

SIMON FRASER UNIVERSITY

S.80-154

MEMORANDUM

SENATE

From... SENATE COMMITTEE ON UNDERGRADUATE STUDIES

Subject... COMPUTING SCIENCE CHANGES

Date... NOVEMBER 12, 1980

FOR INFORMATION

At its meeting of November 4, 1980, acting under its delegated authority, SCUS approved change in credits and vector for CMPT 103 - Introduction to a High Level Programming Language I, effective Fall 81-3.



HME/rn

SIMON FRASER UNIVERSITY SCUS 80-73

MEMORANDUM

AG-154

To..... Mr. H.M. Evans, Registrar and Secretary to the Senate Committee on Undergraduate Studies

From..... Janet Blanchet, Secretary to the Faculty of Interdisciplinary Studies Undergraduate Curriculum Committee

Subject..... CMPT 103, Change of Vector and Credit hours, I.S.C. 80-15(a)

Date..... 21 October 1980

A change in vector and a change in credit hours from 3 to 4 for CMPT 103 was approved by the Faculty of Interdisciplinary Studies Undergraduate Curriculum Committee at a meeting held on Tuesday, October 14, 1980. Would you please place this item on the next agenda of the Senate Committee on Undergraduate Studies.

J. B. Blanchet
Janet Blanchet

JB:jk

Attachment

RECEIVED

OCT 22 1980

REGISTRAR'S OFFICE
MAIL DESK

SIMON FRASER UNIVERSITY
M E M O R A N D U M

S.C. 80-15(a)
OCT 01 1980

To: Dr. C. Griffiths, Chairman,
UCC, F.I.D.S.

From: Wo-Shun Luk, Chairman,
UCC, Computing Science

Subject: CMPT 103 - Credit Change

Date: Sept 19, 1980

This is to request once again the committee to consider the proposal to increase the credit hours of CMPT 103 by 1 (presently 3). The first proposal was referred back to the department for further consultation with the departments which might be most affected by the change. The responses from various departments have been obtained over the phone during the summer semester and they are summarised as follows:

Business Administration: The largest group of students outside Computing Science come from this department. Their Undergraduate Program Coordinator in fact welcomes that increase and thinks it will do justice to the students in the course.

Mathematics: CMPT 103 is a required course for the mathematics majors. Dr. Graham, the chairman of UCC, trusts our judgement and does not think the increase will have much impact on their programs.

Biology: this department also requires CMPT 103 for their majors. We have had lengthy discussion with Dr. Bhakthan who has made valuable suggestions, which we very much appreciate. He too does not feel the increase will affect their programs too much.

Physics: It has been a required course in their Mathematical Physics program, administered by the department jointly with Mathematics. The current UCC chairman, Dr. Viswanathan, did not favour such a change, but suggested that we get in touch with some other colleagues in the department who were more knowledgeable in the field, such as Dr. Palmer, which we did. (Dr. Palmer, as I later found out, is to succeed Dr. Viswanathan as the UCC chairman.) It turns out that Physics holds a viewpoint that students, at least their students, do not need an entire course to study introductory programming. CMPT 103 is therefore superfluous and will be dropped from their program anyway, regardless of what we are going to do with it.

Chemistry, Biological Sciences: CMPT 103 is not required course nor is it a prerequisite of any courses in either departments. The UCC chairmen I contacted do not feel very strongly about one way or other.

As you can see, none of the departments above is expressing any major concerns about our proposal. Some do feel that a vector change (presently 1-0-3) is necessary to reflect more accurately the lab time required. This is done in the revised proposal (attached).

We have also had some discussion about the high attrition rate of CMPT 103 and we conclude that we have little at our disposal to correct it. On one hand, the nature of the course requires not only hardwork, but also a fair amount of mental adaptation to new concepts from those who have not hitherto been exposed to them. On the other hand, the high demand of programmers in the marketplace attracts many unsuspecting, job-oriented students who are otherwise unprepared for it. Our past statistics show that over half of the students enrolled in CMPT 103 who eventually dropped out, did not even submit one single assignment. For these students, the heavy workload did not seem to be the major problem. It is therefore our opinion that the proposed change will have little effect on the attrition rate. It will however reflect more accurately the workload of the course. The statement of rationale is revised accordingly (see attached).

SENATE COMMITTEE ON UNDERGRADUATE STUDIES

Change of Vector and Credit Hours

Calendar Information

Department: Computing Science

Abbreviation Code: CMPT Course Number: 103 Credit Hours: 4 Vector: 1-0-6

Title of Course: Introduction to a High Level Programming Language 1

Calendar Description of Course:

This course introduces the student to ONE of the following languages: PL/I, COBOL, APL, PASCAL, FORTRAN and other languages subject to availabilities of necessary facilities. This is a guided self-study course. A text, self-study guide and weekly lecture will be used to direct the student. The programming assignments cover techniques such as

Nature of Course Lecture/Laboratory /looping, decision making, construction /of subroutines, input/output handling
Prerequisites (or special instructions): /documentation. The student should consult /the program advisor for a list of currently /available languages and for advice in selecting /the language most suited to his/her program.
None

What course (courses), if any, is being dropped from the calendar if this course is approved:
None - CMPT 103-3 will become CMPT 103-4 /may not take this course for further credit. /((Laboratory) Students who have taken CMPT 102-2

2. Scheduling

How frequently will the course be offered? Every semester
Semester in which the course will first be offered? 81-SPRING

Which of your present faculty would be available to make the proposed offering possible?
R.D. Godwin

Objectives of the Course By the end of the course the student will be able to take a reasonably simple programming problem and define the necessary input/output requirements, prepare a flowchart and an algorithm to solve the problem, write the program in the selected programming language, debug it, and produce documentation specifying how the program can be used and the overall methods by which it achieves its objectives.

4. Budgetary and Space Requirements (for information only)

What additional resources will be required in the following areas:

Faculty None
Staff None
Library None
Audio Visual None
Space Extra lab time
Equipment None

5. Approval

Date: 24 September 1980 17 Oct 80

Ronald Haney J.G. Holm _____
Department Chairman Dean Chairman, SCUS

RATIONALE

As the approach to computer programming has become more rigorous, it has been found necessary to expose the student to a more disciplined curriculum during his or her first course. The computer cross communication problems are of major concern today. Algorithms must not only be well thought out but must also be well documented. Output must exist in a convenient readable form, and not just be there. The increased emphasis on documentation, style, and computer communication problems has necessitated an increase in the contact hours to one hour of lecture per week plus a minimum of six hours of "lab-tutorial" time.

The lab itself is part lab, part tutorial. Its form has developed over several semesters and has been successful in meeting student needs without requiring the extensive people and room resources of a formal tutorial, accommodating each of the ^{five} languages covered in the CMPT. 103 course.

The student facility provides the "working" lab environment. The supervision required here is minimum as the student activity consists primarily of keying in program work and obtaining the necessary output for consideration. A supervised "lab-tutorial" facility open from 9:30 to 15:20 and 19:30 to 22:20 hours Monday to Friday, and 13:00 to 17:00 hours Saturday and Sunday is used by the students for development of programs and analysis of output. Two or three staff members (lecturer, lab instructor, or teaching assistant) are present at all times to provide individual student assistance. Student use of the combined facilities ranges from about six to ten hours per week.

The current heavy work load is cited as the number one criticism of the course. The new vector will give the students a more accurate indication of the work load required.