S. 86-52

SIMON FRASER UNIVERSITY

MEMORANDUM

To: Senate

From: Senate Committee on Undergraduate Studies

Subject: School of Computing Science - Curriculum Revisions

Date: October 1, 1986

Action undertaken by the Senate Committee on Undergraduate Studies at its meeting of September 30, 1986 gives rise to the following motions:

MOTION 1:

"That Senate approve and recommend approval to the Board of Governors, as set forth in S.86-52, the Certificate Program in Computer Literacy and Programming."

MOTION 2:

"That Senate approve and recommend approval to the Board of Governors, as set forth in S.86-52, the deletion of

CMPT 392-3 Introduction to Digital Signal Processing
CMPT 491-4 Analogue and Digital Circuits"

SIMON FRASER UNIVERSITY

MEMORANDUM

SCUS 86-11

Mr. R. Heath, Registrar & Secretary to the Senate Committee on Undergraduate Studies.	From J. Blanchet, Secretary, Applied Sciences Undergraduate Studies Committee.
Subject Computing Science Curriculum Revisions.	Date July 28/86.

A meeting of the Faculty of Applied Sciences Undergraduate Studies Committee was held on Tuesday, July 15, 1986, and at that meeting the following two curriculum revisions for the School of Computing Science were approved. Proposed Calendar entries are attached.

- ASU. 86-1 (revised).
  Certificate Program in Computer Literacy and Programming.
- ASU. 86-2 (revised).
  Elimination of:

  CMPT 392-3, Introduction to Digital Signal Processing, and
  CMPT 491-4, Analogue and Digital Circuits.

  These two courses are to be removed from the Digital Systems Honors Program.

Would you please place these two items on the next agenda of the Senate Committee on Undergraduate Studies for that committee's consideration.

Attachments.

Janet Blanchet.

A.S.U. 86-1. (revised)

Simon Fraser Univeristy

MEMORANDUM

To: Janet Blanchet, Faculty of Applied Sciences	From: R.D. Cameron, Director of Undergraduate Programs, Computing Science
Subject: CMPT Curriculum Revisions	Date: July 24, 1986

Here is the proposal for the Certificate Program to go forward to the Senate Committee on Undergraduate Studies, with the amendments as made at the Faculty of Applied Sciences Undergraduate Curriculum Committee. The proposed program itself is described by the attached calendar entry (CMPT-UGCC.86-2:1); the rationale for this program is given below.

Rationale

The School is proposing this Certificate Program for three reasons. First of all, this program meets the demand for a Continuing Studies program in the area of Computing Science. Recognizing that a very large percentage of students attend University without the intention of ever completing a full four year program, the Certificate in Computer Literacy and Programming provides recognition for a program of courses that can be completed part-time within two years. Secondly, we feel this program would be attractive to students pursuing degree programs in disciplines outside of Computing Science. For such students, this program would be useful both to provide background in computers which are becoming increasingly important as tools in all areas of intellectual endeavor and to provide a program of computer studies which could be a valuable asset in securing career opportunities. Thirdly, the Certificate Program is also proposed as a means of providing recognition to those students who initially intend to undertake a Computing Science Major or Minor program, successfully complete the lower division requirements of such a program, but fail to gain admission to the program due to enrolment limitations. We feel that the completion of the set of courses indicated above with a minimum 2.0 CGPA is an accomplishment worthy of recognition.

Calendar Entry for Proposed Certificate Program

Certificate Program in Computer Literacy and Programming

This program provides both part-time and full-time students an opportunity to obtain an understanding of the fundamentals of computers and programming without necessarily specializing in Computing Science.

Admission

Admission to the Certificate Program is governed by the regulations pertaining to admission to Simon Fraser University.

Program Requirements

1. The successful completion of the following 21 credit hours of courses or their equivalents:

   CMPT 101-4 Introduction to a High Level Programming Language A
   104-1 Introduction to a High Level Programming Language II
   105-3 Fundamental Concepts of Computing
   201-4 Data and Program Organization
   205-3 Introduction to Formal Topics in Computing Science
   275-3 Software Engineering
   MATH 151-3 Calculus I

   Notes:

   a. CMPT 102-3 or CMPT 103-4 may be used to satisfy the requirement for CMPT 101-4.

   b. Approval of a calculus courses in place of MATH 151 will be based on corresponding approval within the Mathematics department.

2. At least 9 credit hours of the CMPT courses required for this program must be completed at Simon Fraser University.

3. A grade point average of 2.00 is required on the courses used for this Certificate. Only courses taken at Simon Fraser University are used in this calculation.

ASU. 86-2 (revised)

Simon Fraser Univeristy

MEMORANDUM

To: Janet Blanchet, Faculty of Applied Sciences	**From:** R.D. Cameron, Director of Undergraduate Programs, Computing Science
Subject: CMPT Curriculum Revisions	**Date:** July 24, 1986

Here are the Computing Science curriculum revisions to go forward to the Senate Committee on Undergraduate Studies, with the amendments as made at the Faculty of Applied Sciences Undergraduate Curriculum Committee and with the calendar changes that will result from these revisions attached.

The School of Computing Science has approved the elimination of CMPT 392 (Introduction to Digital Signal Processing) and CMPT 491 (Analogue and Digital Circuits) from its curriculum, and in particular from the Digital Systems Design Honors Program. The subject matter of both CMPT 392 and CMPT 491 is quite peripheral to mainstream Computing Science and there has been little interest in these courses from students other than DSD Honors students. The subject matter of CMPT 392 is also quite peripheral to the DSD Honors program and can be deleted without changing the basic nature of that program. Although the CMPT 491 material is relevant for DSD Honors students, it is felt that a separate course is not needed, as the important material can be covered through the CMPT 495 and 496 lab courses. These changes reduce the total number of required upper division credits in the DSD Honors Program from 62 to 55 (including CMPT 493-1), bringing it more in line with the standard for honors programs which is 50 required upper division credits.

The deletion of these courses is also mitigated by the existence of related courses within Engineering Science and Physics.

The effects of the course deletions on the Digital Systems Design program are reflected in the calendar changes attached (CMPT-UGCC.86-2:2).

Current and Proposed Calendar Entries

Digital Systems Design Honors Program

Current

Digital Systems Design Honors Program

UPPER DIVISION REQUIREMENTS

For an honors degree in Digital Systems Design, the following requirements must be met.

1. **Depth Requirement**
The following courses must be completed.

CMPT	390-3	Digital Circuits and Systems
	391-3	Microcomputer Hardware Workshop
	392-3	Introduction to Digital Signal Processing
	400-3	Hardware Architecture
	401-3	Operating Systems
	402-3	Operating Systems Software Laboratory
	490-3	VLSI Systems Design
	491-4	Analogue and Digital Circuits
	495-3	Digital Systems Design and Specification Laboratory
	496-3	Digital Systems Implementation Laboratory
MATH	310-3	Introduction to Ordinary Differential Equations
PHYS	326-3	Electronics and Instrumentation
	331-3	Electronics Laboratory

(40 semester hours)

2. **Breadth Requirement**
The following courses must be completed.

CMPT	307-3	Data Structures and Algorithms
	351-3	Introduction to Computer Graphics
or	410-3	Artificial Intelligence Survey
	354-3	File and Database Structures
	405-3	Design and Analysis of Computer Algorithms
MACM	306-3	Introduction to Formal Languages and Automata with Applications
	316-3	Numerical Analysis I

(18 semester hours)

3. **Social Aspects of Computing Requirement**
One of CMPT 320-3 (Social Implications of a Computerized Society) or CMPT 350 (Information and Public Policy) must be completed.
(3 semester hours)

4. **Computing Presentation Requirement**
One of CMPT 428-0 (Practicum III) or CMPT 493-1 (Computing Science Presentation Seminar) must be completed.

Proposed

Digital Systems Design Honors Program

UPPER DIVISION REQUIREMENTS

For an honors degree in Digital Systems Design, the following requirements must be met.

1. **Depth Requirement**
The following courses must be completed.

CMPT	390-3	Digital Circuits and Systems
	391-3	Microcomputer Hardware Workshop
	400-3	Hardware Architecture
	401-3	Operating Systems
	402-3	Operating Systems Software Laboratory
	490-3	VLSI Systems Design
	495-3	Digital Systems Design and Specification Laboratory
	496-3	Digital Systems Implementation Laboratory
MATH	310-3	Introduction to Ordinary Differential Equations
PHYS	326-3	Electronics and Instrumentation
	331-3	Electronics Laboratory

(33 semester hours)

2. **Breadth Requirement**
The following courses must be completed.

CMPT	307-3	Data Structures and Algorithms
	351-3	Introduction to Computer Graphics
or	410-3	Artificial Intelligence Survey
	354-3	File and Database Structures
	405-3	Design and Analysis of Computer Algorithms
MACM	300-3	Introduction to Formal Languages and Automata with Applications
	316-3	Numerical Analysis I

(18 semester hours)

3. **Social Aspects of Computing Requirement**
One of CMPT 320-3 (Social Implications of a Computerized Society) or CMPT 350 (Information and Public Policy) must be completed.
(3 semester hours)

4. **Computing Presentation Requirement**
One of CMPT 428-0 (Practicum III) or CMPT 493-1 (Computing Science Presentation Seminar) must be completed.