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Date: November 8, 1988

To: The Curriculum Committee of the Senate
Dr. Ronald Juliette, Chairman

From: John Broughton, Chairman
Mathematics Department *John Broughton*

Subject: Changes in Certain Undergraduate Courses in Mathematics

approved

The purpose of this letter is to submit to the Curriculum Committee of the Senate the following three course changes which have been approved by the Mathematics Department. These changes are:

Change 1: The course MA 271-Introduction to Algebraic Structures is changed from having no prerequisites to a prerequisite of MA 171-Introduction to Linear Algebra.

Rationale for Change 1:

MA 171 and MA 271 are core courses for all undergraduate majors in mathematics, and both are offered in each academic semester. However, it is the opinion of the Mathematics Department that increased mathematical maturity is needed by students for MA 271 and that this mathematical maturity can best be nurtured by requiring MA 171 as a prerequisite for MA 271.

Change 2: The course MA 271 is presently a prerequisite for the following six courses in the programs for mathematics majors:

- MA 353 - Theory of Numbers
- MA 355 - Foundations of Geometry
- MA 371 - Linear Algebra
- MA 421 - Advanced Calculus I
- MA 427 - Introduction to Topology
- MA 476 - Abstract Algebra I

This prerequisite has been changed for each of the above courses to require MA 271 with a grade of C or better.

Rationale for Change 2:

The course MA 271 is designed to help students understand the fundamental methods of logical proof that are used extensively in upper division mathematics courses for majors. Therefore, a solid mastery of the material in MA 271 is absolutely essential in order that students can perform in an acceptable manner in the theoretical upper division courses.

Students who receive a grade of D in MA 271 nearly always repeat that course in order to achieve better understanding and mastery of the material. However, in the past, some students have proceeded to the more abstract mathematics in the six courses listed above before repeating MA 271. The outcome of this course of action has been continued poor performance in these higher level courses. Hence, students who need to repeat MA 271 because of a grade of D will do better in subsequent courses

and will improve their academic standing if they repeat MA 271 with a grade of C or better before enrolling in these higher level courses.

Change 3: The course MA 102-Finite Mathematics will no longer be included in the list of courses which are acceptable for a minor in mathematics.

Rationale for Change 3:

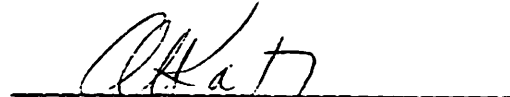
This course has slowly evolved to become a service course, primarily for the Computer Science Department and their majors. This course was originally designed as an alternative for the general education course MA 101-Foundations of Mathematics. In particular, the goal of MA 102 was to enroll students with an above average background in Mathematics and then to choose from a wide variety of topics a few to study in depth. However, under present conditions, this course includes a large number of topics with none studied in any depth. It has become a survey course. Even with this course removed from the list of those acceptable to the minor in mathematics, there will continue to be offered mathematics courses in sufficient numbers so that students have a choice for those courses that they wish to count for their minor in mathematics program.

On behalf of the Mathematics Department, I would like to thank the members of the Curriculum Committee for their consideration of these changes.

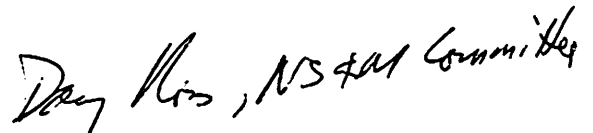
The signature below indicates that these changes have been approved by the Mathematics Department.


John Broughton, Chairman
Mathematics Department

The signature below indicates that these changes have been approved by the Dean of the College of Natural Science and Mathematics.


Anne Katz, Interim Dean
College of Natural Science and
Mathematics

cc: R. McBride
A. Katz


Day Kim, NS&M Committee