APPLICATION FOR NEW COURSE

1. Submitted by the College of ___________________________ Date: January 23, 2008

   Arts and Sciences

   Department/Division proposing course: ______________
   Geography

2. Proposed designation and Bulletin description of this course:

   a. Prefix and Number GEO 531

   b. Title* LANDSCAPE ECOLOGY

      *If title is longer than 24 characters, write a sensible title (24 characters or less) for use on transcripts:
      LANDSCAPE ECOLOGY

   c. Courses must be described by at least one of the categories below. Include the number of actual contact hours per week for each category, as applicable.

      ( ) CLINICAL  ( ) COLLOQUIUM  ( ) DISCUSSION  ( ) LABORATORY  ( ) LECTURE
      ( ) INDEPENDENT STUDY  ( ) PRACTICUM  ( ) RECITATION  ( ) RESEARCH  ( ) RESIDENCY
      ( ) SEMINAR  ( ) STUDIO  ( ) OTHER – Please explain:

   d. Please choose a grading system:
      ☒ Letter (A, B, C, etc.)  ☐ Pass/Fail

   e. Number of credit hours: 3

   f. Is this course repeatable?  YES [ ]  NO ☒  If YES, maximum number of credit hours: __________

   g. Course description:

      This course explores the field of landscape ecology— the causes, development, importance of ecological processes, and the interactions of dynamic processes over broad spatial scales that can serve as foundation for decision-making and problem solving.

   h. Prerequisite(s), if any:

      Six hours of physical geography or biology.

   i. Will this course be offered through Distance Learning?  YES [ ]  NO ☒

      If YES, please circle one of the methods below that reflects how the majority of the course content will be delivered:

      Internet/Web-based  Interactive video  Extended campus  Kentucky Educational Television (KET/teleweb)  Other

      Please describe "Other":

3.  Teaching method:  ☒ N/A or ☐ Community-Based Experience  ☐ Service Learning Component  ☐ Both

4.  To be cross-listed as:

   Prefix and Number

   Signature of chair of cross-listing department

MAR 31 2008
APPLICATION FOR NEW COURSE

5. Requested effective date (term/year): Fall / 2008

6. Course to be offered (please check all that apply): ☒ Fall ☒ Spring ☐ Summer

7. Will the course be offered every year?
   ☐ YES ☐ NO
   If NO, please explain:

8. Why is this course needed?
   New faculty in department are interested in expanding course offerings in physical geography.

9. a. By whom will the course be taught? Dr. Sherriff
   ☒ YES ☐ NO
   b. Are facilities for teaching the course now available?
      If NO, what plans have been made for providing them?

10. What yearly enrollment may be reasonably anticipated?
    15 (one section of 15 students per year)

11. a. Will this course serve students primarily within the department? ☒ Yes ☐ No
    b. Will it be of interest to a significant number of students outside the department?
       If YES, please explain.
       We anticipate it will be of interest to many students concerned with the topic.

12. Will the course serve as a University Studies Program course? ☐ YES ☒ NO
    If YES, under what Area?
    "AS OF SPRING 2007, THERE IS A MORATORIUM ON APPROVAL OF NEW COURSES FOR USP."

13. Check the category most applicable to this course:
    ☐ traditional – offered in corresponding departments at universities elsewhere
    ☒ relatively new – now being widely established
    ☐ not yet to be found in many (or any) other universities

14. Is this course applicable to the requirements for at least one degree or certificate at UK? ☒ Yes ☐ No

15. Is this course part of a proposed new program?
   If YES, please name:
   ☐ YES ☒ NO

16. Will adding this course change the degree requirements for ANY program on campus?
   If YES, list below the programs that will require this course:
   ☐ YES ☒ NO
17. ☑ The major teaching objectives of the proposed course, syllabus and/or reference list to be used are attached.

18. ☑ If the course is 400G- or 500-level, you must include a syllabus showing differentiation for undergraduate and graduate students by (i) requiring additional assignments by the graduate students; and/or (ii) the establishment of different grading criteria in the course for graduate students. (See SR 3.1.4)

19. Within the department, who should be contacted for further information about the proposed new course?

Name: Matthew Zook, DUS Phone: 7-8334 Email: zook@uky.edu

20. Signatures to report approvals:

DATE of Approval by Department Faculty
1/22/2008
Karl Rainz
Reported by Department Chair

DATE of Approval by College Faculty
3/25/08
Lauros Bechos
Reported by College Dean

* DATE of Approval by Undergraduate Council

* DATE of Approval by Graduate Council

* DATE of Approval by Health Care Colleges Council (HCCC)

* DATE of Approval by Senate Council

* DATE of Approval by University Senate

Reported by Office of the Senate Council

*If applicable, as provided by the University Senate Rules. (http://www.uky.edu/USC/New/RulesandRegulationsMain.htm)
INVESTIGATING AREA: Soc. & Behav. Sci.  COURSE, MAJOR, DEGREE or PROGRAM: GEO 531
DATE FOR EPC REVIEW: 3/25/08  CATEGORY: [ ] NEW [ ] CHANGE, DROP

INSTRUCTIONS: This completed form will accompany the course application to the Graduate/Undergraduate Council(s) in order to avoid needless repetition of investigation. The following questions are included as an outline only. Be as specific and as brief as possible. If the investigation was routine, please indicate this. The term "course" is used to indicate one course, a series of courses or a program, whichever is in order. Return the form to Leonidas Bachas, Associate Dean, 275 Patterson Office Tower for forwarding to the Council(s). ATTACH SUPPLEMENT IF NEEDED.

1. List any modifications made in the course proposal as submitted originally and why.
   Learning objectives were clarified, and some suggested reformatting of the syllabus was done.

2. If no modifications were made, review considerations that arose during the investigation and the resolutions.

3. List contacts with program units on the proposal and the considerations discussed therein.
   DUS was contacted with a request for a clarification of learning objectives and some suggestions for reformatting. The syllabus was revised accordingly.

4. Additional information as needed.

5. A&S Area Coordinator Recommendation:
   [ ] APPROVE [ ] APPROVE WITH RESERVATION, OR [ ] DISAPPROVE

6. A&S Education Policy Committee Recommendation:
   [ ] APPROVE [ ] APPROVE WITH RESERVATION, OR [ ] DISAPPROVE

7. A&S Educational Policy Committee,  Date: 3/25/08
   Jim Houglan, jghougl@kyle.uky.edu 257-4417

File: InvestigatorRpt
GEOG 531: LANDSCAPE ECOLOGY

Instructor: Dr. Rosemary Sherriff  
Office: POT 1571  Phone: 257-6057  Email: rsherriff@uky.edu  
Office hours: to be assigned

Prerequisites: Six hours of physical geography or biology. Some familiarity with geographic information systems (GIS) and statistics desirable but not required.

Definition of Landscape Ecology: This course will explore the field of landscape ecology, which is an emerging interdisciplinary field that emphasizes the importance of geographical context for understanding many natural and human systems. Landscape ecology emphasizes spatial patterning – the causes, development, importance of ecological processes, and the spatial interactions of dynamic processes. The concepts of landscape ecology often focus on ecological dynamics over broad spatial scales and serve as foundation for decision-making and problem solving in applied fields such as conservation sciences, land-use management, and urban planning and development.

Course Learning Objectives: The learning objectives of the course are as follows:
- Understand the principles of landscape ecology as a framework for landscape research, analysis and management;
- Become familiar with concepts, methods and applications of landscape ecology; and
- Show understanding of (1) the detection and characterization of landscape patterns, (2) how these patterns develop, (3) landscape dynamics, (4) the implications of landscape patterns, and (5) application of landscape management.

Course Structure: The course topics are scheduled as week blocks. The course structure includes lecture, discussion, computer and field exercises, and student presentations.

Evaluation:  
- Exam I 25%  
- Exam II 25%  
- Annotated Bibliography and Presentation 20%  
- Readings and Discussion 10%  
- Computer and field exercises 10%  
- Participation 10%

The requirements for graduate and undergraduate students will differ in the following ways:
- Exams: Approximately 50 percent of each exam will be the same for graduate and undergraduates but there will be separate essay questions for each to test graduates' deeper understanding.
- Annotated Bibliography: Undergraduates will work in groups while graduate students will do the assignment individually.
- Annotated Bibliography: Undergraduates will review 4 articles and graduate students will review 15 articles.

UG Grading Scale:  
- A = 90-100%  
- B = 80-89%  
- C = 70-79%  
- D = 60-69%  
- F < 60%

Grad Grading Scale:  
- A = 90-100%  
- B = 80-89%  
- C = 70-79%  
- F < 70%

Weekly Readings: Weekly readings will include selected chapters from the text and supplemental articles from the primary literature.

Supplemental Requirement: A calculator.

Exams (50% grade): There will be two exams that involve synthesizing topics from the assigned readings, lecture and discussions. I will provide example questions and topics that may be asked on the exam prior to each exam as a study guide. No make-up exams. Approximately 50 percent of each exam will be the same for graduate and undergraduates but there will be separate essay questions for each to test graduates' deeper understanding.

Annotated Bibliography and Presentation (20% grade):
In this assignment you will work both individually and in groups. During the week prior to spring break, I will ask you to identify a particular topic that we have discussed or a related topic to explore in more detail. After I identify broad topics of interest by students, I will assign each undergraduate into a broad topic group while graduate students will do the assignment individually. Each topic group will then identify interests among the group (or graduate student) to focus on for review and discussion with the entire class during one day of the last two weeks of class. Each group will choose a couple of articles for the class to read as part of the discussion on the chosen topic (presentation and discussion 10% grade).

For example, a number of students may be interested in exploring the topic of natural disturbance as a landscape process in more detail. As a topic group interested in disturbance, these students may decide to review the role of wildfire on ecosystems in the Southeastern US or methods used to reconstruct fire history. As a group you will put together a presentation that includes time for discussion of the topic with the entire class. You should talk to me individually about your ideas as soon as possible. I can also provide examples of possible topics.

Individually, each of you will review articles (4 for undergraduates; 15 for graduate students) on the broad topic chosen by the group, but included as part of this will be the articles chosen by the group to review with the class. For each article provide the reference citation, describe the purpose of the study, the data used, the analysis, and discuss the strengths and weaknesses of the study. The bibliography is due on the day when the final exam is scheduled. The bibliography should be typed and double-spaced (10% grade).

Readings and Discussion (10% grade): Prior to each week, one or more students will post questions to the entire class on Blackboard about the assigned reading to be used as discussion points as we cover the weekly material. In addition, these students will turn in a 2-page summary and critique synthesizing the concepts, theory, methods and importance of the assigned reading as it relates to the weekly topic. For this assignment, you should raise questions and issues to be discussed, evaluate the contribution of the readings to the fields of landscape ecology and physical geography, and facilitate discussion among the class. Each student will posts questions and write a summary twice during the semester (each representing 5% of the final grade).

Computer and Field Exercises (10% grade): There will be three computer exercises and one fieldtrip that will allow you to explore applications of the concepts discussed in class. There will generally be two parts to each exercise: (1) an in class explanation and exploration of the concepts, and (2) a computer or field component in which we meet in a location to be announced. In addition, you will be expected to spend time out of class on the exercise and turn in an brief report for each exercise.
Class Participation (10% grade):
Regular attendance and participation in class is very important and part of your class grade. All students are expected to have read the assigned readings before class and to be prepared to discuss the weekly readings. Discussion will be key to understanding the weekly readings.

Other Information:
Late assignments: If an assignment is due, please notify me in advance that you need an extension due to a personal hardship, illness or other reason. Late assignments will not be accepted otherwise unless it is an emergency situation with documentation.

Classroom environment: All cell phones, pagers, etc. MUST be turned off while in class. If it is an emergency and you are expecting a phone call, please set it to vibrate and take the call outside of the classroom. Please be respectful of yourself and others in the classroom.

Academic integrity: Cheating and plagiarism are unacceptable and subject to discipline as prescribed by the University (see http://www.uky.edu/Ombud/Plagiarism.pdf for an explanation of plagiarism and UK policies).

Students with special needs: Any student with a documented disability who would like to request accommodations should contact the Disability Resource Center as early in the semester as possible. The Center is located in Alumni Gym - Room 2, phone: 257-8701, website: http://www.uky.edu/StudentAffairs/DisabilityResourceCenter/. Students with physical, learning or temporary disabilities should have the Center contact me. Feel free to discuss your concerns with me directly as well, but I have to have a documented letter from the Center for accommodations.

Course Schedule:

<table>
<thead>
<tr>
<th>Week</th>
<th>Dates</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td>Introduction and landscape principles</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>Scale</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>Introduction to models</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>Simulating changes in landscape pattern / Exercise 1</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>Causes of landscape patterns</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>Quantifying landscape patterns</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td>Quantifying landscape patterns / Exam I</td>
</tr>
<tr>
<td>8</td>
<td></td>
<td>Understanding landscape metrics / Exercise 2 (bring a calculator!)</td>
</tr>
<tr>
<td>9</td>
<td></td>
<td>Agents of pattern - physical environment &amp; biotic processes</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>Agents of pattern - disturbance regimes</td>
</tr>
<tr>
<td>11</td>
<td></td>
<td>Landscape disturbance / Exercise 3</td>
</tr>
<tr>
<td>12</td>
<td></td>
<td>Guest speaker and fieldwork preparation / Fieldtrip (Saturday)</td>
</tr>
<tr>
<td>13</td>
<td></td>
<td>Community responses and biodiversity</td>
</tr>
<tr>
<td>14</td>
<td></td>
<td>Conservation, land use and nature reserve design / Exam II</td>
</tr>
<tr>
<td>15</td>
<td></td>
<td>Presentations and discussion</td>
</tr>
<tr>
<td>16</td>
<td></td>
<td>Presentations and discussion</td>
</tr>
<tr>
<td>17</td>
<td>Date XX</td>
<td>Bibliography due</td>
</tr>
</tbody>
</table>
Weekly Reading List: [supplemental readings may be changed]

Chapter readings from the textbook of Turner et al. 2001 are specified as TGO.

Week 1:
TGO Ch 1

Week 2:
TGO Ch 2


Week 3:
TGO Ch 3


Week 4:
Exercise 1


Week 5:
TGO Ch 4


Week 6:
TGO Ch 5


Week 7:
TGO Ch 5
TGO Ch 6 not required but suggested reading

Week 8:
Exercise 2
Week 9:
TGO Ch 4


Week 10:
TGO Ch 7


Week 11:
Exercise 3


Week 12: TBA - Characterizing landscape structure using satellite imagery

Week 13: TBA

Week 14:
TGO 10


Week 15: TBA

Week 16: TBA