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APP-12/12/95

Sen App-2/6/96

CURRICULUM PROPOSAL COVER SHEET

University-Wide Undergraduate Curriculum Committee

I. CONTACT

Contact Person Gail S. Sechrist Phone 357-2250

Department Geography and Regional Planning--Geography

II. PROPOSAL TYPE (Check All Appropriate Lines)

 COURSE _____

Suggested 20 character title

 New Course* _____

Course Number and Full Title

 Course Revision _____

Course Number and Full Title

 Liberal Studies Approval+ _____
for new or existing course

Course Number and Full Title

 Course Deletion _____

Course Number and Full Title

 Number and/or Title Change _____

Old Number and/or Full Old Title

New Number and/or Full New Title

 Course or Catalog Description Change _____

Course Number and Full Title

 X PROGRAM: X Major Minor Track

 New Program* _____

Program Name

 X Program Revision* Bachelor of Arts--Geography

Program Name

 Program Deletion* _____

Program Name

 Title Change _____

Old Program Name

New Program Name

III. Approvals (signatures and date)

Gail S. Sechrist 9/11/95
Department Curriculum Committee

Susan Forbes 9-11-95
Department Chair

[Signature]
College Curriculum Committee

[Signature] 9/25/95
College Dean

[Signature]
+Director of Liberal Studies (where applicable)

[Signature] 12/1/95
*Provost (where applicable)

Part II. Description of Curriculum Change

1) New Catalog Description

Majors in geography and in regional planning each have a specific core curriculum that presents a structured approach to the field. Appropriate subfields or tracks are available in both programs to prepare students for graduate work and to support different career options for majors. There are four tracks for the geography major and four tracks for the regional planning major.

⑩ General Geography Track

The General Geography Track encourages the major to sample courses from different subfields of the discipline. This track prepares the major for graduate work in geography and related fields of employment. Job options include report writing, research analysis, and data gathering. In government employment, the State Department, Department of Commerce, and the Census Bureau are significant places for geography skills.

⑩ Geography/Geographic Information Systems and Cartographer Track

⑩ Regional Planning/Geographic Information Systems and Cartographer Track

The Geographic Information Systems and Cartographer Track prepares students for employment as Geographic Information System Specialists, Facilities Managers, Cartographers, and Remote Sensing professionals. Course work includes methods for identifying, modeling, and analyzing the spatial organization of human and environmental systems from both practical and theoretical perspectives. Data collection, spatial information management, and graphic presentation are integral skills taught in track courses. Such skills could be used, for example, for analysis of wildlife habitat, utility facility management, or transportation system design and maintenance.

⑩ Economic Geographer Track

⑩ Economic Developer Track

The Economic Track provides a broad framework of ideas and theories in addition to a task-oriented approach to location analysis. Site planners articulate the needs of the community for economic space, the demands for convenient transport, the role of private enterprise, and the management of growth. This inter-related group of courses is useful to students because economic geographers and developers are expected to analyze the interactions of concepts and variables. Market analysis for the location of new shopping centers, for example, requires understanding of economic principles, population characteristics, and the local political milieu all in a spatial context.

⑩ Environmental Geographer Track

⑩ Environmental Planner Track

The Environmental Track is designed to prepare majors in geography or regional planning for careers in environmental fields or graduate study that leads to a variety of environmental positions. Students who elect this track will acquire knowledge of the physical and human processes that shape the environment, strategies for analyzing environmental issues, and concepts that underlie strategies for ameliorating environmental problems. The skills acquired in this track will enable students to assess the causes, consequences, and solutions to a wide variety of environmental issues such as water pollution, acid rain, or tropical deforestation.

Bachelor of Arts--Geography/General Geography Track

Liberal Studies: As outlined in Liberal Studies section 54-58
with the following specifications:

Mathematics: MA 121 or MA 217

Liberal Studies electives: No courses with GE prefix

College:

Foreign Language Intermediate Level (1) 0-6

Major:

36

Required Courses:

GE 213 Cartography I	3sh
GE 230 Cultural Geography	3sh
GE 231 Economic Geography	3sh
GE 241 Physical Geography	3sh
GE 411 History of Geography	3sh
GE 412 Research Seminar	3sh

Controlled Electives:

One course from GE 251-257	3sh
Five courses (15 sh) from any GE courses [only one GE 100 level permitted]	15sh

Free Electives:

30-34

Total Degree Requirements

124

(1) Intermediate-level Foreign Language may be included in Liberal Studies electives.

Bachelor of Arts--Geography/GIS & Cartographer Track

Liberal Studies: As outlined in Liberal Studies section
with the following specifications:

54-58

Mathematics: MA 121 or MA 217

Liberal Studies electives: CO/IM/BE 101 recommended, no courses with GE prefix

College:

Foreign Language Intermediate Level (1)

0-6

Major:

36

Required Courses:

GE 213 Cartography I

3sh

GE 230 Cultural Geography

3sh

GE 231 Economic Geography

3sh

GE 241 Physical Geography

3sh

GE 411 History of Geography

3sh

GE 412 Research Seminar

3sh

Controlled Elective:

One course from GE 251-257

3sh

Track Courses:

GE 313 Cartography II

3sh

GE 314 Map and Photograph Interpretation

3sh

GE 316 Introduction to GIS

3sh

GE 415 Remote Sensing

3sh

GE 417 GIS Applications Development

3sh

Free Electives:

25-34

Total Degree Requirements:

124

(1) Intermediate-level Foreign Language may be included in Liberal Studies electives.

Bachelor of Arts--Geography/Economic Geographer Track

Liberal Studies: As outlined in Liberal Studies section

54-58

with the following specifications:

Mathematics: MA 121 or MA 217

Social Sciences: EC 121

Liberal Studies electives: EC 122, no courses with GE prefix

College:

Foreign Language Intermediate Level (1)

0-6

Major:

36

Required Courses:

GE 213 Cartography I

3sh

GE 230 Cultural Geography

3sh

GE 231 Economic Geography

3sh

GE 241 Physical Geography

3sh

GE 411 History of Geography

3sh

GE 412 Research Seminar

3sh

Controlled Elective:

One course from GE 251-257

3sh

Track Courses:

GE 331 Population Geography

3sh

GE 332 Urban Geography

3sh

GE 333 Trade and Transportation

3sh

GE 334 Political Geography

3sh

GE 464 Land Use Policy

3sh

Free Electives:

30-34

EC 383 Urban/Regional Economics recommended

Total Degree Requirements

124

(1) Intermediate-level Foreign Language may be included in Liberal Studies electives.

Bachelor of Arts--Geography/Environmental Geographer Track

Liberal Studies: As outlined in Liberal Studies section

54-55

with the following specifications:

Mathematics: MA 121 or MA 217

Liberal Studies electives: CO/IM/BE 101 recommended, no courses with GE prefix

College:

Foreign Language Intermediate Level (1)

0-6

Major:

36

Required Courses:

GE 213 Cartography I	3sh
GE 230 Cultural Geography	3sh
GE 231 Economic Geography	3sh
GE 241 Physical Geography	3sh
GE 411 History of Geography	3sh
GE 412 Research Seminar	3sh

Controlled Elective:

One course from GE 251-257	3sh
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Track Courses:

Five of the following:

GE 316 Introduction to GIS	3sh
GE 314 Map and Photograph Interpretation	3sh
GE 340 Fresh Water Resources	3sh
GE 341 Climatology	3sh
GE 342 Physiography	3sh
GE 415 Remote Sensing	3sh
GE 440 Conservation: Environmental Analysis	3sh

Free Electives:

30-34

Total Degree Requirements:

124

(1) Intermediate-level Foreign Language may be included in Liberal Studies electives.

2) Summary of Changes

a) Table Comparing old and new

GEOGRAPHY

OLD		NEW	
Bachelor of Arts--Geography		Bachelor of Arts--Geography/General Geography Track	
Liberal Studies: As outlined in Liberal Studies section with the following specifications:	54-55	Liberal Studies: As outlined in Liberal Studies section with the following specifications:	54-58
Mathematics: MA 217 recommended		Mathematics: MA 121 or MA 217	
Natural Science: GS 101/102, 103/104 or GS 121/122, 131/132		Liberal Studies electives: no courses with GE prefix	
Liberal Studies electives: CO/IM/BE 101, no courses with GE prefix		College:	0-6
College:	0-6	Foreign Language Intermediate Level	
Major:	36	Major:	36
Required courses:		Required courses:	
GE 230 Cultural Geography		GE 213 Cartography I	
GE 241 Physical Geography		GE 230 Cultural Geography	
GE 312 Research in Geography and Planning		GE 231 Economic Geography	
GE 411 History of Geography		GE 241 Physical Geography	
Controlled electives:		GE 411 History of Geography	
One course from GE 251-257		GE 412 Research Seminar	
One course from GE 313-14		Controlled electives:	
Six courses (18cr) from any other GE courses		One course from GE 251-257	
Free Electives:	27-34	Five courses (15cr) from any GE courses [only one GE 100-level permitted]	
Total Degree Requirements:	124	Free Electives:	30-34
		Total Degree Requirements:	124
		Bachelor of Arts--Geography/GIS/Cartographer Track	
		Liberal Studies: As outlined in Liberal Studies section with the following specifications:	54-58
		Mathematics: MA 121 or MA 217	
		Liberal Studies electives: CO/IM/BE 101 recommended, no courses with GE prefix	
		College:	0-6
		Foreign Language Intermediate Level	
		Major:	36
		Required Courses:	
		GE 213 Cartography I	
		GE 230 Cultural Geography	
		GE 231 Economic Geography	
		GE 241 Physical Geography	
		GE 411 History of Geography	
		GE 412 Research Seminar	
		Controlled Elective:	
		One course from GE 251-257	
		Track Courses:	
		GE 313 Cartography II	
		GE 314 Map and Photograph Interpretation	
		GE 316 Introduction to GIS	
		GE 415 Remote Sensing	
		GE 417 GIS Applications Development	
		Free Electives:	30-34
		Total Degree Requirements:	124

Bachelor of Arts—Geography/Economic Geographer Track**Liberal Studies:** As outlined in Liberal Studies 54-58

section with the following specifications:

Mathematics: MA 121 or MA 217

Social Sciences: EC 121

Liberal Studies electives: EC 122, no courses with GE prefix

College: 0-6

Foreign Language Intermediate Level

Major: 36

Required Courses:

GE 213 Cartography I

GE 230 Cultural Geography

GE 231 Economic Geography

GE 241 Physical Geography

GE 411 History of Geography

GE 412 Research Seminar

Controlled Elective:

One course from GE 251-257

Track Courses:

GE 331 Population Geography

GE 332 Urban Geography

GE 333 Trade and Transportation

GE 334 Political Geography

GE 464 Land Use Policy

Free Electives: 30-34

EC 383 Urban/Regional Economics recommended

Total Degree Requirements: 124**Bachelor of Arts—Geog/Environmental Geographer Track****Liberal Studies:** As outlined in Liberal Studies 54-58

section with the following specifications:

Mathematics: MA 121 or MA 217

Liberal Studies electives: CO/IM/BE 101 recommended, no courses with GE prefix

College: 0-6

Foreign Language Intermediate Level

Major: 36

Required Courses:

GE 213 Cartography I

GE 230 Cultural Geography

GE 231 Economic Geography

GE 241 Physical Geography

GE 411 History of Geography

GE 412 Research Seminar

Controlled Elective:

One course from GE 251-257

Track Courses:

Five of the following:

GE 316 Introduction to GIS

GE 314 Map and Photograph Interpretation

GE 340 Fresh Water Resources

GE 341 Climatology

GE 342 Physiography

GE 415 Remote Sensing

GE 440 Conservation: Environmental Analysis

Free Electives: 30-34**Total Degree Requirements:** 124

b) List of All Associated Changes for Geography Major

- 1) New Department Prefix (RP) for all Regional Planning Courses
- 2) Changing Liberal Studies Specification List for Geography.
- 3) Addition of two courses to Major Required Courses List:
 - a) GE 213 Cartography I.
 - b) GE 231 Economic Geography.
- 4) Changes in Controlled Electives.
 - a) Removal of mapping controlled elective GE 313-314.
 - b) Reduction in number of free geography electives.
 - c) Addition of statement that only one GE 100 level course is permitted.

3) Rationale for Changes

- 1) The rationale for introducing the departmental prefix RP for certain courses is given in the planning proposal. Its impact for the geography major is that it will more clearly distinguish those courses in the department that are best suited for the Regional Planning majors either by changing the current prefix from GE to RP or by cross listing certain courses.
- 2) Rationale for Changes in Liberal Studies Specification List.
The Liberal Studies specification list for Geography majors is being changed to allow students more flexibility. For the Mathematics requirement, we are shifting from recommending MA 217 Probability & Statistics to providing a list of two options (MA 121 Calculus I or MA 217). We have decided to leave the Natural Science option open because other sciences besides geoscience may be acceptable options for our majors. Those in the Environmental Geographer Track, for example, might find Biology more appropriate. Frequently, we have granted waivers for students who have taken biology or another science that was appropriate for their specific interests.

We are also removing the computer science requirement from the General and Economic Tracks and making it recommended for the Cartography/GIS and Environmental Geographer Tracks. This change will allow students who are already computer literate other options. The Economic Track will have EC 121 and EC 122 required because these courses provide a good grounding in Economics essential for students in this track.

- 3) Rationale for Addition of Two Courses to Major Required Courses List.
 - a) GE 213 Cartography I is being added to the core requirements because of the significant role the presentation and analysis of maps play in presenting and analyzing spatial data. Cartography is the most important graphic form that geographers use. Additionally, employment in the field increasingly requires computer mapping skills. At least ninety geography departments around the country (including Clarion, Kutztown, UPJ, and Shippensburg) already require a cartography course.
 - b) GE 231 Economic Geography is being added to the core requirements because of the increasing importance in today's world of the global economy. The course provides practical skills and theories for understanding how production, distribution, and consumption systems function in a spatial framework. Along with Cultural, Physical, and Cartography it is one of the important traditions in the discipline of Geography.

4) Rationale for Changes in Controlled Electives.

- a) Removal of the mapping controlled elective (GE 313 Cartography II or GE 314 Map and Photograph Interpretation) because Cartography I is being added to the core requirements.
- b) The number of free geography electives is being reduced by three credits because of the increased number of courses in the core. The total number of credits for a Geography major thus remains at 36.
- c) Addition of the statement "only one GE 100-level permitted."
The core of our discipline is covered in each of our 100-level courses, thus it is repetitious for a major to count multiple 100 level courses.

Part III. Implementation.

1) Effect on students in the existing program.

In the transition period, we would accommodate our students in the best way possible on an individual basis. We anticipate a minimum number of problems--no situation that would defy solution to the student's benefit.

2) Effect on teaching loads.

These courses are already regularly offered. We recently began offering GE 213 Cartography I twice a year due to increased demand for the course. Additional sections could be added without seriously compromising the service course loads.

No additional faculty will be needed beyond the number currently in the department, provided that the two permanent faculty positions currently held by temporary faculty since recent retirements are retained. These positions should be converted as soon as possible for the continued support of our program.

The two courses being added to the core (GE 213 and GE 231) are ones that many majors were already taking because of faculty advising and student interest. The number of additional seats will thus not be a problem.

3) Effect on resources.

With the already increased demand for these two courses, we are equipped to handle them with current funding available to the department. Regardless, we would have had to support our mapping software upgrades with current department and university funds.

4) Effect on enrollments.

The addition of these two core courses will not greatly effect enrollments because many majors already took the courses. The modifications to the Liberal Studies specifications should make it easier for those majors who transfer from other programs.

See the sample student schedule on the following page.

Sample Student Schedule for Geography Major

Fall Semester Freshman

GE 230 Cultural Geography or
a GE 100 level course

Spring Semester Freshman

GE 241 Physical Geography

Fall Semester Sophomore

GE 213 Cartography I
GE 231 Economic Geography

Spring Semester Sophomore

GE 25X Regional Geography
(GE 213 if didn't get in Fall)

Fall Semester Junior

one or two track courses*

Spring Semester Junior

one or two track courses

Fall Semester Senior

GE 411 History of Geography
one or two track courses

Spring Semester Senior

GE 412 Research Seminar
one track course or free elective

*Each track has at least five courses

There is enough flexibility in this schedule so that students who begin as sophomores or even juniors could complete a geography major in four years.

Part V. Letters of Support.

Letters of support were requested in July from Computer Science, Mathematics, and Geoscience. Computer Science and Geoscience have yet to reply. After a discussion with the chair of Mathematics, we revised our original math requirement. A letter of support follows.