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LSC Use Only No:	LSC Action-Date:	UWUCC USE Only No.	UWUCC Action-Date:	Senate Action Date:
		03-21	Appr 11/25/03	Appr 3/2/04

Curriculum Proposal Cover Sheet - University-Wide Undergraduate Curriculum Committee

Contact Person	Email Address
Brian Okey	bokey@iup.edu
Proposing Department/Unit	**Phone**
Geography and Regional Planning	357-3766

Check all appropriate lines and complete information as requested. Use a separate cover sheet for each course proposal and for each program proposal.

1. Course Proposals (check all that apply)

✓ New Course _____ Course Prefix Change _____ Course Deletion

_____ Course Revision _____ Course Number and/or Title Change _____ Catalog Description Change

Current Course prefix, number and full title	*Proposed* course prefix, number and full title, if changing
GEOG/	RGPL 345 Biogeography for Environmental Managers

2. Additional Course Designations: check if appropriate

_____ This course is also proposed as a Liberal Studies Course.

_____ This course is also proposed as an Honors College Course.

_____ Other: (e.g., Women's Studies, Pan-African)

3. Program Proposals

_____ Catalog Description Change _____ Program Revision

_____ New Degree Program _____ Program Title Change _____ Other

_____ New Minor Program _____ New Track

Current program name	*Proposed* program name, if changing

4. Approvals		**Date**
Department Curriculum Committee Chair(s)		
Department Chair(s)		9/30/03
College Curriculum Committee Chair	Stuart Chandler	10/15/03
College Dean		10/15/03
Director of Liberal Studies *		
Director of Honors College *		
Provost *		
Additional signatures as appropriate: (include title)		
UWUCC Co-Chairs	Gail S Sechrist	11/25/03

* where applicable

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LIBERAL STUDIES

SYLLABUS OF RECORD FORMAT

I. Catalog Descriptions

GEOG 345 Biogeography for Environmental Managers

3 class hours
0 lab hours
3 credits
(3c-0l-3cr)

Prerequisite: any one of the following: GEOG 341, 342, BIOL 103, 112, 115

Examines the distribution of plants and animals across the earth's surface, as influenced by natural and human processes. Emphasis is placed on landscape and regional habitat dynamics as they relate to environmental planning and management. Field trips supplement lectures and readings. (Also offered as RGPL 345; may not be taken for duplicate credit)

RGPL 345 Biogeography for Environmental Managers

3 class hours
0 lab hours
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(3c-0l-3cr)

Prerequisite: any one of the following: GEOG 341, 342, BIOL 103, 112, 115

Examines the distribution of plants and animals across the earth's surface, as influenced by natural and human processes. Emphasis is placed on landscape and regional habitat dynamics as they relate to environmental planning and management. Field trips supplement lectures and readings. (Also offered as GEOG 345; may not be taken for duplicate credit)

II. Course Objectives

Students will:

1. Understand how long-term earth processes have shaped the current distribution of plants and animals;

2. Be familiar with ecological concepts and processes that relate to the quality and configuration of habitats and the survival of species

populations;

3. Know how human activities and needs have modified natural patterns of plants, animals, and habitats;

4. Demonstrate an ability to use this information in evaluating natural resource management alternatives and in assessing local field sites;

5. Appreciate the roles played by the disciplines of geography and regional planning in addressing biogeographic problems.

III. **Course Outline**

A. History and Scope of Biogeographic Inquiry (3 lectures)

Divisions within Biogeography

Biogeographical Investigation to 1900

Twentieth Century Theoretical Advances

B. Physical Foundations (5 lectures)

Climate

Aquatic Environments

Soils

C. Levels and Determinants of Plant and Animal Distribution (6 lectures)

Distribution of Species

Distribution of Communities

Biomes and Ecoregions

D. Historical Processes (7 lectures)

Long-term Earth Processes

Midterm Exam

Speciation, Extinction, and Dispersal

Endemism and Disjunctions

E. Human Influences on Species Distribution (6 lectures)

Exotic Species

Ethnobotany

Agroecosystems

F. Regional and Landscape Scales of Analysis (5 lectures)

Island Biogeography

Landscape Ecology

Indicators and Measurement Techniques

G. Management of Biogeographical Information (2 lectures)

H. Field Trips (8 lectures)
Due to seasonal considerations and the availability of opportunities, the number, timing, and content of trips will vary from semester to semester. Lab exercises would substitute if no field trips were possible.

I. Final Exam

IV. Evaluation Methods

The final grade for the course will be determined as follows:

35% Tests. Two tests (mid-term and final) consisting of multiple choice, short answer, map location, and essay questions.

30% Research paper. Each student will prepare an 8-10 page paper that reviews an approach/issue in evironmental planning or management that has relevance to principles and concepts of biogeography. Research papers will be graded on content and mechanics.

25% Group Field Project. Students will work in small groups (appox. 5) on a project involving the design of an environmental plan or the collection and analysis of ecological data. Groups will each submit a 5-page written report and give an oral presentation of their plan

or findings. Groups will be graded on the content and mechanics of their reports and the clarity and content of their presentations.

10% Class Exercises. Exercises (3-4) will reinforce concepts and principles discussed in the lectures.

The following grade scale will be used:
≥ 90% = A 80-89% = B 70-79% = C 60-69% = D <60% = F

V. Attendance Policy

The University expects all students to attend class. Individual faculty members will establish attendance guidelines consistent with University policies.

VI. Required textbooks, supplemental books and readings

Textbook: Spellerberg, I.F. and Sawyer, J.W.D., An Introduction to Applied Biogeography, Cambridge University Press, Cambridge, UK, 1999.

Supplemental reserve readings from: Brown, J.H. and Lomolino, M.V., Biogeography, Second Edition, Sinauer Associates, Inc., Sunderland, MA, 1998.

VII. Special resource requirements

None.

VIII. Bibliography

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Fike, J., Terrestrial & Palustrine Plant Communities of Pennsylvania, Pennsylvania Department of Conservation and Natural Resources, Harrisburg, 1999.

Forman, R.T.T., Land Mosaics: the Ecology of Landscapes and Regions, Cambridge University Press, Cambridge, UK, 1995.

Hagan, J.M. III and Johnston, D.W. (eds.), Ecology and conservation of neotropical migrant landbirds. Smithsonian Institution Press, Washington, D.C., 1992.

Huggett, R.J., Fundamentals of Biogeography, Routledge, London, UK, 1998.

Hocutt, C.H. and Wiley, E.O., The Zoogeography of North American Freshwater Fishes, John Wiley & Sons, New York, 1986.

Naughton-Treves, L., "Wild animals in the garden: conserving wildlife in Amazonian agroecosystems", Annals of the Association of American Geographers, 92(3):488-506, 2002.

Noss, R.F., "Indicators for monitoring biodiversity: a hierarchical approach", Conservation Biology, 4:355-364, 1990.

Marsh, W.M., Landscape Planning: Environmental Applications (Third Edition), John Wiley & Sons, Inc., New York, 1998.

Morrison, M.L., Marcot, B.G. and Mannan, R.W., Wildlife Habitat Relationships, The University of Wisconsin Press, Madison, Wisconsin, 1992.

Odum, E.P., "Trends expected in stressed ecosystems", BioScience 35:419-422, 1985.

Schulze, E.-D. and Mooney, H.A., Biodiversity and Ecosystem Function, Springer-Verlag, Berlin, 1993.

Smith, B.D., Rivers of Change: Essays on Early Agriculture in Eastern North America, Smithsonian Institution Press, Washington, D.C., 1992.

Vandermeer, J., van Noordwijk, M., Anderson, J., Ong, C. and Perfecto, I., "Global change and multi-species agroecosystems: concepts and issues", Agriculture, Ecosystems and Environment, 67:1-22, 1998.

Van Dyke, F., Conservation Biology: Foundations, Concepts, Applications, McGraw-Hill, Boston, 2003.

Wolf, J.J., Beatty, S.W., and Carey, G. "Invasion by sweet clover (*Melitotus*) in montane grasslands, Rocky Mountain National Park", Annals of the Association of American Geographers 93(3):531-543, 2003.

Zimmerer, K.S., "The ecogeography of Andean potatoes", BioScience, 48(6):445, 1998.