to ator<br>molec<br>285, M                                     | NG/DESCRI<br>added or ne<br>lrag the end<br>Please revie           | <b>IPTION EDITS.</b><br>new text using <u>ur</u><br>dpoint of the tex<br>new the "Equival                | Indicate del<br><u>iderline</u> . If y<br>t box to mal                     | leted or chan<br>you need to e                              | Statemen<br>ged text using <del>st</del><br>nter more text tl  | t<br><del>.rike through</del>                       | t,             |
| dicate<br>llows, o<br>xpand.<br><u>pecific</u><br>Quant<br>Funda<br>to aton<br>molec<br>285, M   | added or ne<br>lrag the end<br>Please revie                        | ew text using <u>ur</u><br>dpoint of the tex<br>ew the "Equivale   | <u>nderline</u> . If y<br>t box to mal                                     | you need to e   | nter more text th  |   | <del>1</del> , |
|  | ns and mole<br>ules, symme<br>ATH 232, a<br>MATH 310               | quantum mecha<br>ecules: atomic st<br>etry of atomic ar<br>and MATH 251, a<br>D. Students with           | tructure, mo<br>nd molecula<br>all with a mi<br>credit for Cl              | olecular bond<br>r orbitals. Pr<br>nimum grad<br>HEM 464 ma | ling, rotations an<br>erequisite: CHEI<br>e of C Recommo<br>y not take this co                         | nd vibrations<br>M 260 or PHY<br>ended: <u>MATH</u> | s of<br>YS     |
| furthe   | r credit. PH   | YS 385 will be a   | ccepted in li  | ieu of CHEM   | 364.   |   |                |
|  |  | AND YEAR FOR   |  | textbox)  |  |   |                |
| Fall 20  | ing, Summe   |  |  |   |  |   |                |
| ATION  |  |  |  |   |  |   |                |

| COURSE SU   | J <b>BJECT</b> EA  | SC NUMBER  | 401   | TITLE Mineral Depos   | its          |
|---|--|--|---|---|--------------|
| YPE OF CH   | ANGES. Pleas   | se type 'X' for the app  | propriate revi  | ision(s):   |              |
| Course<br>number  |  | Units  |   | Prerequisite 🛛  |              |
| Title   |  | Description  |   | Equivalent 🗆<br>Statement   |              |
| ndicate add<br>llows, drag<br>xpand. Plea<br>pecific cour<br>The petrolo                        | ed or new tex<br>the endpoint<br>se review the<br><u>se componen</u><br>ogy and genes                  | t using <u>underline</u> . If<br>of the text box to ma<br>"Equivalency stater<br><u>ts</u> if changing equiva<br>sis of metalliferous c                        | you need to e<br>ake it bigger, a<br>nents" section<br>alent stateme<br>ore deposits; d                   | lescription of classic ore  | ox<br>y      |
| ndicate add<br>llows, drag<br>xpand. Plea<br><u>pecific cour</u><br>The petrolo<br>deposits; tl | ed or new tex<br>the endpoint<br>se review the<br><u>se componen</u><br>ogy and genes<br>he occurrence | t using <u>underline</u> . If<br>of the text box to ma<br>"Equivalency stater<br><u>ts</u> if changing equive<br>sis of metalliferous c<br>and exploitation of | you need to e<br>ake it bigger, a<br>nents" section<br>alent stateme<br>ore deposits; d<br>industrial and | enter more text than the b<br>as it will not automatically<br>a under <u>Information abou</u><br>ent(s).  | ox<br>y<br>t |
| ndicate add<br>llows, drag<br>xpand. Plea<br><u>pecific cour</u><br>The petrolo<br>deposits; tl | ed or new tex<br>the endpoint<br>se review the<br><u>se componen</u><br>ogy and genes<br>he occurrence | t using <u>underline</u> . If<br>of the text box to ma<br>"Equivalency stater<br><u>ts</u> if changing equive<br>sis of metalliferous c<br>and exploitation of | you need to e<br>ake it bigger, a<br>nents" section<br>alent stateme<br>ore deposits; d<br>industrial and | Inter more text than the b<br>as it will not automatically<br>in under <u>Information abou</u><br>int(s).<br>description of classic ore<br>d non-metallic minerals. | ox<br>y<br>t |



#### SENATE COMMITTEE ON UNDERGRADUATE STUDIES

#### COURSE MODIFICATION FORM

Page 2 of 2

RATIONALE (must be included)

- 1. Minor changes to EASC 401 content no longer require EASC 311 as a prerequisite.
- 2. Removal of the EASC 311 prerequisite provides greater access to EASC 401 for Earth Science majors.

| SFU              | UNDERGRAI | DUATE STUDIES                       |             |              |          | Page 1                              |
|------------------|-----------|-------------------------------------|-------------|--------------|----------|-------------------------------------|
| COURSE SU        | BJECT     | MATH NUMBER                         | 310         | TITLE        |          | ction to Ordinary<br>tial Equations |
|                  |           |                                     |             |              |          |                                     |
| TYPE OF CH.      | ANGES.    | Please type 'X' for the ap          | propriate i | revision(s): |          |                                     |
| Course<br>number | ANGES.    | Please type 'X' for the ap<br>Units | propriate i |              | equisite |                                     |

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</u> specific course components if changing equivalent statement(s).

310

260

### EFFECTIVE TERM AND YEAR FOR CHANGES

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

Fall 2020

RATIONALE (must be included)

In the BC transfer guide our 310 gives 2xx credit at every other institution (for example, MATH 215 at UBC and 201 at UVIC). Most every math department in North America offers a first course in this topic in the second year. At SFU, ENSC students are advised to take it in their third semester. Some programmes teach this in first year.

We would like to bring SFU in line with the rest of BC by renumbering MATH 310 as MATH 260 without changing the content.

| SFU  | SENATE COMM<br>UNDERGRADUA                    |  |   | COURSE MO   | DIFICATION FO                                    |
|--|---|--|---|---|--|
| COURSE S                                     | UBJECT  | MATH NUMBER  | 314   |   | on to Fourier Methods and<br>ferential Equations |
| TYPE OF CH                                   | HANGES. Ple                                   | ase type 'X' for the ap  | propriate re                                  | vision(s):  |  |
| Course<br>number                             |   | Units  |   | Prerequisite  | X  |
| Title  |   | Description  |   | Equivalent<br>Statement   |  |
| indicate add<br>allows, drag<br>expand. Plea | led or new to<br>the endpoint<br>ase review t | <b>ON EDITS.</b> Indicate de<br>ext using <u>underline</u> . If<br>nt of the text box to ma<br>he "Equivalency stater<br><u>ents</u> if changing equiv | you need to<br>ake it bigger<br>nents" sectio | enter more text tha<br>, as it will not autom<br>on under <u>Informatic</u> | n the box<br>natically                           |
| diffusion v<br>Symbolic a                    | wave and La<br>and numeric<br>); and one of   | oundary and eigenvalu<br>place/Poisson equatic<br>cal computing, and gra<br>f MATH 251 with a gra  | ons. Polar an<br>phics for PD                 | d spherical co-ordir<br>Es. Prerequisite: <u>M</u>                          | ate systems.<br>ATH 260 or                       |
|  |   |  |   |   |  |
|  |   |  |   |   |  |

Fall 2020



SENATE COMMITTEE ON UNDERGRADUATE STUDIES

Page 2 of 2

## RATIONALE (must be included)

MATH 310 is being renumbered as MATH 260 but is unchanged in all other respects.

November 2016

| do ono z o  | UBJECT MAC  | M NUMBER  | 416  | TITLE Numerical Analysis II   |
|---|---|---|--|---|
| TYPE OF CI  | IANGES. Please  | type 'X' for the ap   | oropriate rev  | rision(s):  |
| Course<br>number  |   | Units   |  | Prerequisite 🔀  |
| Title   |   | Description   |  | Equivalent 🗆<br>Statement   |
| allows, drag<br>expand. Ple<br><u>specific cou</u><br>The nume<br>parabolic | g the endpoint of<br>ase review the "<br>rse components<br>prical solution of | f the text box to ma<br>Equivalency stater<br>if changing equiv<br>Fordinary different<br>cial equations will l | ake it bigger,<br>nents" sectio<br>alent statem<br>tial equation | enter more text than the box<br>as it will not automatically<br>on under <u>Information about</u><br>ent(s).<br>s and elliptic, hyperbolic and<br>d. Prerequisite: <u>MATH 260 or</u> |
|   |   |   |  |   |
|   |   |   |  |   |



SENATE COMMITTEE ON UNDERGRADUATE STUDIES

## COURSE MODIFICATION FORM

Page 2 of 2

## RATIONALE (must be included)

MATH 310 is being renumbered as MATH 260 but is unchanged in all other respects.

| COURSE SU   | JBJECT   | MATH  | NUMBER  | 418  | TITLE  | Partial Differential Equation  |
|---|--|---|---|--|--|--|
| TYPE OF CH  | ANGES  | Please type "   | Y' for the apr  | propriate revi   | ision(s).  |  |
| Course<br>number  |  | 5.7   | nits  |  |  | equisite 🕅   |
| Title   |  | D   | escription  |  |  | ivalent 🔲<br>tement  |
| expand. Plea<br>specific coun<br>First-order<br>functions,<br>and transfi<br>equations. | se review<br>se compo<br>linear ec<br>the maxir<br>orms. Hig<br>Burgers' | the "Equiva<br>ments if cha<br>quations, the<br>num princip<br>her dimensi<br>equation an | alency staten<br>anging equiva<br>e method of c<br>ole, Green's fu<br>onal eigenva<br>d shock wav | hents" section<br>alent stateme<br>haracteristic<br>inctions. The<br>lue problems<br>es. Prerequis | n under <u>In</u><br>ent(s).<br>s. The wa<br>heat equa<br>s. An intro<br>ite: MATH | not automatically<br><u>nformation about</u><br>ve equation. Harmonic<br>ation. Distributions<br>oduction to nonlinear<br>I 260 or MATH<br>he above prerequisite |
|   | MATH 25  |   |   |  |  | grades of at least A   |
|   |  |   |   |  |  |  |
|   |  |   |   |  |  |  |
|   |  |   |   |  |  |  |
|   |  |   |   |  |  |  |

Fall 2020



SENATE COMMITTEE ON UNDERGRADUATE STUDIES

## COURSE MODIFICATION FORM

Page 2 of 2

## RATIONALE (must be included)

MATH 310 is being renumbered as MATH 260 but is unchanged in all other respects.

| COURSE S                            | UBJECT                                 | MATH                               | NUMBER                              | <b>4</b> 62                      | TITLE                                 | Fluid Dynamic  | CS                |
|-------------------------------------|--|------------------------------------|-------------------------------------|----------------------------------|---------------------------------------|--|-------------------|
| TYPE OF CH                          | <b>IANGES.</b> F                       | lease typ                          | e 'X' for the ap                    | propriate revi                   | ision(s):                             |  |                   |
| Course<br>number                    |  |                                    | Units                               |                                  | Prere                                 | quisite 🛛  |                   |
| Title                               |  |                                    | Description                         |                                  | · · · · · · · · · · · · · · · · · · · | ivalent 🗆<br>tement  |                   |
|                                     | rse compo                              |                                    | nomono, kinor                       | matica and a a                   | untinun of                            |  | - flow            |
| Incompres<br>and bound<br>of MATH 3 | ssible fluid<br>lary layer<br>14, MATH | flow phe<br>theory, po<br>418, PHY | otential flow, w<br>7S 384. An alte | vater waves. A<br>rnative to the | lerodynar<br>above pr                 | f motion, viscou<br>nics. Prerequisi<br>erequisite is bo<br>st B+. Quantitat | ite: one<br>th of |
| Incompres<br>and bound<br>of MATH 3 | ssible fluid<br>lary layer<br>14, MATH | flow phe<br>theory, po<br>418, PHY | otential flow, w<br>7S 384. An alte | vater waves. A<br>rnative to the | lerodynar<br>above pr                 | nics. Prerequisi<br>erequisite is bo   | ite: one<br>th of |
| Incompres<br>and bound<br>of MATH 3 | ssible fluid<br>lary layer<br>14, MATH | flow phe<br>theory, po<br>418, PHY | otential flow, w<br>7S 384. An alte | vater waves. A<br>rnative to the | lerodynar<br>above pr                 | nics. Prerequisi<br>erequisite is bo   | ite: one<br>th of |



Page 2 of 2

## RATIONALE (must be included)

MATH 310 is being renumbered as MATH 260 but is unchanged in all other respects.

| SFU   | UNDERGRADUA  | TTEE ON<br>TE STUDIES  |   |  |  |   | Page 1 c |
|---|--|--|---|--|--|---|----------|
| COURSE SU   | J <b>BJECT</b> M   | IATH NUMBER  | 461   | TITLE  | Continu<br>Models  | ious Math   | ematical |
| TYPE OF CH  | ANGES. Plea  | se type 'X' for the ap   | propriate rev   | vision(s):   |  |   |          |
| Course<br>number  | $\boxtimes$  | Units  |   | Prere  | quisite  | $\boxtimes$   |          |
| Title   | $\boxtimes$  | Description  | $\boxtimes$   |  | ivalent<br>tement  | X   |          |
| specific cour<br>461<br>360   | se review th   | e "Equivalency staten<br><u>nts</u> if changing equiva   | nents" section  | n under <mark>In</mark>  | <u>iformatio</u>   | natically<br>on about   |          |
| 461<br>360<br>Continuous<br>461 360 (3<br>Formulatio<br>models. Ap  | se review th<br><u>se componen</u><br><del>s Mathematic</del><br>)<br>on, analysis a<br>plications m                               | e "Equivalency staten<br>ats if changing equiva<br>cal Models <u>Modeling</u><br>nd <del>numerical solution</del><br>ay be selected from t   | nents" section<br>alent stateme<br>with Ordinar<br><del>n</del> <u>simulation</u><br>opics in phys                      | n under <u>In</u><br>ent(s).<br>- <u>ry Differen</u><br>of continu<br>ics, biolog              | ntial Equa<br>nous math<br>y, engine   | ations MA<br>hematical<br>eering and  |          |
| 461<br>360<br>Continuous<br>461 360 (3<br>Formulatio<br>models. Ap<br>economics.<br>316, MATH<br>251 and M. | se review th<br>se component<br>s Mathematic<br>)<br>on, analysis a<br>plications m<br>Prerequisite<br>(418, PHYS (<br>ATH 310, bo | e "Equivalency staten<br><u>ats</u> if changing equiva<br><del>cal Models- <u>Modeling</u><br/>nd <del>numerical solutio</del></del>   | ments" section<br>alent stateme<br>with Ordinar<br>opics in phys<br><u>AMATH 260.</u><br>the above pr<br>east B+. Stude | n under In<br>ent(s).<br>of continu<br>ics, biolog<br>and one of<br>cerequisite<br>ents with c | ntial Equa<br>nous math<br>y, engine<br>f <u>MATH 3</u><br>e is both<br>credit for | n about<br>ations MA<br>hematical<br>eering and<br>314, MACM<br>of MATH<br>MATH <del>36</del> | 4        |
| 461<br>360<br>Continuous<br>461 360 (3<br>Formulatio<br>models. Ap<br>economics.<br>316, MATH<br>251 and M. | se review th<br>se component<br>s Mathematic<br>)<br>on, analysis a<br>plications m<br>Prerequisite<br>(418, PHYS (<br>ATH 310, bo | e "Equivalency staten<br>ats if changing equiva<br>cal Models <u>Modeling</u><br>nd <del>numerical solution</del><br>ay be selected from t<br>e: MATH <del>310</del> <u>251 and</u><br><u>384</u> . An alternative to<br>th with grades of at le | ments" section<br>alent stateme<br>with Ordinar<br>opics in phys<br><u>AMATH 260.</u><br>the above pr<br>east B+. Stude | n under In<br>ent(s).<br>of continu<br>ics, biolog<br>and one of<br>cerequisite<br>ents with c | ntial Equa<br>nous math<br>y, engine<br>f <u>MATH 3</u><br>e is both<br>credit for | n about<br>ations MA<br>hematical<br>eering and<br>314, MACM<br>of MATH<br>MATH <del>36</del> | 4        |

**EFFECTIVE TERM AND YEAR FOR CHANGES** Fall, Spring, Summer and year (please enter in textbox)



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Summer 2020

## RATIONALE (must be included)

In conjunction with moving MATH 310 to MATH 260 we are modifying one the classes that required 310 required. The removal of additional upper division prerequisites reflects how the class has been recently taught. These changes will make the class more accessible to both major and minor students.

| COURSE S  | SUBJECT   | ATH NUMBER  | 348   | TITLE Probabilistic Models in<br>Operations Research                 |
|---|---|---|---|--|
| YPE OF C  | HANGES. Ple   | ase type 'X' for the ap   | propriate r                                 | evision(s):  |
| Course<br>number  |   | Units   |   | Prerequisite 🛛   |
| Title   | $\boxtimes$   | Description   | $\boxtimes$                                 | Equivalent 🗆<br>Statement  |
| VORDING/  | led or new to   |   | you need to                                 | remer more lexi man the hoy  |
| dicate adc<br>lows, drag<br>pand. Plea<br>pecific cou                                   | ase review th<br><u>rse compone</u>                                 | t of the text box to ma<br>e "Equivalency staten<br><u>nts</u> if changing equiva | ike it bigge<br>nents" sect<br>alent stater | r, as it will not automatically<br>on under <u>Information about</u> |
| ndicate add<br>llows, drag<br>xpand. Plea<br><u>pecific cou</u><br><del>Probabili</del> | g the endpoin<br>ase review th<br><u>rse compone</u><br>stic Models | t of the text box to ma<br>e "Equivalency staten                                  | ike it bigge<br>nents" sect<br>alent stater | r, as it will not automatically<br>on under <u>Information about</u> |

simulation. Prerequisite: STAT 270 and (MATH 240 or MATH 232). Pre-/Co-

## EFFECTIVE TERM AND YEAR FOR CHANGES

requisite: MATH 308. Quantitative.

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



## COURSE MODIFICATION FORM

Fall 2020

Page 2 of 2

**RATIONALE** (must be included)

In conjunction with moving MATH 310 to MATH 260 we are modifying one the classes that required 310 required. The removal of additional upper division prerequisites reflects how the class has been recently taught. These changes will make the class more accessible to both major and minor students.

| COURSE SU  | BJECT  | MBB NUMBER  | 326  | TITLE Introduction to the immune system  |
|--|--|---|--|--|
| TYPE OF CH   | IANGES. I  | Please type 'X' for the ap  | propriate  | revision(s):   |
| Course<br>1umber   |  | Units   |  | Prerequisite X   |
| ſitle  |  | Description   |  | Equivalent 🗆<br>Statement  |
| ndicate add<br>allows, drag<br>expand. Plea<br>specific cour   | ed or new<br>the endp<br>se review<br>se compo   | v text using <u>underline</u> . If<br>oint of the text box to m<br>v the "Equivalency state<br>onents if changing equiv   | you need<br>ake it bigg<br>ments" sec<br>valent state  | hanged text using <del>strike through</del> ,<br>to enter more text than the box<br>er, as it will not automatically<br>ttion under <u>Information about</u>   |
| ndicate add<br>allows, drag<br>expand. Plea<br>specific coun<br>Introducti<br>system pro<br>the functio<br>responses<br>function o | ed or new<br>the endp<br>ase review<br>se compo-<br>on to the<br>otects aga<br>on of inna<br>, including<br>f T and B              | v text using <u>underline</u> . If<br>oint of the text box to m<br>v the "Equivalency state<br>onents if changing equiv<br>structure and function of<br>inst microbial infections<br>te immune cells, recepto<br>g the organization of lym<br>cells, and antibodies. Stu      | f you need<br>ake it bigg<br>ments" sec<br>valent state<br>of the imm<br>s. Innate in<br>ors and con<br>ophoid org<br>udents wit | hanged text using <del>strike through</del> ,<br>to enter more text than the box<br>er, as it will not automatically<br>ction under <u>Information about</u><br>ement(s).<br>une system and how this<br>nmune responses, including<br>nplement. Adaptive immune<br>gans, development and<br>h credit for HSCI 426, MBB |
| ndicate add<br>allows, drag<br>expand. Plea<br>specific coun<br>Introducti<br>system pro<br>the functio<br>responses<br>function o | ed or new<br>the endp<br>ase review<br>se compo-<br>on to the<br>otects aga<br>on of inna<br>, including<br>f T and B<br>CI 326 ma | v text using <u>underline</u> . If<br>oint of the text box to m<br>v the "Equivalency states<br>onents if changing equiv<br>structure and function of<br>the inmune cells, receptor<br>g the organization of lyn<br>cells, and antibodies. Stu<br>ay not take this course for | f you need<br>ake it bigg<br>ments" sec<br>valent state<br>of the imm<br>s. Innate in<br>ors and con<br>ophoid org<br>udents wit | hanged text using <del>strike through</del> ,<br>to enter more text than the box<br>er, as it will not automatically<br>ction under <u>Information about</u><br>ement(s).<br>une system and how this<br>nmune responses, including<br>nplement. Adaptive immune<br>gans, development and                               |

Fall 2020

RATIONALE (must be included)

A minimum grade for the MBB 231 prerequisite has been added consistent with other MBB UD course prerequisites.

100vernber 2016

|                  | ENATE COMMITTEE O<br>INDERGRADUATE STU |                   |               | COURSE MOE              | DIFICATION FORM<br>Page 1 of 1 |
|------------------|--|-------------------|---------------|-------------------------|--------------------------------|
| COURSE SUI       | BJECT PHYS                             | NUMBER            | 211           | TITLE Interme           | ediate Mechanics               |
| TYPE OF CHA      | NGES. Please ty                        | pe 'X' for the ap | propriate rev | ision(s):               |                                |
| Course<br>number |  | Units             |               | Prerequisite            |                                |
| Title            |  | Description       |               | Equivalent<br>Statement |                                |

An intermediate mechanics course covering kinematics, dynamics, calculus of variations and Lagrange's equations, non-inertial reference frames, central forces and orbits, and rigid body motion. Prerequisite: PHYS 126 or 121 or 141, with a minimum grade of C-, (or PHYS 102, with a minimum grade of B); MATH 251; MATH 232 or MATH 240; PHYS 255 or ENSC 380. All prerequisite courses require a minimum grade of C-. Corequisite: MATH 251; MATH 232 or 240. Recommended corequisite: MATH 260 or MATH 310-and PHYS 255. Quantitative.

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

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

Fall 2020

RATIONALE (must be included)

Rationale: Switching to spring to ease student workload allows changes to prereqs to better prepare students for this challenging course.

|   | SFU              |         | MMITTEE ON<br>DUATE STUDII | ES                |               | COURSE MOD              | DIFICATION FORM<br>Page 1 of 1 |
|---|------------------|---------|----------------------------|-------------------|---------------|-------------------------|--------------------------------|
| _ | COURSE S         | UBJECT  | PHYS                       | NUMBER            | 255           | TITLE Vibratio          | ons and Waves                  |
|   | TYPE OF CH       | IANGES. | Please type                | e 'X' for the app | oropriate rev | ision(s):               |                                |
|   | Course<br>number |         |                            | Units             |               | Prerequisite            |                                |
|   | Title            |         |                            | Description       |               | Equivalent<br>Statement |                                |

The physics of vibrations and waves. Topics include periodic motion, including free and forced oscillations, coupled oscillators, normal modes, and waves in one and higher dimensions. Prerequisite: PHYS 126 or 121 or 141, with a minimum **grade of** C-, grade; or PHYS-101 and 102, with a **minimum** grade of B. Corequisite: MATH 251; MATH 232 or 240. Recommended **corequisite**concurrent: PHYS-211 and MATH 310260 or MATH 310. Quantitative.

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

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

Fall 2020

RATIONALE (must be included)

Changed from Recommended concurrent to Recommended Corequisite to be consistent with other entries. PHYS 211 is no longer taught the same semester, so it is not useful to recommend it as a corequisite. PHYS 101 is a required prerequisite for PHYS 102 so it is not necessary to require it here. Change of number of MATH 310 -> MATH 260.

| SFU<br>COURSE S  |   | PHYS NUMBER  | 384   | TITLE Method<br>I   | Page 1 of<br>ls of Theoretical Phys  |
|--|---|--|---|---|--|
| TYPE OF CH   | IANGES. P   | lease type 'X' for the app   | propriate re  | evision(s):   |  |
| Course<br>number   |   | Units  |   | Prerequisite  |  |
| m+.1   |   | Description  |   | Equivalent  |  |
| indicate add<br>allows, drag<br>expand. Plea   | ed or new<br>the endpo<br>ase review  | <b>TION EDITS.</b> Indicate de<br>text using <u>underline</u> . If<br>int of the text box to ma<br>the "Equivalency staten | you need to<br>ike it bigger<br>nents" sectio   | Statement<br>anged text using <del>str</del><br>enter more text tha<br>; as it will not auton<br>on under <u>Informatio</u>   | ike through,<br>an the box<br>natically                                    |
| WORDING/<br>indicate add<br>allows, drag<br>expand. Plea<br>specific cour<br>Applicatio<br>eigenvalue<br>MATH 26 | ed or new<br>the endpo<br>ase review<br>rse compor-<br>ns of math<br>problems<br><b>0 or</b> MATH | <b>TION EDITS.</b> Indicate de text using <u>underline</u> . If jint of the text box to ma                                 | you need to<br>ake it bigger<br>nents" sectionalent statem<br>ysics, different<br>ations. Prere<br>255 or ENS | Statement<br>anged text using <del>str</del><br>enter more text that<br>as it will not autom<br>on under <u>Information</u><br>nent(s).<br>ential equations of p<br>equisite: MATH 252<br>C 320 <b>,. All prerequ</b> | ike through,<br>an the box<br>natically<br>on about<br>ohysics,<br>or 254; |

Change of number of MATH 310 -> MATH 260. Changes to the schedule allow us to make PHYS 211 a required prerequisite, which will better prepare students for this course.

| SFU              |         | MMITTEE ON<br>DUATE STUDIES |               | COURSE MOD              |             | FORM<br>age 1 of 1 |
|------------------|---------|-----------------------------|---------------|-------------------------|-------------|--------------------|
| COURSE SU        | UBJECT  | PHYS NUMBER                 | 385           | <b>TITLE</b> Quantu     | m Mechanics |                    |
| TYPE OF CH       | IANGES. | Please type 'X' for the ap  | propriate rev | rision(s):              |             |                    |
| Course<br>number |         | Units                       |               | Prerequisite            | $\boxtimes$ |                    |
| Title            |         | Description                 |               | Equivalent<br>Statement |             |                    |

Wave mechanics and the Schroedinger equation, the harmonic oscillator, introduction to Dirac notation, angular momentum and spin, the hydrogen atom, atomic structure, timeindependent perturbation theory, atomic spectra, and applications. Prerequisite: MATH 252 or 254; PHYS 285 or ENSC 380 or CHEM 260. All prerequisite courses require with a minimum grade of C-. Recommended prerequisitesCo-requisite: MATH 260 or MATH 310; PHYS 211.; MATH 310. Quantitative.

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

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

Fall 2020

## RATIONALE (must be included)

Change of number of MATH 310 -> MATH 260. PHYS 211 is not a required prerequisite, but will help prepare students for this course.

|   |                  | ENATE COMMITTEE C<br>INDERGRADUATE STU | Contractor and Contractor |               | COURSE MOE              | DIFICATION FORM<br>Page 1 of 1 |
|---|------------------|--|---------------------------|---------------|-------------------------|--------------------------------|
| _ | COURSE SUI       | BJECT PHYS                             | NUMBER                    | 395           | TITLE Comput            | tational Physics               |
| - | TYPE OF CHA      | NGES. Please ty                        | vpe 'X' for the ap        | propriate rev | ision(s):               |                                |
|   | Course<br>number |  | Units                     |               | Prerequisite            | $\boxtimes$                    |
|   | Title            |  | Description               |               | Equivalent<br>Statement |                                |

Computer-based approaches to solving complex physical problems. Includes topics such as Monte-Carlo and molecular dynamics techniques applied to thermal properties of materials; dynamical behavior of systems, including chaotic motion; methods for ground state determination and optimization, including Newton-Raphson, simulated annealing, neural nets, and genetic algorithms: symplectic methods; and analysis of numerical data. Prerequisite: **MATH 260 or** MATH 310;; PHYS 255;; CMPT <del>102</del>, 120; or equivalent;. **All prerequisite courses require with** a minimum grade of C-. Recommended: PHYS 344 or equivalent. Quantitative.

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

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

Fall 2020

RATIONALE (must be included)

Change of number of MATH 310 -> MATH 260. We are changing our computing requirement to CMPT 120 only. PHYS 344 is no longer recommended.

| SFU              |         | DMMITTEE ON<br>DUATE STUDIES |              | COURSE MOI              | DIFICATION FORM<br>Page 1 of 1 |  |
|------------------|---------|------------------------------|--------------|-------------------------|--------------------------------|--|
| <br>COURSE S     | UBJECT  | PHYS NUMBER                  | <b>R</b> 413 | TITLE Advanc            | ed Mechanics                   |  |
| TYPE OF CI       | HANGES. | Please type 'X' for the ap   | opropria     | te revision(s):         |                                |  |
| Course<br>number |         | Units                        |              | Prerequisite            | $\boxtimes$                    |  |
| Title            |         | Description                  |              | Equivalent<br>Statement |                                |  |

Central forces, rigid body motion, small oscillations. Lagrangian and Hamiltonian formulations of mechanics. Prerequisite: PHYS 384, with a minimum grade of C- or permission of the department. Non-physics majors may enter with MATH 252; MATH 260 or MATH 310-and; PHYS 211;. All prerequisite courses require with a minimum grade of C-. Quantitative.

## EFFECTIVE TERM AND YEAR FOR CHANGES

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

Fall 2020

## RATIONALE (must be included)

Change of number of MATH 310 -> MATH 260.

|                  |          | MMITTEE ON<br>DUATE STUDIES |               |          | COURSE            | MODIFICA                  | TION FORM<br>Page 1 of 1 |
|------------------|----------|-----------------------------|---------------|----------|-------------------|---------------------------|--------------------------|
| COURSE SU        | BJECT    | PHYS                        | NUMBER        | 321      |                   | termediate El<br>agnetism | ectricity and            |
| TYPE OF CH       | ANGES. F | Please type 'X              | ' for the app | ropriate | revision(s):      |                           |                          |
| Course<br>number |          | Un                          | its           |          | Prerequi          | site 🖂                    |                          |
| Title            |          | De                          | scription     |          | Equival<br>Statem |                           |                          |

Development and application of Maxwell's equations in vector differential form. Notation and theorems of vector calculus; electric charge, fields, potentials, capacitance and field energy; conductors; methods for solving electrostatic problems; electric fields in matter; electrical current and the magnetic field; Ampere's law and the vector potential; magnetic fields in matter; electromotive force, electrical resistance, Faraday's law and inductance; Maxwell's correction to Ampere's law and electromagnetic waves. Prerequisite: PHYS 121 or 126 or 141 (or PHYS 102, with a minimum grade of B); MATH 252 or 254; MATH 260 or MATH 310. All prerequisite courses require a minimum grade of C-, unless specified. Students with credit for PHYS 221 may not take this course for further credit. Quantitative.

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

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

Fall 2020

RATIONALE (must be included)

Change of number of MATH 310 -> MATH 260. PHYS 221 is no longer offered. Grade requirement added explicitly to be consistent with other courses.



## MEMO

| TO:          | Kris Nordgren, Assistant Registrar, Senate & Academic Services               |
|--------------|--|
| FROM:        | Barbara Frisken, Professor and Undergraduate Chair, Department of Physics    |
| CC:          | David Hik, Professor and Associate Dean of Science                           |
| RE:<br>DATE: | Undergraduate Course changes for the Department of Physics December 13, 2019 |

I recently submitted a number of course change forms for PHYS courses. One of the changes we made was motivated by a change in course numbering for MATH 310 to MATH 260.

I have been advised that we should change the wording in the prerequisite lists in order to leave the option for students to satisfy the prerequisite requirement with MATH 310 for about 5 years.

This impacts course change forms for the following courses:

PHYS 211 PHYS 255 PHYS 321 PHYS 384 PHYS 385 PHYS 395 PHYS 413

Could your office please change the prerequisite or corequisite from MATH 260 to **MATH 260** or **MATH 310**. We will need to remove this after the appropriate time. If possible, could you program the deletion of or **MATH 310** after an appropriate time so that this happens automatically?

Thank you, Barbara