**SFU** OFFICE OF THE ASSOCIATE VICE-PRESIDENT, ACADEMIC AND
ASSOCIATE PROVOST

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**MEMORANDUM**

| | | | |
|---|---|---|---|
| **ATTENTION** | Senate | **DATE** | February 3, 2012 |
| **FROM** | Bill Krane, Chair | **PAGES** | 1/1 |
| | Senate Committee on | | |
| | Undergraduate Studies | | |
| **RE:** | Faculty of Science | | |

For information:

Acting under delegated authority at its meeting of February 2, 2012, SCUS approved the following curriculum revisions effective Fall 2012:

1. Department of Mathematics (SCUS 11-55f – Revised)

   (i) Prerequisite change to MATH 252, 370W, 100, 113, 130, 150, 151, 154, 157, 160W, 178W, 190, 197, 198 and title change to MATH 158

2. Department of Mathematics (SCUS 12-10a)

   (i) Prerequisite change to MATH 380W, 254,
   (ii) New Course Proposals:
       MATH 396-3, Selected Topics in Mathematics
       MATH 397-3, Selected Topics in Mathematics

3. Department of Physics (SCUS 12-10b)

   (i) Prerequisite change to PHYS 421
   (ii) Upper division requirement changes for Physics Honours program

Senators wishing to consult a more detailed report of curriculum revisions may do so by going to Docushare: https://docushare.sfu.ca/dsweb/View/Collection-12682
If you are unable to access the information, please call 778-782-3168 or email shelley_gair@sfu.ca.

SIMON FRASER UNIVERSITY    THINKING OF THE WORLD

**SFU**

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| **TO:** Bill Krane, Chair, SCUS | **FROM:** G. Agnes, Associate Dean<br>Faculty of Science |
| **RE:** Faculty of Science Curriculum<br>Item | **DATE:** November 22, 2011 |

The Faculty of Science has approved the following, which must now be considered by SCUS.

Please place this item on the agenda of the next SCUS meeting.

**Mathematics**

MATH 252 – Prerequisite change

G. Agnes

Enclosure

c. J. Hinchliffe, C. Cupples

MEMO

**Department of Mathematics**

**LADISLAV STACHO**
Chair, Undergraduate Studies Committee

MAILING ADDRESS
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ATTENTION  Dr. George Agnes
          Faculty of Science Undergraduate Curriculum Committee

FROM   Ladislav Stacho, Chair, Undergraduate Studies Committee

RE   Calendar Change Math 252

DATE  21 November 2011

Please find enclosed a course change form for Math 252 Vector Calculus.

Math 252 and its prerequisite change was approved during the February 2011 meeting of Senate Committee on Undergraduate Studies.  However, this request was submitted to request inclusion of Math 232 or 240 as corequisite, and in error noted removal of Math 232 or 240 as prerequisite.   Deletion of prerequisite status precludes students from being able to register for Math 252 if they have completed Math 232 or 240 preceding the semester of enrolment.

Thank you for your assistance and consideration to quickly rectify this situation, given our offering of Math 252 during Spring 2012 semester.

Please contact myself or Ms. Dale Yamaura, Manager, Academic and Administrative Services (v: 2-3799; e: math_manager@sfu.ca) as required.

**SFU**

# EXISTING COURSE, CHANGES RECOMMENDED

Please check appropriate revision(s)

☐ Course number  ☐ Credit  ☐ Title  ☐ Description  ☒ Prerequisite  ☐ Deletion

Indicate number of hours for: Lecture_____ Seminar _____ Tutorial _____ Lab _____

**FROM :**                                            **TO:**

Course Number __MATH 252_____ Course Number _____

Credit Hour_____ Credit Hour _____

TITLE

(1) Long title for calendar and schedule, no more than 100 characters including spaces and punctuation.

| Vector Calculus | |
|---|---|

(2) Short title for enrollment and transcript, no more than 30 characters including spaces and punctuation.

| | |
|---|---|

DESCRIPTION

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PREREQUISITE

| Prerequisite: MATH 251. Corequisite: MATH 232 or 240.  Students with credit for MATH 254 may not take MATH 252 for further credit Quantitative | Prerequisite: Math 240 or 232, and 251. **MATH 240 or 232 may be taken concurrently.** Students with credit for Math 254 may not take Math 252 for further credit. Quantitative. |
|---|---|

RATIONALE

New ordering of material in both 252 and 232/240 mean that the classes can be taken simultaneously. To correct prerequisite approved by SCUS February 2011.

Does this course replicate the content of a previously approved course to such an extent that students should not receive credit for both courses?
If so, this should be **noted in the prerequisite**.

Effective term and year __1121 - Spring 2012_____

**SFU**

## EXISTING COURSE, CHANGES RECOMMENDED
Please check appropriate revision(s)

☐ Course number  ☐ Credit  ☐ Title  ☐ Description  ☑ Prerequisite           ☐ Deletion

Indicate number of hours for: Lecture_____ Seminar _____ Tutorial _____ Lab _____

**FROM :**                                        **TO:**

Course Number __**MATH 370W-3**_____  Course Number _____ ___ Credit

Hour_____ Credit Hour _____

### TITLE

(1) Long title for calendar and schedule, no more than 100 characters including spaces and punctuation.

| The Art and Craft of Problem Solving | |
|---|---|

(2) Short title for enrollment and transcript, no more than 30 characters including spaces and punctuation.

| | |
|---|---|

### DESCRIPTION

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### PREREQUISITE

| MACM 201 with a grade of at least B. At least one of MACM 201, MACM 202, MATH 240, MATH 242, MATH 251 or MATH 252 with a grade of at least A, or permission of instructor. Writing/Quantitative | MACM 201 with a grade of at least B. At least one of MACM 201, MATH 240, MATH 242, MATH 251 or MATH 252 with a grade of at least A, or two of MACM 203, MACM 204, and MATH 294, each with a grade of at least A, or permission of the instructor. Writing/Quantitative |
|---|---|

### RATIONALE

To reflect the fact that we have replaced MACM 202 with MACM 203 and MACM 204. We have also added MATH 294 along with MACM 203 and MACM 204, as this course has a computational nature as both MACM 203 and 204, and it make sense to allow students to use this course as well. Note that MATH 370-W is intended for a small group of highly talented students as this course serves as a preparation for the Putnam competition.

Does this course replicate the content of a previously approved course to such an extent that students should not receive credit for both courses? If so, this should be **noted in the prerequisite**.

Effective term and year __1124 – Summer 2012_____

SENATE COMMITTEE ON
UNDERGRADUATE STUDIES

**COURSE CHANGE/DELETION**

NOVEMBER 2009

## EXISTING COURSE, CHANGES RECOMMENDED

Please check appropriate revision(s)

☒ Course number  ☐ Credit  ☐ Title  ☐ Description  ☐ Prerequisite       Deletion ☐

Indicate number of hours for: Lecture_____ Seminar _____ Tutorial _____ Lab _____

**FROM :**                                                          **TO:**

Course Number __**MATH 100-3**_____ Course Number _____ Credit

Hour_____ Credit Hour _____

TITLE

(1) Long title for calendar and schedule, no more than 100 characters including spaces and punctuation.

| Precalculus | |
|---|---|

(2) Short title for enrollment and transcript, no more than 30 characters including spaces and punctuation.

| | |
|---|---|

## DESCRIPTION

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## PREREQUISITE

| BC principles of mathematics 11 (or equivalent) with a grade of at least B-, or BC principles of mathematics 12 (or equivalent) with a grade of at least C and SFU FAN credit, or SFU FAN X99 course with a grade of at least B-, or achieving a satisfactory grade on the Simon Fraser University Quantitative Placement Test. Students with credit for MATH 150 or 151 or 154 or 157 may not take MATH 100 for further credit. MATH 100 may not be counted towards the mathematics minor, major or honors degree requirements. Quantitative. | Pre-Calculus 11 or Foundations of Mathematics 11 (or equivalent) with a grade of at least B, or Pre-Calculus 12 (or equivalent) with a grade of at least C and SFU FAN credit, or SFU FAN X99 course with a grade of at least B-, or achieving a satisfactory grade on the Simon Fraser University Quantitative Placement Test. Students with credit for MATH 150 or 151 or 154 or 157 may not take MATH 100 for further credit. MATH 100 may not be counted towards the mathematics minor, major or honors degree requirements. Quantitative. |
|---|---|

## RATIONALE

To reflect changes approved by SCUS meeting on October 14, 2010: (memorandum SCUS 10-50). The grade B- in Pre-calculus 11 and FOM 11 to B. We feel B- grade is not enough these courses as a prerequisite for MATH 100 as MATH 100 is the base course for all our science calculus courses and many students struggle with it.

1

Does this course replicate the content of a previously approved course to such an extent that students should not receive credit for both courses?
If so, this should be **noted in the prerequisite**.


Effective term and year ___ 1124 – Summer 2012   FAll 2012

**SFU**

# EXISTING COURSE, CHANGES RECOMMENDED

Please check appropriate revision(s)

☐ Course number  ☐ Credit  ☐ Title  ☐ Description  ☐ Prerequisite  Deletion  ☐

Indicate number of hours for: Lecture_____ Seminar _____ Tutorial _____ Lab _____

**FROM :**                                                        **TO:**

Course Number __**MATH 113 – 3**_____ Course Number _____ Credit

Hour_____ Credit Hour _____

TITLE

(1) Long title for calendar and schedule, no more than 100 characters including spaces and punctuation.

| **Euclidean Geometry** | |
|---|---|

(2) Short title for enrollment and transcript, no more than 30 characters including spaces and punctuation.

| | |
|---|---|

## DESCRIPTION

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|---|---|

## PREREQUISITE

| BC principles of mathematics 11 (or equivalent) with a grade of at least B- or SFU FAN X99 with a grade of at least C, or achieving a satisfactory grade on the Simon Fraser University Quantitative Placement Test. Intended to be accessible to students who are not specializing in mathematics. Particularly recommended for students considering a career in teaching secondary or middle school mathematics. Quantitative. | Pre-Calculus 11 (or equivalent) with a grade of at least B, or Foundations of Mathematics 11 (or equivalent) with a grade of at least B, or SFU FAN X99 course with a grade of at least C, or achieving a satisfactory grade on the Simon Fraser University Quantitative Placement Test. Intended to be accessible to students who are not specializing in mathematics. Particularly recommended for students considering a career in teaching secondary or middle school mathematics. Quantitative. |
|---|---|

## RATIONALE

To reflect changes approved by SCUS meeting on October 14, 2010: (memorandum SCUS 10-50). Minimum grade B- is changed to B as we found B- insufficient.

Does this course replicate the content of a previously approved course to such an extent that students should not receive credit for both courses?
If so, this should be **noted in the prerequisite**.

FALL 2012

Effective term and year ___1124 – Summer 2012_____

1

**SFU**

## EXISTING COURSE, CHANGES RECOMMENDED

Please check appropriate revision(s)

☐ Course number ☐ Credit ☐ Title ☐ Description ☐ Prerequisite ☐ Deletion ☐

Indicate number of hours for: Lecture _____ Seminar _____ Tutorial _____ Lab _____

**FROM :**                                       **TO:**

Course Number __**MATH 130-3**_____ Course Number _____ Credit

Hour_____ Credit Hour _____

TITLE

(1) Long title for calendar and schedule, no more than 100 characters including spaces and punctuation.

| | |
|---|---|
| Geometry for Computer Graphics | |

(2) Short title for enrollment and transcript, no more than 30 characters including spaces and punctuation.

| | |
|---|---|
| | |

DESCRIPTION

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PREREQUISITE

| | |
|---|---|
| Principles of Mathematics 12 or Applications of Mathematics 12, both with a grade of at least B, or MATH 100 with a grade of at least C and SFU FAN credit. Quantitative. | Pre-Calculus 12 or Foundations of Mathematics 12 (or equivalent) with a grade of at least B, or MATH 100 with a grade of at least C. Quantitative. |

RATIONALE

| |
|---|
| To reflect changes approved by SCUS meeting on October 14, 2010: (memorandum SCUS 10-50). |

Does this course replicate the content of a previously approved course to such an extent that students should not receive credit for both courses?
If so, this should be **noted in the prerequisite**.

Effective term and year ____1124 – ~~Summer~~ 2012  FALL 2012____

1

## EXISTING COURSE, CHANGES RECOMMENDED

Please check appropriate revision(s)

☐ Course number  ☐ Credit  ☐ Title  ☐ Description  ☐ Prerequisite  Deletion ☐

Indicate number of hours for: Lecture_____ Seminar _____ Tutorial _____ Lab _____

**FROM :**                                                          **TO:**

Course Number __**MATH 150-4**_____ Course Number _____ Credit

Hour_____ Credit Hour _____

TITLE

(1) Long title for calendar and schedule, no more than 100 characters including spaces and punctuation.

| Calculus I with Review | |
|---|---|

(2) Short title for enrollment and transcript, no more than 30 characters including spaces and punctuation.

| | |
|---|---|

## DESCRIPTION

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|---|---|

## PREREQUISITE

BC principles of mathematics 12 (or equivalent) with a grade of at least B+ (75%); or MATH 100 with a grade of at least B-, or achieving a satisfactory grade on the Simon Fraser University Calculus Readiness Test. Students with credit for either MATH 151, 154 or 157 may not take MATH 150 for further credit. Quantitative.

Pre-Calculus 12 (or equivalent) with a grade of at least B+, or MATH 100 with a grade of at least B-, or achieving a satisfactory grade on the Simon Fraser University Calculus Readiness Test. Students with credit for either MATH 151, 154 or 157 may not take MATH 150 for further credit. Quantitative.

## RATIONALE

To reflect changes approved by SCUS meeting on October 14, 2010: (memorandum SCUS 10-50).

Does this course replicate the content of a previously approved course to such an extent that students should not receive credit for both courses?
If so, this should be **noted in the prerequisite**.

Effective term and year ___1124 – ~~Summer 2012~~  FALL 2012_____

**SFU**

## EXISTING COURSE, CHANGES RECOMMENDED

Please check appropriate revision(s)

☐Course number ☐ Credit ☐Title ☐Description ☐Prerequisite  Deletion ☐

Indicate number of hours for: Lecture_____ Seminar _____ Tutorial _____ Lab _____

**FROM :**                   **TO:**

Course Number __**MATH 151-3**_____ Course Number _____ Credit

Hour_____ Credit Hour _____

TITLE

(1) Long title for calendar and schedule, no more than 100 characters including spaces and punctuation.

| Calculus I | |
|---|---|

(2) Short title for enrollment and transcript, no more than 30 characters including spaces and punctuation.

| | |
|---|---|

## DESCRIPTION

| | |
|---|---|

## PREREQUISITE

| BC principles of mathematics 12 (or equivalent) with a grade of at least A, or MATH 100 with a grade of at least B, or achieving a satisfactory grade on the Simon Fraser University Calculus Readiness Test. Students with credit for either MATH 150, 154 or 157 may not take MATH 151 for further credit. Quantitative. | Pre-Calculus 12 (or equivalent) with a grade of at least A, or MATH 100 with a grade of at least B, or achieving a satisfactory grade on the Simon Fraser University Calculus Readiness Test. Students with credit for either MATH 150, 154 or 157 may not take MATH 151 for further credit. Quantitative. |
|---|---|

## RATIONALE

To reflect changes approved by SCUS meeting on October 14, 2010: (memorandum SCUS 10-50).

Does this course replicate the content of a previously approved course to such an extent that students should not receive credit for both courses?
If so, this should be **noted in the prerequisite**.

Effective term and year ___1124 – Summer 2012___ FALL 2012

1

# EXISTING COURSE, CHANGES RECOMMENDED

Please check appropriate revision(s)

☐ Course number  ☐ Credit  ☐ Title  ☐ Description  ☐ Prerequisite  Deletion ☐

Indicate number of hours for: Lecture_____ Seminar _____ Tutorial _____ Lab _____

**FROM :**                                                          **TO:**

Course Number __**MATH 154-3**_____ Course Number _____ Credit

Hour_____ Credit Hour _____

TITLE

(1) Long title for calendar and schedule, no more than 100 characters including spaces and punctuation.

| Calculus I for Biological Sciences | |
|---|---|

(2) Short title for enrollment and transcript, no more than 30 characters including spaces and punctuation.

| | |
|---|---|

## DESCRIPTION

| | |
|---|---|

## PREREQUISITE

| BC principles of mathematics 12 (or equivalent) with a grade of at least B; or MATH 100 with a grade of at least C, or achieving a satisfactory grade on the Simon Fraser University Calculus Readiness Test. Students with credit for either MATH 150, 151 or 157 may not take MATH 154 for further credit. Quantitative | Pre-Calculus 12 (or equivalent) with a grade of at least B, or MATH 100 with a grade of at least C, or achieving a satisfactory grade on the Simon Fraser University Calculus Readiness Test. Students with credit for either MATH 150, 151 or 157 may not take MATH 154 for further credit. Quantitative. |
|---|---|

## RATIONALE

| To reflect changes approved by SCUS meeting on October 14, 2010: (memorandum SCUS 10-50). |
|---|

Does this course replicate the content of a previously approved course to such an extent that students should not receive credit for both courses?
If so, this should be **noted in the prerequisite**.

Effective term and year ___1124 – Summer 2012___ ~~FALL 2012~~

1

## EXISTING COURSE, CHANGES RECOMMENDED

Please check appropriate revision(s)

☐Course number ☐ Credit ☐Title ☐Description ☐Prerequisite    Deletion ☐

Indicate number of hours for: Lecture_____ Seminar _____ Tutorial _____ Lab _____

**FROM :**                                                      **TO:**

Course Number __**MATH 157-3**_____ Course Number _____ Credit

Hour_____ Credit Hour _____

TITLE

(1) Long title for calendar and schedule, no more than 100 characters including spaces and punctuation.

| Calculus for the Social Sciences I | |
|---|---|

(2) Short title for enrollment and transcript, no more than 30 characters including spaces and punctuation.

| | |
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DESCRIPTION

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PREREQUISITE

| BC principles of mathematics 12 (or equivalent) with a grade of at least B; or MATH 100 with a grade of at least C, or achieving a satisfactory grade on the Simon Fraser University Calculus Readiness Test. Students with credit for either MATH 150, 151 or 154 may not take MATH 157 for further credit. Quantitative. | Pre-Calculus 12 (or equivalent) with a grade of at least B, or MATH 100 with a grade of at least C, or achieving a satisfactory grade on the Simon Fraser University Calculus Readiness Test. Students with credit for either MATH 150, 151 or 154 may not take MATH 157 for further credit. Quantitative. |
|---|---|

RATIONALE

| To reflect changes approved by SCUS meeting on October 14, 2010: (memorandum SCUS 10-50). |
|---|

Does this course replicate the content of a previously approved course to such an extent that students should not receive credit for both courses?
If so, this should be **noted in the prerequisite**.

Effective term and year ___1124 – Summer 2012___ FALL 2012

1

## EXISTING COURSE, CHANGES RECOMMENDED

Please check appropriate revision(s)

☐ Course number  ☐ Credit  ☐ Title  ☐ Description  ☐ Prerequisite  Deletion  ☐

Indicate number of hours for: Lecture_____ Seminar _____ Tutorial _____ Lab _____

**FROM :**                                                      **TO:**

Course Number __**MATH 160W-3**_____ Course Number _____ Credit

Hour_____ Credit Hour _____

TITLE

(1) Long title for calendar and schedule, no more than 100 characters including spaces and punctuation.

| Mathematics in Action |  |
|---|---|

(2) Short title for enrollment and transcript, no more than 30 characters including spaces and punctuation.

|  |  |
|---|---|

## DESCRIPTION

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|---|---|

## PREREQUISITE

| Either <u>BC principles of mathematics 12 (or equivalent) or <u>BC applications of mathematics 12,</u> or MATH 100 with a grade of at least C-. Writing/Quantitative/Breadth-Science. | <u>Pre-Calculus 12 or Foundations of Mathematics 12 (or equivalent) with a grade of at least B,</u> or MATH 100 with a grade of at least C- and SFU FAN credit. Writing/Quantitative/Breadth-Science. |
|---|---|

## RATIONALE

To reflect changes approved by SCUS meeting on October 14, 2010: (memorandum SCUS 10-50). There was no minimum grade prerequisite requirement in BC Principles 12; we raised this to B, which follows minimum grade prerequisite in our other courses of similar nature.

Does this course replicate the content of a previously approved course to such an extent that students should not receive credit for both courses?
If so, this should be **noted in the prerequisite**.

Effective term and year ___1124 – ~~Summer 2012~~ FALL 2012___

1

**SFU**

# EXISTING COURSE, CHANGES RECOMMENDED

Please check appropriate revision(s)

☐ Course number  ☐ Credit  ☐ Title  ☐ Description  ☐ Prerequisite  Deletion  ☐

Indicate number of hours for: Lecture_____ Seminar _____ Tutorial _____ Lab _____

**FROM :**                                                      **TO:**

Course Number __**MATH 178W-3**_____ Course Number _____ Credit

Hour_____ Credit Hour _____

TITLE

(1) Long title for calendar and schedule, no more than 100 characters including spaces and punctuation.

| Fractals and Chaos | |
|---|---|

(2) Short title for enrollment and transcript, no more than 30 characters including spaces and punctuation.

| | |
|---|---|

DESCRIPTION

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|---|---|

PREREQUISITE

| BC principles of mathematics 12 (or equivalent), or MATH 100 with a grade of at least C-. Writing/Quantitative/Breadth-Science. | Pre-Calculus 12 or Foundations of Mathematics 12 (or equivalent) with a grade of at least B, or MATH 100 with a grade of at least C-. Writing/Quantitative/Breadth-Science. |
|---|---|

RATIONALE

To reflect changes approved by SCUS meeting on October 14, 2010: (memorandum SCUS 10-50). There was no minimum grade requirement in BC Principles 12; we raised this to B, which follows minimum grade prerequisite in our other courses of similar nature.

Does this course replicate the content of a previously approved course to such an extent that students should not receive credit for both courses?
If so, this should be **noted in the prerequisite**.

Effective term and year ___1124 – Summer 2012___ FALL 2012

1

SFU

## EXISTING COURSE, CHANGES RECOMMENDED

Please check appropriate revision(s)

☐ Course number ☐ Credit ☐ Title ☐ Description ☐ Prerequisite     Deletion ☐

Indicate number of hours for: Lecture_____ Seminar _____ Tutorial _____ Lab _____

**FROM :**                                         **TO:**

Course Number __**MATH 190-4**_____ Course Number _____ Credit

Hour_____ Credit Hour _____

TITLE

(1) Long title for calendar and schedule, no more than 100 characters including spaces and punctuation.

| Principles of Mathematics for Teachers | |
|---|---|

(2) Short title for enrollment and transcript, no more than 30 characters including spaces and punctuation.

| | |
|---|---|

DESCRIPTION

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|---|---|

PREREQUISITE

| BC principles of mathematics 11 (or equivalent) with a grade of at least B- or SFU FAN X99 with a grade of at least C, or achieving a satisfactory grade on the Simon Fraser University Quantitative Placement Test. This course may not be counted toward the Mathematics minor, major or honors degree requirements. Students who have taken, have received transfer credit for, or are currently taking MATH 150, 151, 154 or 157 may not take MATH 190 for credit without permission from the Department of Mathematics. Intended to be particularly accessible to students who are not specializing in mathematics. Quantitative. | Pre-Calculus 11 or Foundations of Mathematics 11 (or equivalent) with a grade of at least B, or SFU FAN X99 course with a grade of at least C, or achieving a satisfactory grade on the Simon Fraser University Quantitative Placement Test. This course may not be counted toward the Mathematics minor, major or honors degree requirements. Students who have taken, have received transfer credit for, or are currently taking MATH 150, 151, 154 or 157 may not take MATH 190 for credit without permission from the Department of Mathematics. Intended to be particularly accessible to students who are not specializing in mathematics. Quantitative. |
|---|---|

RATIONALE

To reflect changes approved by SCUS meeting on October 14, 2010: (memorandum SCUS 10-50). We raised the minimum grade requirement in Pre-calculus and Foundations to B, which follows minimum grade prerequisite in our other courses of similar nature.

Does this course replicate the content of a previously approved course to such an extent that students should not receive credit for both courses?
If so, this should be **noted in the prerequisite**.

Effective term and year ___1124 – Summer 2012___ FALL 2012

## EXISTING COURSE, CHANGES RECOMMENDED

Please check appropriate revision(s)

☐ Course number ☐ Credit ☐ Title ☐ Description ☐ Prerequisite      Deletion ☐

Indicate number of hours for: Lecture_____ Seminar _____ Tutorial _____ Lab _____

**FROM :**                                                                **TO:**

Course Number __**MATH 197-3**_____ Course Number _____ Credit

Hour_____ Credit Hour _____

TITLE

(1) Long title for calendar and schedule, no more than 100 characters including spaces and punctuation.

| Hitchhiker's Guide to Everyday Math | |
|---|---|

(2) Short title for enrollment and transcript, no more than 30 characters including spaces and punctuation.

| | |
|---|---|

DESCRIPTION

| | |
|---|---|

PREREQUISITE

<u>BC principles of mathematics 11 or equivalent.</u>
Students who have taken, have received transfer credit for, or are currently taking MATH 150, 151, 154 or 157 may not take MATH 197 for credit without permission from the Department of Mathematics. This course may not be counted toward the Mathematics minor, major or honors degree requirements. Quantitative.

<u>Pre-Calculus 11 or Foundations of Mathematics 11 (or equivalent) with a grade of at least B, or SFU FAN X99 course with a grade of at least C, or achieving a satisfactory grade on the Simon Fraser University Quantitative Placement Test.</u> Students who have taken, have received transfer credit for, or are currently taking MATH 150, 151, 154 or 157 may not take MATH 197 for credit without permission from the Department of Mathematics. This course may not be counted toward the Mathematics minor, major or honors degree requirements. Quantitative.

RATIONALE

To reflect changes approved by SCUS meeting on October 14, 2010: (memorandum SCUS 10-50). There was no minimum grade requirement in BC Principles 11; we raised this to B, which follows minimum grade prerequisite in our other courses of similar nature.

Does this course replicate the content of a previously approved course to such an extent that students should not receive credit for both courses?
If so, this should be **noted in the prerequisite**.

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Effective term and year _____1124 – Summer 2012_____ FALL 2012

**SFU**

## EXISTING COURSE, CHANGES RECOMMENDED

Please check appropriate revision(s)

☐Course number ☐ Credit ☐Title ☐Description ☐Prerequisite   Deletion ☐

Indicate number of hours for: Lecture_____ Seminar _____ Tutorial _____ Lab _____

**FROM :**                                                          **TO:**

Course Number __**MATH 198-3**_____ Course Number _____ Credit

Hour_____ Credit Hour _____

TITLE

(1) Long title for calendar and schedule, no more than 100 characters including spaces and punctuation.

| Introduction to Quantitative Reasoning | |
|---|---|

(2) Short title for enrollment and transcript, no more than 30 characters including spaces and punctuation.

| | |
|---|---|

DESCRIPTION

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|---|---|

PREREQUISITE

| BC Principles of Mathematics 11 (or equivalent) with a grade of at least B, or Simon Fraser University FAN X99 course with a grade of at least C. This course is only open for credit to students in the Integrated Studies programs within the Bachelor of General Studies degree. Quantitative. | Pre-Calculus 11 or Foundations of Mathematics 11 (or equivalent) with a grade of at least B, or Simon Fraser University FAN X99 course with a grade of at least C, or achieving a satisfactory grade on the Simon Fraser University Quantitative Placement Test. Quantitative. |
|---|---|

RATIONALE

| To reflect changes approved by SCUS meeting on October 14, 2010: (memorandum SCUS 10-50). |
|---|

Does this course replicate the content of a previously approved course to such an extent that students should not receive credit for both courses?
If so, this should be **noted in the prerequisite.**

1124 – Summer 2012   FALL 2012

1

**Effective term and year** _____

**SFU**

# EXISTING COURSE, CHANGES RECOMMENDED

Please check appropriate revision(s)

☐Course number ☐ Credit ☐Title ☐Description ☐Prerequisite    Deletion ☐

Indicate number of hours for: Lecture_____ Seminar _____ Tutorial _____ Lab _____

**FROM :**                                                      **TO:**

Course Number __**MATH 158-3**_____ Course Number _____**MATH 158-3**____ Credit

Hour_____ Credit Hour _____

TITLE

(1) Long title for calendar and schedule, no more than 100 characters including spaces and punctuation.

| Calculus for the social sciences II | **Calculus II for the Social Sciences** |

(2) Short title for enrollment and transcript, no more than 30 characters including spaces and punctuation.

| | |

DESCRIPTION

| | |

PREREQUISITE

| | |

RATIONALE

| This will follow our name-system in other calculus courses. |

Does this course replicate the content of a previously approved course to such an extent that students should not receive credit for both courses?
If so, this should be **noted in the prerequisite**.

Effective term and year ___1124 – Summer 2012~~  ~~ FALL 2012___

1

**SFU**

**TO:** Bill Krane, Chair, SCUS  **FROM:** G. Agnes, Associate Dean
Faculty of Science

**RE:** Faculty of Science Curriculum  **DATE:** January 23, 2012
Items

The Faculty of Science has approved the following, which must now be considered by SCUS.

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

1. **Mathematics**
Change description and prerequisite for Math 380W
Change prerequisite for Math 254
New special topic courses - Math 396, 397

5. **Physics**
Change prerequisites for PHYS 421
Change UD requirements for a Physics Honours degree

G. Agnes

Enclosure

c. J. Hinchliffe, C. Cupples

MEMO

**Department of Mathematics**

**LADISLAV STACHO**
Chair, Undergraduate Studies
Committee

MAILING ADDRESS
Simon Fraser University
8888 University Drive
Burnaby BC V5A 1S6
Canada

CONTACT INFO
Voice: 778.782.4816
Fax:    778.782.4947
Email: lstacho@math.sfu.ca

ATTENTION  Dr. George Agnes
**Faculty of Science Undergraduate CurriculumCommittee**

**FROM    Ladislav Stacho, Chair, Undergraduate Studies Committee**

**Copy    Manfred Trummer, Chair, Department of Mathematics**

**RE  Calendar Changes**

**DATE  12 January 2012**

Please find enclosed the following documents relating to undergraduate curriculum changes approved by Department of Mathematics to be considered at the next Faculty of Science Undergraduate Curriculum Committee meeting.  The items noted below were approved at the Department of Mathematics faculty meeting November 22, 2011.

This will recommend a motion that Faculty of Science Undergraduate Curriculum Committee recommend the following course changes to SCUS.

**Course Changes**
**Prerequisite and Description Change:  Math 380W** History of Mathematics
To update course description to reflect current syllabus.  Prerequisite change to reflect required level of preparedness and our expectations of students' knowledge.

**Prerequisite Change: Math 254** Vector and Complex Analysis for Applied Sciences
To keep the prerequisite consistent with Math 252.  New ordering of material in both Math 254 and 232/240 provide that the classes can be taken simultaneously.

**New Courses: Math 396-3 and Math 397-3** Selected Topics in Mathematics
Development of two new courses Math 396 and Math 397 will allow students to retake selected topic courses under different numbers and allow offering multiple selected topic courses in one semester.  Sample course outlines are included.

Please contact myself or Ms. Dale Yamaura, Manager, Academic and Administrative Services (v: 2-3799; e: math_manager@sfu.ca) as required.

SENATE COMMITTEE ON

UNDERGRADUATE STUDIES

SFU

## EXISTING COURSE, CHANGES RECOMMENDED

Please check appropriate revision(s)

☐ Course number  ☐ Credit  ☐ Title  X Description  ☒ Prerequisite          ☐ Deletion

Indicate number of hours for: Lecture_____ Seminar _____ Tutorial _____ Lab _____

**FROM :**                                      **TO:**

Course Number __MATH 380W_____ Course Number _____

Credit Hour_3_____ Credit Hour _____

TITLE

(1) Long title for calendar and schedule, no more than 100 characters including spaces and punctuation.

| History of Mathematics | |
|---|---|

(2) Short title for enrollment and transcript, no more than 30 characters including spaces and punctuation.

| | |
|---|---|

### DESCRIPTION

| An account of the history of mathematics from ancient times through the development of calculus and the origins of modern algebra in the nineteenth century. Emphasis will be on developments which shaped the mathematics studied in high school and the first two years of university. | Topics in the history of mathematics from ancient times to the present. |
|---|---|

### PREREQUISITE

| Prerequisite: MATH 151 (or equivalent) and at least 6 units from MATH at the 200 division or above (includes STAT 270). Intended to be particularly accessible to students who are not specializing in mathematics. Writing/Quantitative. | Prerequisite: Math 152, Math 155 or Math 158 and at least 6 units from Math at the 200 division or above (includes STAT 270). Writing/Quantitative. |
|---|---|

### RATIONALE

To update course description to reflect current syllabus.  Prerequisite change to reflect level of preparedness required and our expectations of students' knowledge.

Does this course replicate the content of a previously approved course to such an extent that students should not receive credit for both courses?

If so, this should be **noted in the prerequisite**.

Effective term and year __1127 - Fall 2012_____

# EXISTING COURSE, CHANGES RECOMMENDED

Please check appropriate revision(s)

☐ Course number  ☐ Credit  ☐ Title  ☐ Description  ☒ Prerequisite  ☐ Deletion

Indicate number of hours for: Lecture_____ Seminar _____ Tutorial _____ Lab _____

**FROM :**                                          **TO:**

Course Number __MATH 254_____ Course Number _____

Credit Hour__3_____ Credit Hour _____

TITLE

(1) Long title for calendar and schedule, no more than 100 characters including spaces and punctuation.

| Vector and Complex Analysis for Applied Sciences | |

(2) Short title for enrollment and transcript, no more than 30 characters including spaces and punctuation.

|  |  |

## DESCRIPTION

|  |  |

## PREREQUISITE

| Prerequisite: MATH 240 or 232, and MATH 251. Students with credit for MATH 322 or MATH 252 may not take this course for further credit. Quantitative. | Prerequisite: Math 240 or 232; and 251. **MATH 240 or 232 may be taken concurrently.** Students with credit for Math 322 or MATH 252 may not take this course for further credit. Quantitative. |

## RATIONALE

New ordering of material in both 254 and 232/240 provide that the classes can be taken simultaneously. To keep the prerequisite consistent with Math 252.

Does this course replicate the content of a previously approved course to such an extent that students should not receive credit for both courses?

If so, this should be **noted in the prerequisite**.

Effective term and year __1127 - Fall 2012_____

**SFU**

## COURSE SUBJECT/NUMBER

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

Math 396 Selected Topics in Mathematics

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

Selected Topics in Mathematics

### COURSE DESCRIPTION (FOR CALENDAR). 50-60 WORDS MAXIMUM. ATTACH A COURSE OUTLINE TO THIS PROPOSAL.

Topics in areas of mathematics not covered in the regular undergraduate curriculum of the department.  Prerequisites will be specified according to the particular topic or topics covered.

### LIBRARY RESOURCES
NOTE: Senate has approved (S.93-11) that no new course should be approved by Senate until funding has been committed for necessary library materials. Each new course proposal must be accompanied by a library report and, if appropriate, confirmation that funding arrangements have been addressed.

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

Library report status

### RATIONALE FOR INTRODUCTION OF THIS COURSE
Provide details on how existing instructional resources will be redistributed to accommodate this new course. For example, will another course be eliminated or will the frequency of offering of other courses be reduced; are there changes in pedagogical style or class sizes that allow for this additional course offering?

Development of new course Math 396 will allow students to retake selected topic courses under a different course number, and allow offering multiple selected topic courses in one semester.

### SCHEDULING AND ENROLLMENT INFORMATION
Indicate effective **term and year** course would first be offered and planned **frequency** of offering thereafter:

Effective Fall 2012.  It is anticipated the course will be offered Spring 2013 and every spring thereafter.  ⊞

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

What is the probable enrollment when offered?  Estimate: 25 - 30

### CREDITS
Indicate number of credits for: Lecture 3    Seminar        Tutorial        Lab

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

Any of our faculty depending on their specialty areas.

**WQB DESIGNATION**
(attach approval from Curriculum Office)

**PREREQUISITE**
Does this course replicate the content of a previously-approved course to such an extent that students should not receive credit for both courses.? If so, this should be **noted in the prerequisiite**.

Prerequisites will be specified according to the particular topic or topics covered.

**COREQUISITE**

Corequisites will be specified according to the particular topic or topics covered.

**STUDENT LEARNING OUTCOMES**
Upon satisfactory completion of the course students will be able to:

Students will receive an introduction to mathematical problems and research literature in a specific area of mathematics.  Students will develop the ability to apply mathematical knowledge to discuss, examine, synthesize findings in the subject area.

**FEES**
Are there any proposed student fees associated with this course other than tuition fees?  ☐ YES  ☒ NO
(If yes, attach mandatory supplementary fee approval form.)

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

n/a

Articulation agreement reviewed?  ☐ YES  ☐ NO  ☒ Not applicable

**OTHER IMPLICATIONS**
n/a

Exam required:  ☒ YES  ☐ NO
Criminal Record Check required:  ☐ YES  ☐ NO

**APPROVALS**

1 Departmental approval indicates that the Department or School has approved the content of the course, and has consulted with other Departments/Schools/Faculties regarding proposed course content and overlap issues.

_____     JAN 1 2 2012

Chair, Department/School                      Date

_____     Jan. 23/2012

Chair, Faculty Curriculum Committee            Date

2 Faculty approval indicates that all the necessary course content and overlap concerns have been resolved, and that the Faculty/School/Department commits to providing the required Library funds.

_____     Jan. 23/2012

Dean or designate                           Date

LIST which other Departments, Schools and Faculties have been consulted regarding the proposed course content, including overlap issues. Attach documentary evidence of responses.

Other Faculties approval indicated that the Dean(s) or Designate of other Faculties AFFECTED by the proposed new course support(s) the approval of the new course:

_____     Date _____

_____     Date _____

3 SCUS approval indicates that the course has been approved for implementation subject, where appropriate, to financial issues being addressed.

COURSE APPROVED BY SCUS (Chair of SCUS):

_____     Date _____

**APPROVAL IS SIGNIFIED BY DATE AND APPROPRIATE SIGNATURE.**

**SFU**

## COURSE SUBJECT/NUMBER

**COURSE TITLE**

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

Math 397 Selected Topics in Mathematics

**AND**

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

Selected Topics in Mathematics

**COURSE DESCRIPTION (FOR CALENDAR). 50-60 WORDS MAXIMUM. ATTACH A COURSE OUTLINE TO THIS PROPOSAL.**

Topics in areas of mathematics not covered in the regular undergraduate curriculum of the department. Prerequisites will be specified according to the particular topic or topics covered.

**LIBRARY RESOURCES**

NOTE: Senate has approved (S.93-11) that no new course should be approved by Senate until funding has been committed for necessary library materials. Each new course proposal must be accompanied by a library report and, if appropriate, confirmation that funding arrangements have been addressed.

Campus where course will be taught: ■ Burnaby   ■ Surrey   ☐ Vancouver   ☐ Great Northern Way   ☐ Off campus

Library report status

**RATIONALE FOR INTRODUCTION OF THIS COURSE**

Provide details on how existing instructional resources will be redistributed to accommodate this new course. For example, will another course be eliminated or will the frequency of offering of other courses be reduced; are there changes in pedagogical style or class sizes that allow for this additional course offering?

Development of new course Math 397 will allow students to retake selected topic courses under a different course number, and allow offering multiple selected topic courses in one semester.

**SCHEDULING AND ENROLLMENT INFORMATION**

Indicate effective **term and year** course would first be offered and planned **frequency** of offering thereafter:

Effective Fall 2012. It is anticipated the course will be offered Spring 2013 and every spring thereafter.   ■

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

What is the probable enrollment when offered?   Estimate: 25 - 30

**CREDITS**

Indicate number of credits for: Lecture 3      Seminar      Tutorial      Lab

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

Any of our faculty depending on their specialty areas.

**WQB DESIGNATION**
(attach approval from Curriculum Office)

**PREREQUISITE**
Does this course replicate the content of a previously-approved course to such an extent that students should not receive credit for both courses.? If so, this should be **noted in the prerequisiite.**

Prerequisites will be specified according to the particular topic or topics covered.

**COREQUISITE**

Corequisites will be specified according to the particular topic or topics covered.

**STUDENT LEARNING OUTCOMES**
Upon satisfactory completion of the course students will be able to:

Students will receive an introduction to mathematical problems and research literature in a specific area of mathematics. Students will develop the ability to apply mathematical knowledge to discuss, examine, synthesize findings in the subject area.

**FEES**
Are there any proposed student fees associated with this course other than tuition fees?   ☐ YES   ☑ NO
(If yes, attach mandatory supplementary fee approval form.)

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

n/a

Articulation agreement reviewed?   ☐ YES   ☐ NO   ☑ Not applicable

**OTHER IMPLICATIONS**
n/a

Exam required:   ☑ YES   ☐ NO
Criminal Record Check required:   ☐ YES   ☐ NO

**APPROVALS**

1   Departmental approval indicates that the Department or School has approved the content of the course, and has consulted with other Departments/Schools/Faculties regarding proposed course content and overlap issues.

JAN 12 2012

_____
Chair, Department/School                                        Date

_____
Chair, Faculty Curriculum Committee                   Jan. 23/2012
                                                                              Date

2   Faculty approval indicates that all the necessary course content and overlap concerns have been resolved, and that the Faculty/School/Department commits to providing the required Library funds.

_____
Dean or designate                                                 Jan. 23/2012
                                                                              Date

LIST which other Departments, Schools and Faculties have been consulted regarding the proposed course content, including overlap issues. Attach documentary evidence of responses.

Other Faculties approval indicated that the Dean(s) or Designate of other Faculties AFFECTED by the proposed new course support(s) the approval of the new course:

_____   Date _____

_____   Date _____

3   SCUS approval indicates that the course has been approved for implementation subject, where appropriate, to financial issues being addressed.

COURSE APPROVED BY SCUS (Chair of SCUS):

_____   Date _____

**APPROVAL IS SIGNIFIED BY DATE AND APPROPRIATE SIGNATURE.**

NOVEMBER 2011

Date: Wed, 25 Jan 2012 10:27:41 -0800 (PST)
From: Dale Yamaura <math_manager@sfu.ca>
Reply-To: Dale Yamaura <math_manager@sfu.ca>
To: Rosemary Hotell <hotell@sfu.ca>
Subject: Fwd: Math 396 and 397 - new course proposals - library course
  assessment
X-Originating-IP: [142.58.10.161]


Hi Rosemary
Will you arrange to forward for SCUS purposes?
Thanks
Dale
----- Forwarded Message -----
From: "Ivana Niseteo" <iniseteo@sfu.ca>
To: "math manager" <math_manager@sfu.ca>
Cc: "Todd Mundle" <tmundle@sfu.ca>
Sent: Wednesday, 25 January, 2012 10:00:06 AM
Subject: Re: Math 396 and 397 - new course proposals


Dear Dale,

I have reviewed the proposals for MATH 396 & MATH 397 Selected Topics in
Mathematics , for which you requested library reports. Since they are
both special-topic courses, I have determined that at this point no
additional library resources are required to support them. They are now
added to the Library Course Assessments page
http://www.lib.sfu.ca/collections/course-assessments as a proof of
library sign-off.

Cheers,
Ivana


~~~~~~~~~~~~~~~~~~~~~~~~
Ivana Niseteo, MA, MLIS
Collections Librarian
Liaison Librarian for Linguistics, French, Humanities, French Cohort in
Arts
Bennett Library, Simon Fraser University
Tel: 778.782.6838 | Fax: 778.782.6926 | iniseteo@sfu.ca



----- Forwarded Message -----
From: "Dale Yamaura" <math_manager@sfu.ca>
To: iniseteo@sfu.ca
Cc: "Ladislav Stacho" <lstacho@me.com>, "Wendy Addison" <mathusec@sfu.ca>
Sent: Wednesday, January 18, 2012 1:54:57 PM
Subject: Math 396 and 397 - new course proposals

Dear Ivana

Please find attached new course proposals for Math 396 and 397 Selected
Topics in Mathematics.
Also attached are sample course outlines.

These new course proposals were reviewed and approved at the Faculty of
Science Undergraduate Curriculum Committee meeting, Monday, January 16.
Please advise if further information is needed. My consultation with Todd
Mundle advises that these documents should be sufficient.
Thanks very much for your assistance.

Best regards
Dale

Ms. Dale Yamaura, Manager
Academic and Administrative Services
Department of Mathematics
Shrum Science K10511
Simon Fraser University
8888 University Drive
Burnaby, BC V5A 1S6

voice: 778.782.3799
fax: 778.782.4947

www.math.sfu.ca

| | |
|---|---|
| Course Title: | Selected Topics in Mathematics Elementary Diffential Geometry |
| Term: | 2012 Spring |
| Instructor: | Razvan Fetecau |

Description Topics:    Calendar Description:

Study of the geometry of curves and surfaces in three-dimensional space using calculus techniques. Curves: arc-length parametrization, curvature, torsion, Frenet formulas. Surfaces: tangent plane, first and second fundamental forms, area, orientation, curvature, Gauss map. Isometries, conformal maps, geodesics, Gauss & Theorema Egregium. Additional topics may include parallel transport, compatibility equations, Gauss-Bonet theorem.

Course Outline:

1. Parametrized curves: curvature and torsion, Frenet formulas
2. Surfaces in 3 dimensions: tangents, normals, orientability
3. The first fundamental form, isometries, conformal maps, surface area
4. The second fundamental form, normal and principal curvatures, Gaussian and mean curvatures
5. Geodesics, parallel transport, covariant derivative
6. Gauss & Theorema Egregium
7. Gauss-Bonet Theorem

Grading:    Evaluation, Assignments: 20%,
Midterm: 25%,
Final: 55%

RequiredTexts:    Elementary Differential Geometry
Edition: 2/E
Author: Andrew Pressley
Publisher: Springer
ISBN: 9781848828902

Recommended Texts:    Differential Geometry of Curves and Surfaces
1st Edition
Author: Manfredo Do Carmo
Publisher: Prentice Hall
ISBN: 132125897

Materials/Supplies:
Prerequisite/Corequisite: Prerequisite:

Math 240 (or 232), Math 251. Quantitative.

Course Title:             Selected Topics in Mathematics Numerical Computing: Discrete Tools for a Continuous World

Term:                  2012 Spring

Instructor:            David Muraki

Description Topics:      Calendar Description:

Topics in areas of mathematics not covered in the regular undergraduate curriculum of the department.

Course Outline:

Many computing algorithms as used in science and technology are based upon the fundamental mathematics of the calculus and linear algebra. Modern computing environments include many of these tools as part of their built-in library of routines. Of essential importance to users are the benchmarking of implementations, selection among multiple variants, and the identification of limitations or failure modes. The latter can be particularly relevant when these routines are called within larger complex codes, or when the limits of extreme system size are encroached upon.

The aim of this course is to give an overview of the common mathematical algorithms used in scientic computing, with particular emphasis on connecting their analytical properties with implementational performance. Numerical routines will be explored and analyzed to their Olympian limits of aster, larger, more accurate." More mundane questions like, What are the notes in the opening chord of the Beatles' song, A Hard Day's Night ?", will also be pondered.

Students are expected to be comfortable with the pre-requisite mathematics, the Calculus of Functions and Linear Algebra; in addition to having advanced programming experience (coding & debugging). The course assignments will be a blending of computation and theory, which serve to illustrate the ideas presented in lecture, and allow prior experimentation with the numerical routines. Matlab will be the default computing environment for the class.

Grading:                TBA

RequiredTexts:       Numerical Methods with Matlab - Implementation and Application
                      Author: Gerald Becktenwald
                      Publisher: Pearson
                      Year: 2011
                      ISBN: 9780201308600

Recommended Texts:

Materials/Supplies:

Prerequisite/Corequisite: Calendar course prerequisites: Calc II 152/155/158 and Linear Algebra 232/240. Programming experience (coding & debugging) essential, Matlab will be the course computing environment.

SCUS 12-10b

## SFU

SENATE COMMITTEE ON
UNDERGRADUATE STUDIES

COURSE CHANGE/DELETION

### EXISTING COURSE, CHANGES RECOMMENDED

Please check appropriate revision(s):

☐ Course number   ☐ Credit   ☐ Title   ☐ Description   ☑ Prerequisite   ☐ Course deletion

Indicate number of hours for: Lecture __3__   Seminar_____   Tutorial _____   Lab _____

**FROM**                                              **TO**

Course Number ___PHYS421___              Course Number ___PHYS421___

Credits (Units) ___3___                          Credits (Units) ___3___

TITLE

(1) Long title for calendar and schedule, no more than 100 characters including spaces and punctuation.

FROM:Prerequisite: PHYS 321 or (PHYS 221 and either MATH 252 or 254); PHYS 255 or ENSC 380. Students with credit for PHYS 324 or 425 may not take PHYS 421 for further credit.

TO: Prerequisite: PHYS 321; PHYS 255 or ENSC 380. Students with credit for PHYS 324 or 425 may not take PHYS 421 for further credit.

(2) Short title for enrollment and transcript, no more than 30 characters including spaces and punctuation.

FROM:                                              TO:

DESCRIPTION
FROM:                                              DESCRIPTION
                                                   TO:

PREREQUISITE
FROM:                                              PREREQUISITE
                                                   TO:

### RATIONALE

PHYS221 will no longer be accepted as a prerequisite for PHYS421. This path to PHYS421 existed only as an historical artifact. PHYS221 is the terminal EM course for systems engineers, they do not need to take PHYS421. PHYS421 is a natural continuation of PHYS321 and is the appropriate path for both physics students and engineers (other than systems engineers). The current PHYS221 does not prepare a student well for PHYS421. This change has been discussed with and approved by the engineering UGCC chair.

Does this course replicate the content of a previously approved course to such an extent that students should not receive credit for both courses? If so, this should be **noted in the prerequisite**.

Effective term and year ___Fall 2012___

JANUARY 2008

Department of Physics
8888 University Drive
Burnaby, BC
Canada, V5A 1S6

**Simon Fraser University**

SFU

Phone:(778)782-5623
FAX:(778)782-3592
email: doneil@sfu.ca

January 9, 2012

Re: Changes to the UD requirements for Honours Physics

**From:**
and at least nine units chosen from

- PHYS 390-3 Introduction to Astrophysics
- PHYS 455-3 Modern Optics
- PHYS 465-3 Solid State Physics
- PHYS 485-3 Particle Physics
- PHYS 490-3 General Relativity and Gravitation

and at least three units chosen from

- PHYS 326-4 Electronics and Instrumentation
- PHYS 380-3 Introduction to Subatomic Physics
- PHYS 395-3 Computational Physics
- PHYS 430-4 Digital Electronics and Interfacing
- PHYS 484-3 Nonlinear Physics

**to:**
and at least nine units chosen from

- **PHYS 347-3 Introduction to Biological Physics**
- PHYS 390-3 Introduction to Astrophysics
- PHYS 455-3 Modern Optics
- PHYS 465-3 Solid State Physics
- PHYS 485-3 Particle Physics
- PHYS 490-3 General Relativity and Gravitation

**and three additional upper division credits in physics. PHYS 346 cannot be used to meet this requirement.**

Regards,
Dugan O'Neil (Department of Physics)

SIMON FRASER UNIVERSITY    THINKING OF THE WORLD