1. **Catalog Description of the Course.** [Follow accepted catalog format.]

Prefix BIOL  
Course# 406  
Title EVOLUTIONARY BIOGEOGRAPHY  
Units (3)

<table>
<thead>
<tr>
<th>Hours per Unit</th>
<th>Benchmark Enrollment</th>
<th>Graded Component</th>
<th>CS &amp; HEGIS #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecture: 3</td>
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<tr>
<td>Seminar: 1</td>
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<tr>
<td>Laboratory:</td>
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<td>Activity:</td>
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Prerequisites BIOL 303

Corequisites

Description Examine the spatial and temporal distribution of plant and animal groups with emphasis on historical, environmental and biological processes governing current patterns of species and habitat geography. Integrates theory and analytical tools from geology, paleontology, ecology, evolution and genetics to study the effects of global change on biodiversity.

Graded

Gen Ed

CR/NC

Repeatable for up to 3 units

Lab Fee Required

A - F

Total Completions Allowed

Optional (Student’s choice)

Multiple Enrollment in same semester

Title V Section 40404: Government  
US Constitution  
US History

2. **Mode of Instruction.**

3. **Justification and Learning Objectives for the Course.** (Indicate whether required or elective, and whether it meets University Writing, and/or Language requirements) [Use as much space as necessary]

This course will be an elective for Biology.

Upon completion of the course, a student will be able to:

- Students who successfully complete this course should be able to:
- Relate patterns in current species distributions to past geological and climatic events
- Describe Earth's major biogeographic regions
- Contrast the biotic and abiotic processes that govern species ranges
- Distinguish between models of dispersal and vicariance for disjunct species distributions
- Interpret an are cladogram
- Discuss the strengths and weaknesses of the theory of island biogeography

4. **Is this a General Education Course**

YES ☑

NO ☒

If Yes, indicate GE category and attach GE Criteria Form:

A (English Language, Communication, Critical Thinking)

A-1 Oral Communication

A-2 English Writing

A-3 Critical Thinking

B (Mathematics, Sciences & Technology)

B-1 Physical Sciences

B-2 Life Sciences – Biology

B-3 Mathematics – Mathematics and Applications

B-4 Computers and Information Technology

C (Fine Arts, Literature, Languages & Cultures)
5. Course Content in Outline Form. [Be as brief as possible, but use as much space as necessary]

- Physical controls on species' ranges
- Biological controls on species' ranges
- Plate tectonics and Quaternary climate change
- Speciation and extinction
- Macroevolutionary patterns
- Single species distributions
- Dispersal
- Endemism and disjunction
- Phylogenetics and reconstruction of biogeographic histories
- Island biogeography
- Community and ecosystem distributions
- Diversity patterns
- Human impacts
- Predicting future diversity patterns

Does this course overlap a course offered in your academic program? YES ☐ NO ☒
If YES, what course(s) and provide a justification of the overlap?

Does this course overlap a course offered in another academic area? YES ☐ NO ☒
If YES, what course(s) and provide a justification of the overlap?
Signature of Academic Chair(s) of the other academic area(s) is required on the signature sheet below.

6. Cross-listed Courses (Please fill out separate description for each PREFIX)
List Cross-listed Courses

Signature of Academic Chair(s) of the other academic area(s) is required on the signature sheet below.

Department responsible for staffing:

7. References. [Provide 3 - 5 references on which this course is based and/or support it.]


8. List Faculty Qualified to Teach This Course.

Biology Faculty

9. Effective Date and Frequency.
   a. Projected semesters to be offered: Fall ☒ Spring ☒ Summer ☐
b. First semester offered: 2008

10. New Resources Required. YES ☐ NO ☒
    If YES, list the resources needed and obtain signatures from the appropriate programs/units on the sheet below.
    a. Computer (data processing), audio visual, broadcasting needs, other equipment
    b. Library needs
    c. Facility/space needs

11. Will this new course alter any degree, credential, certificate, or minor in your program? YES ☐ NO ☐
    If YES attach a program modification form for all programs affected.

Amy Denton 10/27/2006
Proposer of Course Date
Approval Sheet
Program/Course:

________________________________________________________
Program Chair(s) Date

________________________________________________________
General Education Chair(s) Date

________________________________________________________
Curriculum Committee Chair(s) Date

________________________________________________________
Dean of Faculty Date