

Approval Form

6

Proposal Title: Statistical Inference C 702

Sponsor(s) Josephine Hill Dept.: Mathematics Ext. 6514
F. Hill

Check one: Course Specialization Concentration Minor Achievement Certificate
 Certification Program Major Program Minor Change
(please name, deletion or credit/title/catalog change)

Undergraduate Graduate 18 Credit Hours

Step 1 (Department)
 Approved 2/5/91
Date
 Not Approved
[Signature]
Dept. CC Chairperson
 Reviewed
Date
[Signature]
Dept. Chairperson

Step 2 (Receipt) 44
 SCC# 90-91- [redacted]
Proposal Received 2-8-91
Date
[Signature]
SCC Chairperson

Step 3 (School CC)
Reviewed 3/4/91 10/4/91
 Approved + update
 Not Approved
Comments:
Suggestions made in March were incorporated. This should only be a concentration.
[Signature]
School Cur Comm Chairperson

Step 4 (Academic Dean)
 Recommend
 Not Recommend
 Conditionally Recommend (see comments)
Reviewed _____
Date

Comments:
[Handwritten notes]
Signature, Dean of School

Step 5 (SCC)
Open Hearing 10/23/91
Date
 Returned to sponsor(s) for the following reasons: to change the implementation date.

Approved by Senate Curriculum Committee 10/23/92
Date

Step 6 (Senate)
Presented to Senate 12/11/92
Date
Notification to Executive Vice-President/Provost _____
Date

Approved Not Approved
[Signature]
Signature, SCC Chairperson

Step 7 (Executive V.P./Provost)

Received _____
Date

Approved Yes No

If no, reasons are as follows:



Student credit hours _____

Faculty load hours _____

Equalized credit hours _____

Official copy and approval sheet filed 12 Feb 1993
Date

Signature, Executive Vice-President/Provost

Registrar

Approved course description received 23 Feb 93
Date

Hegis Taxonomy and Course Number assigned C 702

B. J. Kelsey
Signature, Registrar

23 Feb 93
Date

Notification forwarded:

- Senate Curriculum Committee Chairperson
- Department Chairperson(s)
- Academic Dean(s)
- Registrar
- Sponsor(s)

Statistics Concentration/Minor Program Proposal

Abstract

Sponsors: Dr. Zenaida Otero Keil, Dr. Fran Masat,
Dr. Ron Czocho and the Department of Mathematics

Statistical analyses have become common place in a wide range of industrial occupations ranging from business to scientific and engineering areas. During the last decade, employers have come to regard statistics as an important component of education in many disciplines. As a result, colleges and universities throughout the country have established statistics programs. This proposal is to establish a Statistics Concentration to serve Glassboro State students. The Statistics Concentration would serve the entire College since any student in any major could choose to participate in the program as long as he/she met the program requirements. A student in any major who completed the proposed program would be more marketable and would have gained an understanding of an important area of mathematics.

The Statistics Concentration proposed is consistent with the Department of Mathematics' goals: to continue and improve its service to the College community, to offer state of the art educational opportunities for students, and to be responsive to the needs of employers.

The proposed Statistics Concentration consists of 18 credit hours; nine hours of required courses and nine hours of electives. It is possible for a student to take all of the program courses from the Department of Mathematics. It is also possible for a student to combine Mathematics courses with appropriate courses from other departments as listed in the Outline of Program Content Section of this proposal. The Statistics Concentration could be implemented by Spring 1993. There is presently enough faculty and equipment to implement the proposed program. The library resources are adequate.

Glassboro State College
Department of Mathematics

Program Proposal
Statistics Concentration

1. Details

- | | |
|-------------------------------------|---|
| a) Program Title | Statistics Concentration |
| b) Sponsors | The Department of Mathematics |
| c) Credit Hours | 18 (9 of requirements and 9 of
electives) |
| g) Suggested Time
Implementation | Fall 1993 |
| h) Resources | Faculty are available to teach the
necessary courses. Equipment and
library resources are adequate. |

2. Rationale

Statistical analysis of data and experiment design have increased in significance in the last decade. As experimentation and data collection have become more expensive and regulated, corporations, academia and the government have invested significant resources in the development of statistical techniques to optimize the amount of information obtained from each experiment. In addition, many institutions have begun to form statistics groups within the organization to have internal expertise in statistics available to their employees.

Statistical analysis of data and experiment design are a vital part of most subject areas. They are used in business, the physical and biological sciences and engineering as well as in the social sciences. Thus, students with a background in statistical analysis and design are more marketable and bring to an employer an important knowledge base.

Recently, the number of students interested in actuary science has increased significantly. A statistics concentration would be of benefit to these students who could graduate from Glassboro State College ready to contribute directly in actuarial applications.

The proposed Statistics Concentration will offer the college increased flexibility and significant benefit to students in a wide variety of disciplines. As stated above, statistical analysis and design are used in areas ranging from the social sciences to highly technical areas in science and engineering as well as in business applications. Thus, students in many of these majors could choose to enhance their education by obtaining a Statistics Concentration along with their major. They could also take some of the courses offered without completing the concentration and still benefit. A Statistics Concentration would offer an additional option to mathematics students as well as students from other departments.

A Statistics Concentration would benefit a large number of students in the College. It would enhance the contributions the college makes to the community since these courses could benefit non-degree students working in industry. A Statistics Concentration would enhance the image of the College, since it would be offering courses and a concentration in a growing and important area.

3. Essence of the Concentration/Minor:

a) Objectives in relation to student outcome

Students will

- o gain an understanding of the theoretical and applied aspects of statistical analysis of data, inference development, hypothesis testing and design of experiments
- o be able to optimize data analysis and experimental programs and surveys
- o be exposed to applications in a wide range of areas including the social sciences, business, and the physical sciences

b) Outline of Concentration/Minor Content

The Statistics Concentration consists of 18 credit hours. Nine hours of required courses and nine hours of electives as listed below.

REQUIREMENTS: Statistics I (1703.260) or Statistical and
 Research Methods in Psychology I (2007.311)
 3 s.h.

 Statistics II (1703.261) or Statistical and
 Research Methods in Psychology II (2007.312)
 3 s.h.

 Statistical Design of Experiments I (new course -
 proposal submitted)
 3 s.h.

ELECTIVES: Probability and Statistics I (1702.260)
 3 s.h.

 Probability and Statistics II (1702.261)
 3 s.h.

 Statistical Design of Experiments II (new course -
 proposal submitted)
 3 s.h.

 Research Methods in Marketing (0509.374)
 3 s.h.

 Introduction to Survey Research (0699.361)
 3 s.h.

 Econometrics (2204.480)
 3 s.h.

 Quantitative Methods in Geography (2206.350)
 3 s.h.

 Economic Statistics (2204.242)
 3 s.h.

 Sociological Methods and Statistics (2208.421)
 6 s.h.

4. Consultants:

Karen Rappaport, Supervisor
Statistics Group, Hoechst Celanese

Kim Kearns Hockman, Statistician,
E.I. duPont de Nemours and Company

Charles Schultz, Chairperson
Physical Sciences

Harold W. Lucius, Dean
School of Business

Eleanor Gaer, Chairperson
Psychology Department

John Myers, Chairperson
Sociology Department

Ben Hitchner, Chairperson
Economics Department




GLASSBORO STATE COLLEGE

Sociology Department

Glassboro, New Jersey 08028-1762 (609) 863-6076

November 26, 1990

To: Dr. Zenaida Otero Keil
Associate Professor
Dept. of Mathematics

From: John P. Myers 
Sociology

Re: Proposal for Statistics Concentration

Thank you for sharing the proposal for the Statistics Concentration. Dr. Pearl Bartelt, Dr. Ted Tannenbaum and I discussed your proposal. We believe that such a concentration as you propose would be of benefit to Glassboro students. However, we believe that the Sociological Methods and Statistics course should be included as an elective. As far as we know, this is the only course which combines various research designs with quantitative methods. The result of this is that students become aware of the relationship between abstract ideas and concrete applications. Students learn how to raise research questions, develop ways to measure appropriate variables, construct data collection techniques, and gain skills in preparing, organizing, and analyzing empirical data.

I hope that our comments have been helpful. Please let me know if we can provide further input.

JPM/m
cc: P. Bartelt
T. Tannenbaum



GLASSBORO STATE COLLEGE

Economics Department

Glassboro, New Jersey 08028-1761 (609) 863-6014

November 14, 1990

To: Dr. Keil
From: Dr. Peter Kressler *Peter Kressler*
Re: Statistics Concentration
Statistical Design of Experiments
Advanced Statistical Design of Experiments

We received the proposals for a Statistics Concentration and the two new mathematics course proposals.

We support fully these proposals. Indeed, we anticipate that some of our majors will take advantage of this course of study.

We request, however, that Elementary Statistics and Economic Statistics be included as an option in the requirements for the concentration as well as in the prerequisites for the two proposed new mathematics courses. This will enable our majors to participate in this worth while concentration.