

Faculty Senate Curriculum Committee

(P)

APPROVAL FORM

Rev: 5/82

Proposal Title: Calculus: Techniques and Applications

Sponsor(s): David Travis and Francis Masat Dept.: Math/Computer Science

Check one: Course Specialization Concentration Achievement Certificate

Change in course title Minor Change Major Program
(please name: deletion or credit/title/catalog change)

Certification Program

Undergraduate Graduate 3 Credit Hours

Step 1 (Department)

Step 2 (Receipt)

Step 3 (Division CC)

Approved 10-21-83
date
 Not Approved
David J. Jones
Dept. CC Chairperson
 Reviewed 10-21-83
date

SCC# 83-84-19
Proposal Received 10/25/83
date

Reviewed 10/25/83
date
 Approved
 Not Approved

Comments:

D. S. [Signature]
Chairperson, Dept.

Shirley A. O'Day
Chairperson, SCC

[Signature]
Chairperson, Div. Curr. Comm.

Step 4 (Academic Dean)

Comments:

Reviewed 11/24/83
date

[Signature]
Signature, Dean of Division

Step 5 (SCC)

Open Hearing Date: 2/3/84 Approved by Senate Curriculum Committee 2/3/84 (date)

Returned to sponsor(s) for the following reasons:

Change begins level to less than junior.

Done

Step 6 (Faculty Senate)

Presented to Faculty Senate (date): 2/3/84

Approved
 Not Approved

Notification to Vice-President Academic Affairs (date): 2/7/84

Shirley A. O'Day
Signature: SCC Chairperson

Step 7 (Vice-President for Academic Affairs)

^{CHANGE}
Course received 2/14/04 (date)

^{TITLE CHANGE}
Course approved Yes No

If no, reasons are as follows:

Student credit hours 3

Faculty load hours 3

Equalized credit hours 3

Official copy and approval sheet filed _____ (date)

Signature _____
(Vice-President for Academic Affairs)

Registrar

Approved course description received _____ (date)

Hegis Taxonomy and Course Number assigned _____

Signature _____ (Registrar) _____ (Date)

Notification forwarded: Senate Curriculum Committee Chairperson, Department Chairperson(s),
Academic Dean(s), Registrar, Sponsor(s)

CHANGE IN COURSE TITLE,
PREREQUISITE, AND CATALOG DESCRIPTION

Sponsors: Francis Masat and David Travis

1. Existing Title, Prerequisite, and Catalog Description:

1703.302

Calculus for Management

(Prerequisite: 1703.202)

This course includes the applications of sequences, limits and differential and integral calculus with particular emphasis in the areas of business and economics.

2. Proposed Title, Prerequisite, and Catalog Description:

1703.125

Calculus: Techniques and Applications

(Prerequisite: 1701.122 or an equivalent course)

Introduces the student to the techniques of differential and integral calculus. Emphasis is placed on the applications of limits, derivatives, integrals and sequences. Provides experience and information about the significance and specific uses of the calculus in today's world.

3. Rationale

- a) The course content (applications of sequences, limits, and differential and integral calculus) is relevant to many disciplines: Economics, Psychology, Marketing, Computer Science, Accounting, advanced Technology, and others. The present title and catalog description are, therefore, inaccurate and have tended to discourage students from taking what is otherwise an important and appropriate course for them. A syllabus is attached.
- b) The present prerequisite, Math for Management, is being phased out of the curriculum (and will be deleted from the catalog). Precalculus mathematics is the appropriate substitute, since substantial applications of the calculus require a knowledge of the trigonometric functions.
- c) The changes have been coming for quite some time as students, other than Administrative Studies' students, have requested such a course. As the College's curriculum shifts to accommodate high technology, this course and others like it will be in high demand.

- d) Credit and level are not being changed. The syllabus has been modified only slightly to reflect the current content of the course.

4. Curricular Impact

The major impact of this change will be that students currently taking Mathematics for Management (1703.202) will take instead Precalculus Mathematics (1701.122). The course will also be submitted as a general education course.

5. Implementation

Spring of 1984, three sections.

6. Consultations are attached

Professor Lynch, Administrative Studies
Professor John Frisone, Psychology
Professor Hamer, Economics
Professor Guerard, Industrial Arts

- a) Note: In response to several suggestions and questions from the consultants, the following modifications have been made in this proposal:
 - 1) The new title is Calculus: Techniques and Applications.
 - 2) The catalog description avoids the semantic problems some people have with the word "survey".
 - 3) This course does not cover any of the theoretical construct which is the basis of the 4 credit Calculus I course. It would, therefore, not be an acceptable preparation for Calculus I.



State of New Jersey

GLASSBORO STATE COLLEGE
GLASSBORO, NEW JERSEY 08028
Economics, Bunce Hall
(609) 445-6125

September 13, 1983

Dr. Fran Masat, Chairperson
Math/Computer Science Department
Robinson Building
Glassboro State College

Dear Fran:

I am writing to respond to the proposed change in course title, pre-requisite, and catalog description for course number 1703.302.

It seems reasonable to change the course name and description to attract a wider range of majors, assuming the course content is appropriate. However, I disagree with the proposed name "Principles of Calculus," because it neither clearly describes the course content nor distinguishes the course from the more rigorous Calculus I course. I suggest the following title for 1703.302: "Survey of Calculus With Applications." Furthermore, I think the course description should state that this course is not for mathematics majors. Also, could 1703.302 be used as a pre-requisite for Calculus II?

Also, it should be stated in your proposal that 1703.302 is now required for all Administrative Studies majors beginning with freshmen entering in the fall of 1983. Given this requirement, will three sections in the spring of 1984 be sufficient?

Sincerely yours,

Thomas P. Hamer, Ph.D.
Associate Professor
of Economics




State of New Jersey

GLASSBORO STATE COLLEGE
GLASSBORO, NEW JERSEY 08028

ADMINISTRATIVE STUDIES DEPARTMENT
(609) 445-6025

August 23, 1983

TO: Fran Masat, Chairperson
Math/Computer Science Department

FROM: Robert D. Lynch, Administrative Studies 

SUBJ: Principles of Calculus

I have reviewed your proposal for the course title change of "Calculus for Management" to "Principles of Calculus". I am in complete agreement with the change and believe that it more nearly identifies the structure of the course.

Calculus concepts are used in many disciplines and are essential to the development and understanding of mathematical models of all types. For the business student, the concept of minimizing or maximizing functions is of special importance along with the concept of integration of two dimensional areas. The teaching of these concepts is not necessarily related to business application. For this reason a three-credit course which covers these principles would be valuable to our students independent of any emphasis on business applications.

I would, however, suggest that the catalogue description be changed to read "Introduces the student to the elementary concepts of differential and integral calculus" rather than "Surveys integral and differential calculus. I believe that it is much more important that the student has a good understanding of the basics involved and be able to apply these basics rather than being exposed to a much broader field and having little or no ability to apply the concepts. The word "survey" was not used in the original catalogue description.

I also am in agreement with the requirement of Precalculus Mathematics as the prerequisite since this course includes the introduction of trigonometry which is necessary for the study of calculus concepts.

RDL/meh

MEMO

Glassboro State College

PSYCHOLOGY DEPARTMENT

TO: Fran Masat, Chairperson, Math/Computer Science Department

FROM: John Frisone, Chairperson, Psychology Department *JF*

RE: Change in course title from Calculus for Management to Principles of Calculus

DATE: August 23, 1983

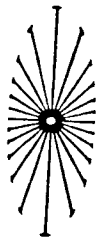
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INFO

TO Fran Masat

FROM Mike Guerard *MG* **DATE** August 31, 1983

RE _____



MEMORANDUM FROM INDUSTRIAL EDUCATION

The rationale for the proposed changes in course 1703.302 appear sound, and you have my full support.

MG/jh

CHANGE IN COURSE TITLE,
PREREQUISITE, AND CATALOG DESCRIPTION

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Also, it should be stated in your proposal that 1703.302 is now required for all Administrative Studies majors beginning with freshmen entering in the fall of 1983. Given this requirement, will three sections in the spring of 1984 be sufficient?

Sincerely yours,

A handwritten signature in cursive script, appearing to read "Tom".

Thomas P. Hamer, Ph.D.
Associate Professor
of Economics



State of New Jersey

GLASSBORO STATE COLLEGE
GLASSBORO, NEW JERSEY 08028

ADMINISTRATIVE STUDIES DEPARTMENT
(609) 445-6025

August 23, 1983

TO: Fran Masat, Chairperson
Math/Computer Science Department

FROM: Robert D. Lynch, Administrative Studies

SUBJ: Principles of Calculus

Handwritten initials in dark ink, appearing to be 'RDL', located to the right of the 'FROM' line.

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MEMO

Glassboro State College

PSYCHOLOGY DEPARTMENT

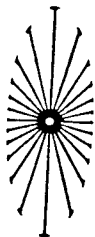
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FROM: John Frisone, Chairperson, Psychology Department JF.

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DATE: August 23, 1983

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TO Fran Masat

FROM Mike Guerard MG DATE August 31, 1983

RE _____

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MG/jh



OFFICE OF THE VICE-PRESIDENT
FOR ACADEMIC AFFAIRS

MAR 1 1982

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

GLASSBORO STATE COLLEGE

Faculty Senate

March 1, 1982

Dr. Lawson Brown
Vice-President for Academic Affairs

Dear Dr. Brown,

When the Faculty Senate Curriculum Committee approved the name change of Introductory Math I to Introductory Algebra, there was no mention of the course becoming a developmental (remedial) course, instead of a course that can be used for graduation requirements.

Since there appears to be confusion as to the intent of the change of title and to the curriculum impact, the Curriculum Committee requests that the proposal be returned to the committee.

Sincerely,

Shirley A. O'Day

Chairperson

Senate Curriculum Committee

cc Dr. Fran Masat

CHANGE IN COURSE TITLE AND CATALOG DESCRIPTION FOR 1701.120

1. Existing Title and Catalog Description:

1701.120

Introductory Mathematics I

A basic course in mathematics which includes a study of elementary algebra through equations of one and two variables. This course is appropriate for those students whose mathematical background is not sufficiently strong for them to enter Introductory Mathematics II.

2. Proposed Title and Catalog Description:

1701.120

Introductory Algebra

A basic course in mathematics which includes a study of introductory algebra through equations of one and two variables. This course is appropriate for those students whose mathematical background is not sufficiently strong for them to enter Intermediate Algebra.

3. Rationale:

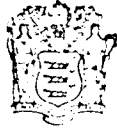
The department of Mathematics and Computer Science feels that the existing title is confusing and unclear; the proposed title is more specific and accurate. The change in catalog description is included so as to agree with the proposed title change for Introductory Mathematics II.

4. Curricular Impact:

The proposed changes are not expected to affect the curriculum. They will, however, make college transcripts and the college catalog more easily understood.

5. Consultations:

See attached letters.



State of New Jersey

GLASSBORO STATE COLLEGE
GLASSBORO, NEW JERSEY 08028

OFFICE OF THE VICE PRESIDENT
FOR ACADEMIC AFFAIRS

February 16, 1982

TO: Faculty Senate Curriculum Committee
Department Chairpersons
Faculty Advisors

FROM: Dr. Lawson Brown *L.B.*

RE: Implementing Changes in Intro Math I

Following Faculty Senate approval of the name change of Intro Math I to Intro Algebra, other considerations have arisen. In particular, the New Jersey Basic Skills Council's November 20, 1981 report on remedial programs illustrates that Glassboro State is the last of the eight state colleges to offer introductory algebra as a remedial (developmental) course. Moreover, the Department of Mathematics and Computer Science decided in May of 1981 to move Intro Math I into the developmental education course bank. After another year of work, the approved name and sequence changes have occurred.

Since, however, many current students must still complete introductory algebra under the title, Math I, so as to meet graduation requirements, I have suggested to the Department of Mathematics and Computer Science, and they have concurred, that we phase out Math I over a 15 month period: June 1, 1982- August 31, 1983. To do this, it appears that it will be necessary to offer the current introductory algebra course under the title, "Intro Math I (No Freshmen)" for students still needing the course for credit, and also offer "Intro Algebra (Freshmen Only)" for remedial credit to those students who are deemed deficient in algebra by the results of the New Jersey Basic Skills Placement Test. Since the courses will be listed in separate sections of the master schedules, and since the 15 months until September 1983, provides those few departments that presently require Intro Math I ample time to review their remediation needs, few problems are anticipated. The Office of Developmental Education and the Department of Mathematics and Computer Science have agreed that they will cooperate to aid those few students who may still need an Intro Math I after September 1, 1982.

If the Curriculum Committee believes there is a need for additional approval I hope that this can be accomplished prior to the registration of Fall 1982, Freshmen.

egc