S.15-22

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MEMORANDUM

ATTENTION	Senate	**DATE**	January 9, 2015
FROM	Gordon Myers, Chair Senate Committee on Undergraduate Studies	**PAGES**	1/1
RE:	Faculty of Applied Sciences (SCUS 15-01)		

For information:

Acting under delegated authority at its meeting of January 8, 2015 SCUS approved the following curriculum revisions effective Fall 2015.

1. School of Computing Science (SCUS 15-01a)

   (i) Description change to CMPT 125, 135
   (ii) Description and prerequisite change for CMPT 126
   (iii) Title, description and prerequisite change for CMPT 475

2. School of Engineering Science (SCUS 15-01b)

   (i) Course deletion for ENSC 101, 101W, 102, 150, 215, 250, 304
   (ii) Credit change for ENSC 498

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MEMORANDUM

ATTENTION	Senate Committee on Undergraduate Studies	**DATE**	December 18, 2014
FROM	Ed Park, Associate Dean	**PAGES**	
RE:	Curriculum Changes		

The following changes have been approved by the FAS Undergraduate Curriculum Committee and are appended here for approval by SCUS and recommendation to Senate.

1.) School of Computing Science
   a. Course Description Changes
      - CMPT 125
      - CMPT 135

   b. Course Pre-requisite & Description Changes
      - CMPT 126

   c. Course Title, Description, Pre-requisite, Learning Outcomes Changes
      - CMPT 475

2.) School of Engineering Science
   a. Course Deletions:
      - ENSC 101
      - ENSC 101W
      - ENSC 102
      - ENSC 150
      - ENSC 215
      - ENSC 250
      - ENSC 304

   a. Course Credit Change:
      - ENSC 498

Thank you,

Edward Park
Associate Dean

(EP/mt)

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 ☐ Learning Outcomes

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

FROM
Course Subject/Number CMPT 125

TO
Course Subject/Number CMPT 125

Credits _____

Credits _____

TITLE

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

FROM:

TO:

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

FROM:

TO:

DESCRIPTION

FROM:

A rigorous introduction to computing science and computer programming, suitable for students who already have some background in computing science and programming. Intended for students who will major in computing science or a related program. Topics include: fundamental algorithms; elements of empirical and theoretical algorithmics; abstract data types and elementary data structures; basic object-oriented programming and software design; computation and computability; specification and program correctness; and history of computing science. Students with credit for CMPT 126, 128, 135 or CMPT 200 or higher may not take for further credit.

DESCRIPTION

TO:

A rigorous introduction to computing science and computer programming, suitable for students who already have some background in computing science and programming. Intended for students who will major in computing science or a related program. Topics include: fundamental algorithms; elements of empirical and theoretical algorithmics; abstract data types and elementary data structures; basic object-oriented programming and software design; computation and computability; specification and program correctness; and history of computing science. Students with credit for CMPT 126, 135 or CMPT 200 or higher may not take this course for further credit.

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 prerequisite**.

FROM:

PREREQUISITE

TO:

LEARNING OUTCOMES

RATIONALE

The content of CMPT 128 was recently changed such that it no longer covers much of the same material as CMPT 125. In addition, preventing students with CMPT 128 from taking CMPT 125 makes it difficult for Engineering Science students to transfer into Computing Science.

Effective term and year Fall 2015

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 ☐ Learning Outcomes

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

FROM
Course Subject/Number CMPT 135

TO
Course Subject/Number _____

Credits _____

Credits _____

TITLE

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

FROM:

TO:

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

FROM:

TO:

DESCRIPTION

FROM:

A second course in systems-oriented programming and computing science that builds upon the foundation set in CMPT 130 using a systems-oriented language such as C or C++. Topics: a review of the basic elements of programming; introduction to object-oriented programming (OOP); techniques for designing and testing programs; use and implementation of elementary data structures and algorithms; introduction to embedded systems programming. Students with credit for CMPT 125,126, or 128 may not take this course for further credit.

DESCRIPTION

TO:

A second course in systems-oriented programming and computing science that builds upon the foundation set in CMPT 130 using a systems-oriented language such as C or C++. Topics: a review of the basic elements of programming; introduction to object-oriented programming (OOP); techniques for designing and testing programs; use and implementation of elementary data structures and algorithms; introduction to embedded systems programming. Students with credit for CMPT 125 or 126 may not take this course for further credit.

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 prerequisite**.

FROM:

PREREQUISITE

TO:

LEARNING OUTCOMES

RATIONALE

The content of CMPT 128 was recently changed such that it no longer covers much of the same material as CMPT 135. In addition, preventing students with CMPT 128 from taking CMPT 125 makes it difficult for Engineering Science students to transfer into Computing Science.

Effective term and year Fall 2015

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 ☐ Learning Outcomes

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

FROM
Course Subject/Number CMPT 126

TO
Course Subject/Number CMPT 126

Credits _____

Credits_____

TITLE

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

FROM:

TO:

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

FROM:

TO:

DESCRIPTION

FROM:

A rigorous introduction to computing science and computer programming, suitable for students who already have substantial programming background. This course provides a condensed version of the two-course sequence of CMPT 120/125, with the primary focus on computing science and object oriented programming. Topics include: fundamental algorithms and problem solving; abstract data types and elementary data structures; basic object-oriented programming and software design; elements of empirical and theoretical algorithmics; computation and computability; specification and program correctness; and history of computing science. Students with credit for CMPT 120, 125, 128, 130, 135 or higher may not take CMPT 126 for further credit. Prerequisite: BC Math 12 (or equivalent, or any of MATH 100, 150, 151, 154, or 157). Quantitative/Breadth-Science.

DESCRIPTION

TO:

A rigorous introduction to computing science and computer programming, suitable for students who already have substantial programming background. Topics include: fundamental algorithms and problem solving; abstract data types and elementary data structures; basic object-oriented programming and software design; elements of empirical and theoretical algorithmics; computation and computability; specification and program correctness; and history of computing science. Students with credit for CMPT 125, 128, 130, 135 or higher may not take CMPT 126 for further credit. Quantitative/Breadth-Science.

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 prerequisite**.

FROM: Prerequisite: BC Math 12 (or equivalent, or any of MATH 100, 150, 151, 154, or 157).

TO: Prerequisite: CMPT120.

LEARNING OUTCOMES

RATIONALE

Since the introduction of CMPT 127, CMPT 126 is no longer part of the curriculum for CS Major students. However, there is a need for second programming course for non-CS Major students with the same content as CMPT 126. Since this course requires a background in programming it is appropriate to make CMPT 120 a prerequisite, and allow students with CMPT 120 to take CMPT 126 for further credit.

Effective term and year Fall 2015

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 ■ Learning Outcomes

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

FROM
Course Subject/Number CMPT 475

TO
Course Subject/Number _____

Credits _____

Credits_____

TITLE

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

FROM:
Software Engineering II

TO:
Requirements Engineering

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

FROM:
Software Engineering II

TO:
Requirements Engineering

DESCRIPTION

FROM:

Students will study in-depth the techniques, tools and standards needed in the management of software development. Topics will include software process and quality standards, life cycle models, requirements specification issues, project estimation, planning and tracking, project management tools, team dynamics and management, configuration and change management techniques and tools, metrics, quality assurance and test techniques, professional and legal issues.

DESCRIPTION

TO:

Software succeeds when it is well-matched to its intended purpose. Requirements engineering is the process of discovering that purpose by making requirements explicit and documenting them in a form amenable to analysis, reasoning and validation, establishing the key attributes of a system prior to its construction. Students will learn methodical approaches to requirements analysis and design specification in early system development phases, along with best practices and common principles to cope with notoriously changing requirements.

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 prerequisite**.

FROM: Students with credit for CMPT 373 may not take this course for further credit. CMPT 275 or 276 and 15 units of upper division courses. Recommended: co-op experience.

PREREQUISITE

TO: CMPT 275 or 276, MACM 201 and 15 units of upper division courses. Recommended: co-op experience.

LEARNING OUTCOMES

Students will learn how to gradually turn abstract requirements into precise specifications of dynamic system properties serving as reliable blueprints for system design and development. Applying common abstraction principles, formal modelling and stepwise refinement techniques, they will analyze and reason about system behaviour using a range of illustrative examples from simple embedded control architectures to distributed system protocols. Beyond studying elementary specification languages, students will develop practical modelling skills along with a sense of how and when to use formal specification most effectively during requirements engineering. For a broader perspective of the critical role of requirements engineering for software development, students will explore contrasting software process methodologies and economic realities, forming a solid understanding of the pros and cons of agile versus plan-driven approaches.

RATIONALE

The Computing Science software engineering courses have evolved to focus on specific areas of software engineering, and as such a 4th year survey course no longer fits with the other courses offered. CMPT 475 has previously been taught by focusing on requirements engineering, so it is a natural change to revise the calendar description to reflect the course content in practice. Plus, this change opens the course up for students in the Software Systems program to take the course as an elective in their program because it will no longer conflict with other courses they will have taken (such as CMPT 373).

Effective term and year Fall 2015

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 ☐ Learning Outcomes

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

FROM
Course Subject/Number ENSC 101
Credits 1

TO
Course Subject/Number _____
Credits _____

TITLE

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

FROM:
Writing Process, Persuasion and Presentations

TO:

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

FROM:

TO:

DESCRIPTION
FROM:

DESCRIPTION
TO:

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 prerequisite**.

FROM:

PREREQUISITE
TO:

LEARNING OUTCOMES

RATIONALE

Course is no longer offered. ENSC 105W (Process, Form, and Convention in Professional Genres) has replaced ENSC 101 and ENSC 102.

Effective term and year
Fall 2015

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 ☐ Learning Outcomes

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

FROM
Course Subject/Number ENSC 101W
Credits 1

TO
Course Subject/Number _____
Credits _____

TITLE

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

FROM:
Writing Process, Persuasion and Presentations

TO:

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

FROM:

TO:

DESCRIPTION
FROM:

DESCRIPTION
TO:

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 prerequisite**.

FROM:

PREREQUISITE
TO:

LEARNING OUTCOMES

RATIONALE

Course is no longer offered. ENSC 105W (Process, Form, and Convention in Professional Genres) has replaced ENSC 101W and ENSC 102.

Effective term and year: Fall 2015

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 ☐ Learning Outcomes

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

FROM
Course Subject/Number ENSC 102
Credits 1

TO
Course Subject/Number _____
Credits _____

TITLE

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

FROM: Form and Style in Professional Genres

TO:

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

FROM:

TO:

DESCRIPTION
FROM:

DESCRIPTION
TO:

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 prerequisite**.

FROM:

PREREQUISITE
TO:

LEARNING OUTCOMES

RATIONALE

Course is no longer offered. ENSC 105W (Process, Form, and Convention in Professional Genres) has replaced ENSC 101 and ENSC 102.

Effective term and year: Fall 2015

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 ☐ Learning Outcomes

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

FROM
Course Subject/Number ENSC 150
Credits 3

TO
Course Subject/Number _____
Credits _____

TITLE

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

FROM:

Introduction to Computer Design

TO:

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

FROM:

TO:

DESCRIPTION
FROM:

DESCRIPTION
TO:

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 prerequisite**.

FROM:

PREREQUISITE
TO:

LEARNING OUTCOMES

RATIONALE

Course is no longer offered.

Effective term and year Fall 2015

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 ☐ Learning Outcomes

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

FROM
Course Subject/Number ENSC 215
Credits 3

TO
Course Subject/Number _____
Credits _____

TITLE

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

FROM:
Microcontroller Interfacing and Assembly-Language Programming

TO:

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

FROM:

TO:

DESCRIPTION
FROM:

DESCRIPTION
TO:

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 prerequisite**.

FROM:

PREREQUISITE
TO:

LEARNING OUTCOMES

RATIONALE

Course is no longer offered.

Effective term and year: Fall 2015

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 ☐ Learning Outcomes

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

FROM
Course Subject/Number ENSC 250
Credits 3

TO
Course Subject/Number _____
Credits _____

TITLE

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

FROM:
Introduction to Computer Architecture

TO:

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

FROM:

TO:

DESCRIPTION
FROM:

DESCRIPTION
TO:

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 prerequisite**.

FROM:

PREREQUISITE
TO:

LEARNING OUTCOMES

RATIONALE

Course is no longer offered.

Effective term and year
Fall 2015

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 ☐ Learning Outcomes

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

FROM
Course Subject/Number ENSC 304
Credits 1

TO
Course Subject/Number _____
Credits _____

TITLE

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

FROM:
Human Factors and Usability Engineering

TO:

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

FROM:

TO:

DESCRIPTION
FROM:

DESCRIPTION
TO:

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 prerequisite**.

FROM:

PREREQUISITE
TO:

LEARNING OUTCOMES

RATIONALE

Course is no longer offered.

Effective term and year
Fall 2017

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 ☐ Learning Outcomes

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

FROM
Course Subject/Number ENSC 498
Credits 3

TO
Course Subject/Number _____
Credits 1

TITLE

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

FROM:

Engineering Science Thesis Proposal

TO:

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

FROM:

TO:

DESCRIPTION
FROM:

DESCRIPTION
TO:

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 prerequisite**.

FROM:

PREREQUISITE

TO:

LEARNING OUTCOMES

RATIONALE

To better reflect the time commitment and deliverables required for this course and to reduce the overall number of credits required for ENSC honours students, this course is being reduced from 3 credits to 1.

Effective term and year Fall 2015