SIMON FRASER UNIVERSITY

MEMORANDUM

To	Mr. H. Evans, Secretary	From	B. L. Funt
	Senate Committee on Graduate Studies		Dean of Science
Subject	Mathematics Graduate Course Changes	Date	October 22, 1969

At its meeting of October 20th the Faculty of Science approved the deletion of Math. 805-4 and the addition of Math 806-4 in the graduate program. These changes had previously received the approval of the Faculty of Science Graduate Studies Committee.

I would appreciate it if you would ensure that these changes are considered by the Senate Graduate Studies Committee at the earliest opportunity so that the material may be brought to Senate in time for inclusion in the 1970-71 Calendar.
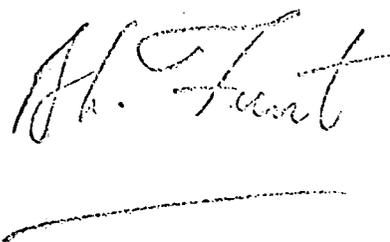
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c.c.   Dr. A. H. Lachlan
       Acting Head, Mathematics

       Miss M. McGinn

Approved by the Executive Committee of the Senate Committee on Graduate Studies, November 1969.

FACULTY OF SCIENCE

3. ii) Report of the Graduate Studies Committee

b) Deletion of Math 805-4 and Addition of Math 808-4

The Mathematics 808-4 course was approved by the Faculty of Science Graduate Studies Committee at its meeting of September 17, 1969

It is recommended that the Faculty approve this course and that it be submitted to Senate for approval.

B. L. Funt

Approved by the Faculty of Science at its meeting of October 20, 1969

We should like approval for the deletion of

Math 805-4   Logic I

from the calendar and for the addition of

Math 808-4   Logic III.

By this means we hope to improve the quality of our graduate
offerings in Mathematical Logic. Since 1967 our two basic
graduate courses in logic have been Math 805-4 Logic I and
Math 806-4 Logic II. It should be noted that 805 was never
a prerequisite for 806. The course 805 treated recursive
function theory and had little connection with 806, which
is concerned with the theory of formal systems.

For the proposed new course 808, 806 will be a
prerequisite. Some recursive function theory will be taught
in 808, and its relevance to the material in 806 will be
made clear. Other important topics not previously taught
in 805 or 806 will be included in 808.

In conclusion, this change is proposed because
the faculty members in Logic (Gerber, Harrop, Lachlan,
Thomason) agree that the combination of 806, 808 will
constitute a more satisfactory grounding in Mathematical
Logic than the combination 805, 806.

A. H. Lachlan

Proposed New Graduate Course in Mathematics

1. Calendar Information

Mathematics 808-4 Logic III
Prerequisite: Mathematics 806-4

Students who have obtained credit for Mathematics 805-4 may not obtain credit for Mathematics 808-4.

2. Course Description

(At present this will not appear in the calendar since no course descriptions appear for Mathematics graduate courses.)

Introduction to recursion theory, Church's Thesis, Gödel-Rosser incompleteness theorem, undecidability, Kleene's normal form theorem, the enumeration theorem, the recursion theorem. The arithmetical hierarchy, the analytical hierarchy. Degrees of unsolvability. Basis theorems. Additional topics if time permits.

Text: Chapters 6,7,8 of Mathematical Logic, J. R. Shoenfield, Addison Wesley 1967. (The earlier part of this book is covered in Mathematics 806-4.)

3. Enrollment and Scheduling

The course will be offered when student demand warrants it and Departmental resources permit. It is proposed to offer it for the first time in 70-1 if the necessary approval can be obtained in time.

4. Justification

(i) Relation to Departmental Program

This course, to be substituted for Mathematics 805-4 Logic I, will enhance our basic offerings in mathematical logic at the graduate level. (See the covering memorandum). The department has attracted a steady stream of graduate students whose main interest is logic.

(ii) Courses Replaced

Mathematics 805-4, Logic I

(iii) Course Overlap

There is substantial overlap with Mathematics 805-4 which is to be discontinued, but negligible overlap with other courses offered in the University.

3. Budgetary and Space Factors

Faculty: Dr. H. Gerber is scheduled.
Special Space Requirements: None
Special Budgetary Requirements: None

A. H. Lachlan