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State of New Jersey
GLASSBORO STATE COLLEGE
GLASSBORO, NEW JERSEY 08028

DEAN OF LIBERAL ARTS AND SCIENCES

October 18, 1974

TO: Mr. Joseph Tishler, Chairman, Senate Curriculum Committee
FROM: Alan B. Donovan *ABD*
RE: Changes in Introductory Mathematics II

Please find attached copies of a proposal for three tracks in Introduction to Mathematics II.

I have consulted with appropriate members of the department regarding this proposal and fully endorse its implementation. Please note that approval is not being sought for new courses but for changes within the existing course.

Please do not hesitate to contact me should you or your committee members have any questions.

ABD/pad

copy to sen 3/12
report to sen 3/14
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PROPOSAL FOR A CHANGE IN INTRODUCTORY MATHEMATICS II

Revised February 18, 1975

- A. Department and Sponsor: Mathematics Department
- B. Change Requested: The Mathematics Department is proposing to offer the course in three tracks: Math II - Precalculus; Math II - Business and Social Science; and Math II - Liberal Arts. This change does not expand the offerings of the department, but rather redistributes the class to meet student needs. Recommended background, credit, and competency requirements remain the same.
- C. A Brief Statement of Need (Rationale):
1. The Precalculus Track: Mathematics and science oriented students need an understanding of certain mathematical concepts in order to not only study the calculus, but to be able to use it. The current course, Introductory Mathematics II, which this track replaces in part, is predominantly populated by non-calculus bound students. Thus, in essence, this track will carry on the content of Introductory Mathematics II, but with an increase in rigor and level due to a more homogenous group of "math-minded" students. No attempt is being made to single out mathematics majors; indeed, biology students are the main body of students currently going through the Introductory Mathematics II, Calculus I, sequence.
 2. The Business and Social Science Track: During open hearings, departmental meetings, and committee meetings, this direction was discussed as a track for business students. Based on surveys of Math II, it was decided to broaden this track to emphasize real-life problems and computational skills. Thus there would be less conceptual refinement than is normally found in the precalculus track. This track is suggested for students from economics, business administration, sociology, geography, industrial arts, psychology, home economics, and political science. Courses following this track could be: Elementary Statistics, Math for Management I, Introductory Computer Science, Calculus I.
 3. The Liberal Arts Track: Roughly one quarter of the Math II students indicate no desire or needs for studying technical or conceptual mathematics. They are students of religion/philosophy, music, fine arts, speech/theater, language, communications, and other liberal arts disciplines. The current Math II course, which is highly geared in preparation for furthering mathematical studies, does not seem to be meaningful and relevant to their needs and interests. In order to accomplish the liberal arts objectives, topics may be presented in the context of culture and history. Additionally, the track will seek to build an intuitive understanding of the basic mathematical and logical principles which are building blocks of the universe.
- D. Departmental Choice: The above groupings of departments and tracks are intended as a suggestion only. Each department would and should be free to counsel their majors into which ever of the three tracks they deem most appropriate.

MODIFICATIONS IN MATH II

"Math II" will be divided into three tracks:

- Track I - Precalculus
- Track II - Business and Social Sciences
- Track III - Liberal Arts

The recommended background for each track is a course equivalent to Introductory Mathematics I. (Please note, it is not necessary to take Math I.) Each of these tracks will meet the "Math II" requirement of the Division of Liberal Arts and Sciences.

Introductory Mathematics II - Precalculus (1701.121)

This track develops those concepts necessary for an understanding of Calculus. Topics are drawn from algebra, logic, the real numbers, functions, graphing, trigonometry, mathematical induction, and analytic geometry.

Introductory Mathematics II - Business and Social Sciences(1701.121)

This track emphasizes mathematical concepts and techniques used in business and social sciences. These include: algebra, logic, functions graphing, linear systems and methods, progressions, and the binomial theorem.

Introductory Mathematics II - Liberal Arts (1701.121)

This track deals with the nature of mathematics and mathematical thinking as exemplified in topics from logic, geometry, statistics, computer science, algebra, and number theory.

MATH II SUGGESTED TRACK SELECTION FOR THE DIVISION OF LIBERAL ARTS AND SCIENCE

These are recommended but the student and/or the advisor may make a different choice.

<u>Precalculus</u>	<u>Business & Social Sciences</u>	<u>Liberal Arts</u>
Biology	Accounting	Communications
Chemistry	Anthropology	English
Computer Science	Business Administration	Foreign Languages
Mathematics	Psychology	History
Physics	Sociology	Philosophy/Religion
Pre-Med.		
Economics/Political Science		
Geography		

POSSIBLE "NEXT" COURSES

Calculus I, Computer Science I, Elementary Statistics, Math for Management I