

700-500 #
1974
R

Course Approval

Department Geography/Anthropology

Title Quantitative Methods in Geography (2206.350)

Sponsor(s) Ed Behm & Dick Scott No. of Credits 3

X

Approved by the department Graduate ()

Not recommended by the department Undergraduate (X)

Information copies forwarded: Academic Dean; Chairman; Curriculum Committee

Charles A. Stansfield, Jr.
Signature: Department Chairman
Charles A. Stansfield, Jr.

ACADEMIC DEAN

Course syllabus received

→ Approved as submitted. Returned to department; open hearing authorized

Approved as revised. Returned to department for concurrence

Returned to department for revision

Comments:

Alan Domason 2/5/76
Signature: Academic Dean

OPEN HEARING

Assigned by
Curriculum Committee

Forwarded to the Curriculum Committee for review

Copies of proposal forwarded to Curriculum Committee members

Open hearing held by the department Curriculum Committee

Referred to the Academic Dean for the following reason(s):

Shirley C. O'Leary
Signature: ~~Department Chairman~~

Shirley C. O'Leary
Signature: Reviewer, Curriculum Committee

CURRICULUM COMMITTEE

Approved proposal received

Returned to the department for the following reason(s):

Approved by the Curriculum Committee

Presented to Executive Committee of the Faculty Senate as information

Notifications forwarded: Academic Dean; Department Chairman

Signature, Chairman, Curriculum Committee

ACADEMIC DEAN

I have reviewed the final documents as approved and concur with same. Budget, faculty and library resources are adequate for immediate implementation.

I have reviewed the final documents as approved and concur with same. Budget, faculty and/or library allocations for the current academic year are inadequate for immediate implementation or implementation in the next fiscal year. The earliest that the proposal might be implemented would be _____.

HEGIS Taxonomy Number: _____

Signature: Academic Dean

Copies forwarded: Chairman, Curriculum Committee: Department Chairman:
Provost; Registrar

REGISTRAR

Approved course description received

Signature, Registrar

PROVOST

Official copy and approval sheet filed

Signature, Provost (or designee)

GLASSBORO STATE COLLEGE
Glassboro, New Jersey

Course Proposal

I. Identification of the Proposal

- A. Name - Quantitative Methods in Geography (2206.350)
- B. Sponsors - Edward F. Behm and Richard A. Scott

II. Statement from the Department Chairman

This course is proposed to serve the needs of students majoring in Geography, especially those students who contemplate graduate school in geography or in planning; and those who wish to enter the planning, research technician, business, or civil service job market directly after their undergraduate work, should be strongly urged to take this course. The course will be offered during regular fall and spring semesters, but will not be offered during summer sessions, because of the very heavy work load the course requires.

The course will not place a heavy demand on library holdings, but as new research is developed it must be added to current holdings.

At present two members of the geography staff are qualified to offer the course; no additional staff positions are necessary, but new staff are likely to have training in quantitative geography.

III. Outline of the Proposal

A. Essence of the Proposal

1. Course Title: Quantitative Methods in Geography
2. Semester hours of credit granted: 3
3. Course Level and Prerequisites: Elementary Statistics I (Math Department) or permission of Instructor
4. Current curricula pattern into which the course falls: Free Elective
5. Enrollment: 25 per section

B. Details of the Proposal

1. Uniqueness of the course - In the aftermath of the internecine battles between "quantitative" geographers and "mere descriptionists" during the 1960's, quantitative methods including descriptive statistics, inferential statistics, spatial statistics, computer mapping, and simulation have taken a firm place alongside cartography, air photo interpretation, and field methods in the tool kit of geographers. If a young student hopes to understand much of current geographic research, and certainly if he hopes

to contribute to that research, then that student must be adept in the variety of skills covered by the term quantitative geography. A student can not succeed in many planning or geography graduate departments unless the fundamentals of quantitative geography are mastered. This course will also allow the student to achieve greater depth of understanding in many systematic geography courses.

2. Objectives of the Course: In this course students will:
 - a. master those elements of the "scientific method" which relate to geographic research
 - b. learn to apply standard descriptive and inferential statistical methods to geographic problems
 - c. learn those descriptive and inferential statistics and measures which apply particularly to spatial analysis (e.g. centographic measures, nearest neighbor analysis, shape measures)
 - d. learn the "mechanics" (e.g. key punch, JCL program submittal routine) of the Glassboro State College Computing Center
 - e. learn to use one set of "canned" computer programs (e.g. Statistical Package for the Social Sciences, or Scientific Subroutine Package)
 - f. learn to use electronic desk calculators

3. Scope of the Course: Generalized Course Outline

- a. Quantitative Methods in Geography
 1. Geography and Quantification: A Short History
 2. Scientific Method and Geography
 3. Measurement Scales
 4. Geographic Sampling Problems
 5. Two Variable Correlation and Regression
 6. Advanced Geographic Sampling Problems
 7. Multiple Correlation and Regression
 8. Trend Surface Analysis
 9. Spatial Autocorrelation
 10. Measures of Average Position in Spatial Distribution
 11. Analysis of Point Patterns: Quadrant and Nearest
 12. Neighbor Methods
 13. Measures of Shape
 14. Measures of Contiguity

4. General Statement of Teaching Methods

For the most part the material taught in this course is cumulative. If the student does not thoroughly understand the material studied last week, then he will be completely lost this week, and in a

hopeless academic position shortly. This suggests that there is a need for very frequent evaluation of the progress of each student. Therefore, the course will be organized around "competency units". When a student masters one "package" or "unit" to his and to the instructors satisfaction, then he may move on to the next unit and so on until the required materials are successfully completed.

Initially, the course will be taught via lecture, demonstration, and lab sessions during which students work on statistical problems under the guidance of the instructor. In time computer programs can be written to take over more and more of the actual instruction. As this happens, lectures and demonstration may become less important as teaching methods, and the role of the instructor will be to assist in lab problems, to familiarize students with the computer programs, and to act as the "teacher of last resort". At this point class size can become somewhat larger -- possibly thirty.

5. Methods of Evaluation

The students will show progress by:

- a. completion of competency units. Evaluation will be based on quantity of work completed, and the quality of the work done
- b. performance on take home mid term and final exams
- c. participation in class discussions

C. Rationale

Vast portions of modern geographical research are inaccessible to students who are unfamiliar with the fundamentals of statistics. A person with an undergraduate major in a liberal arts field such as geography should be able to understand and use, if not contribute to, the research being carried out by professionals in that field. Without basic competency in statistics this minimal requirement of "use of knowledge" will be unfulfilled. Additionally, this course will enhance the value of other systematic and regional geography courses, and will provide the student with a practical skill useful in getting and keeping a job or in attaining entrance into graduate or professional schools.

IV. Course Description

Quantitative Methods in Geography

Advanced topics in the application of inferential statistical methods to geographic research. Also, introduction to techniques designed especially for analysis of spatial patterns and distribution.

PREREQUISITE: a course in statistics (e.g. Elementary Statistics I offered by the Mathematic Department), or permission of the instructor



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

DEPARTMENT OF GEOGRAPHY/ANTHROPOLOGY

MEMO TO: All College Curriculum Committee
FROM: Anthropology Section, Department of Geography/Anthropology
DATE: 20 December, 1974
RE: Proposed Concentration in Anthropology
SPONSORS: Mr. Robert Edwards, Dr. David Kasserman, Dr. Han Kim
Mrs. Janet Robison.

The following proposed program is designed to offer the students at Glassboro State College a concentration in anthropology. The program will require twenty-one credit hours of anthropology courses and approved alternates. It will systematically introduce students to the range of anthropological interests, methodology, subject matter, and theory, while contributing to interdisciplinary study in the social sciences at the College.

DEPARTMENTAL STRUCTURE FOR IMPLEMENTING THE PROGRAM

A. STUDENT SERVICES

1. **ADVISEMENT COORDINATOR.** An Anthropology Advise ment Coordinator will be provided by the department, who will be responsible for the articulation between the program, the faculty, and the student population. The Advise ment Coordinator will:

- a. interview new students, and assign advisors.
- b. keep a file on each anthropology concentration student, including a complete record of his anthropology career and notice of all decisions made concerning his particular program.
- c. to coordinate the advise ment process, and evaluate proposed alternate courses taken for anthropology credit.

2. **ADVISORS.** All anthropology faculty will be available as advisors. Students who wish to have a particular faculty member as advisor may make such a request. Others will be assigned an advisor by the Advise ment Coordinator on the basis of an initial interview. Students may change their advisors if they desire by contacting the Advise ment Coordinator. The advisors will:

- a. advise the student about the nature of the anthropology courses and their appropriateness for specific student programs.
- b. insure that no student selects a series of courses such that he cannot finish the requirements of the concentration within the time remaining to the student at Glassboro.
- c. act as the student's representative in all intra-departmental matters.

B. INTERNAL ORGANIZATION

1. **PROGRAM COORDINATOR.** The Program Coordinator will act essentially as a department chairperson. The Program Coordinator will:

- a. call and chair meetings of the anthropology faculty. In situations in which votes are taken concerning department action or policy, the Program Coordinator will acquire a tie-breaking vote when necessary.
- b. act as liason between the anthropology faculty and other college organizations. The Program Coordinator will represent the anthropology faculty, and will be responsible for relaying to them information which might influence the anthropology program (for instance, departmental or divisional policies).
- c. coordinate course offerings. Course assignments will be determined through faculty discussion. The coordinating activities of the Program Coordinator will be confined to insuring that a sufficient number of courses will be offered in any two year period to allow the completion of concentration requirements.

PROGRAM ORGANIZATIONAL REQUIREMENTS

1. DEGREE STATUS. No degree will be offered. The program is designed both to enhance the traditional liberal arts education and to provide more intensive anthropological training than is now offered for those students whose career interests would benefit by it.
2. LIBRARY REQUIREMENTS. A minor concentration in anthropology can be supported by the present library, developing as it has in the immediate past.
3. FACILITIES REQUIRED. The construction of the Robinson Building, including a physical anthropology lab, has provided an excellent classroom environment. The recent acquisitions of bones, artifacts, and tools are sufficient to support the concentration.
4. FACULTY. The present faculty is sufficiently diverse in its skills to offer a minor program. The addition of an archaeologist would be helpful (particularly in preparation for an eventual major program), but certainly not essential.
5. FUNDING. No additional funding would be required for the implementation of the minor program.

An anthropology concentration program, far from placing unrealistic demands on the resources of the College, would aid in the efficient utilization of them and the direction of their further development.

PROGRAM DIRECTION

A minor concentration in anthropology would serve three basic purposes at Glassboro.

1. The program would provide better service than is now possible to those students who desire a structured education in anthropology. At the same time that the program would serve these students, it would have a beneficial effect on the college by broadening its liberal arts offerings.
2. The program would increase the effectiveness of Glassboro's anthropology offerings to majors in other departments. The minor would be of special value to education majors who plan to specialize in social studies. It likewise would have obvious appeal to sociology majors who wish to expand their study to include a sample of non-Western societies. Since anthropologists are interested, in effect, in the variety of solutions people have developed for recurrent human problems, the study of anthropology can provide the student with comparative data leading to productive insights in many diverse fields. The program would give a large number of students the opportunity to develop a liberal arts curriculum which would result in an education both diversified and applicable to their central interests.
3. The program would serve as a pilot operation for the eventual development of an anthropology major program. It would provide the student forum necessary to allow the introduction of more advanced classes, be useful in gauging student response to anthropology, and aid in the development of an

ANTHROPOLOGY CONCENTRATION PROGRAM

The anthropology concentration program requires that the student take twenty-one hours of anthropology and related courses approved by the student's anthropology advisor. These courses will be taken from the following three categories:

1. CORE COURSES. The student will be required to complete both of the following courses:

2202.201 Introduction to Physical Anthropology (3 CH)

2202.202 Introduction to Cultural Anthropology (3 CH)

for a total of 6 credit hours.

2. AREA STUDIES. The student will be required to take any two of the following courses:

2202.310 Indians of North America (3 CH)

2202.311 Peoples and Cultures of Africa (3 CH)

2202.350 Comparative Ethnography (3 CH)

2202.325 American Ethnography (3 CH)

2202. Peoples and Cultures of Asia (3 CH)

for a total of 6 credit hours.

3. ELECTIVES. The student will be required to complete three of the following courses:

2202.203 Introduction to Archaeology (3 CH)

2202.320 Anthropological Approaches to Language and Culture (3 CH)

2202.321 Cultural Ecology (3 CH)

2202.322 Anthropological Approaches to Kinship (3 CH)

2202.323 Anthropology of Magic and Religion (3 CH)

2202.370 Peasant Societies (3 CH)

2202.371 Anthropological Approaches to Culture Change (3 CH)

2202.390 Medical Anthropology (3 CH)

2202.420 Culture and Personality (3 CH)

2202.491 Independent Study in Anthropology (3 CH)

2202.492 Undergraduate Research Seminar in Anthropology (3 CH)

for a total of 9 credit hours.

Please note that the offerings in categories two and three, Area Studies and Electives, will be expanded as more courses are developed in the anthropology section.

INTER-DEPARTMENTAL CREDIT. Students may take anthropology-related courses offered by other departments for credit toward an anthropology concentration, subject to the approval of their anthropology advisors. Inter-departmental credit is limited to six hours, and is only applicable in the Electives requirement.

INDEPENDENT STUDY. The applicability of an independent study course to fulfilling concentration program requirements will be determined by the student's advisor in consultation with the course instructor. The student will be limited to a maximum of two independent study courses in anthropology.

RATIONALE FOR THE STRUCTURE OF THE PROGRAM

Anthropology takes its defining characteristics as an academic discipline from the diversity, and yet inter-relatedness, of the subjects which it encompasses. The structure of the concentration program is designed to ensure that the student will be exposed to the minimum range of anthropological concepts necessary for a generalized understanding of the discipline.

1. CORE COURSES. Traditionally, anthropology major programs have required students to take courses in each of the four subdisciplines within anthropology: cultural anthropology, linguistics, archaeology, and physical anthropology. For the student who is not planning a career in anthropology, this four part division can be condensed. Anthropology can be divided into two related fields: the study of man's physical make-up and evolution, and the study of his behavioral patterning, diversity, and development. Cultural anthropology, archaeology, and linguistics all deal with behavior, while physical anthropology deals primarily with physical structure. A minimum effective introduction to the scope of anthropology, then, requires study in the two areas of the physical and behavioral nature of man. The core course requirements are designed to offer the student instruction in the range of anthropological research while not forcing him to become proficient in specific methodological operations which would not be of primary importance to the non-major.

2. AREA STUDIES. Anthropology gains much of its strength--and much of its popularity--through the comparative study of man's cultures. While this once was limited to non-western cultures, the scope of anthropology has broadened to include the analysis of Western cultures as well. Two assumptions have been characteristic of anthropologists concerning data on specific cultures. One has been that objective observation and analysis of patterns of behavior is at least initially easier to attain when working with a foreign culture. The other is that patterns of behavior are highlighted by the comparison of diverse cultures. There can be no substitute in anthropology for objective data about varying cultures. The area studies requirement gives the student an introduction to the kinds of data available to the anthropologist, and which the anthropologist employs in constructing his generalizations.

3. ELECTIVES. The ultimate goal of many anthropologists is to construct workable models which will account for much of already observed human behavior and allow a reasonably accurate forecast of future events. The development of theory leads to a problem of orientation, rather than an area approach. The elective category is constructed to offer the student access to the kinds of generalizations anthropologists have made about recurrently interesting problems, such as what is religion or magic, how does language work, or how do cultures change? The elective category also gives the student the opportunity to develop, through participation in actual research, some of the skills necessary to the practicing anthropologist. This experience is doubly useful since it both trains the student in potentially valuable skills, and gives him a critical insight into the production of anthropological data.