OVERVIEW

Biogeography is traditionally defined as the science that attempts to document and understand the spatial patterns of biodiversity. Environmental change refers to altered patterns physical conditions that affect organism including light, water, nutrients, weather, climate, soils, disturbance rates, habitat and other factors including regional and global climate change. In this course, we will synthesize these topics and focus on three major contemporary issues: biodiversity, introduced species, and carbon. Basic principles and theory from biogeography and environmental change will be leveraged and combined with current information on threats and opportunities to provide scientific basis for actionable science on these issues. Format will be discussion, supplemented with lecture segments as needed.

INSTRUCTOR

Dr. George C. Hurtt  
Office: LeFrak 1149  
Phone: 301-405-8541  
Email: gchurtt@umd.edu  
Office Hours: TBD

TIME AND ROOM

Class meets: TBD
Class will meet in alternate locations when opportunities exist for improved learning.

**Prerequisites**

- GEOG301 and
- GEOG211 or GEOG201

**Learning Objectives**

1. Understand key concepts, approaches, and techniques in biogeography and environmental change. (knowledge)
2. Apply knowledge of biogeography and environmental change to contemporary issues. (application)
3. Identify, read, discuss, and synthesize relevant papers from the scientific literature and current events literature. (synthesis)
4. Characterize and evaluate issues, what is known, how well its known, and what issues remain for effective decision making. (evaluation)
5. Develop question driven project/paper and the effective communication of scientific information. (skills)

**Readings**

- Scientific literature and articles on current events will be compiled and will be made available in class and/or via the UMD Electronic Learning Management System ELMS.
- Supplemental:
  - Foundations of Biogeography, M.V. Lomolino et al. editors, Chicago.

**Schedule**

1. Course introduction (what is biogeography?, what is environmental change?, how are these topics related? why should we care?)
2. Biological diversity (how is diversity is distributed geographically, why is it distributed that way?, what are the major threats to biological diversity? What is/should be done?)
3. Biological invasions (what are the characteristics of invasive species?, what are the causes and consequences and geographical patterns of invasions?, what are the primary options/strategies to combat invasives?)
4. Carbon geography (where are the sources and sinks and stocks of carbon?, what factors determine these patterns?, what are the opportunities and threats to carbon storage in the future?)

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5. Synthesis (how are biological diversity and biological invasions and carbon
geography related? what are the joint threats and opportunities? how well are
these issues understood, and what limits future decision making?)

**Grading**

Your course grade will be determined as follows.

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<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Participation</td>
<td>20%</td>
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<tr>
<td>Independent Project/Paper</td>
<td>30%</td>
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<tr>
<td>Exam 1</td>
<td>25%</td>
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<tr>
<td>Exam 2</td>
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<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
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**Participation**

There is a shared responsibility for meeting the learning objectives of this course. Active
participation by all participants is essential. Participation will be graded by attendance,
and active contribution to all discussions, assignments, class preparation and leadership,
and other activities. All participants will be expected to be the primary lead, and
secondary lead, for one or more class discussions during the semester.

**Independent Project/Paper**

Students will be expected to identify and complete and independent project/paper that
addresses an important outstanding topic of biogeography and environmental change.
Additional details for the project/paper will be given in class.

**Exams**

Two exams will be given. Additional information on exams will be given in class.

**Graduate Students (642)**

Graduate students taking 642 will be expected to produce additional material and efforts
in several areas on which they will be graded accordingly. This includes leadership of
class discussions, an additional essay question on the two exams, and increased
expectations for independent projects. Writing for independent projects will be
considered relevant for inclusion in GEOG grad student portfolios.

**Students With Disabilities**

Please see the instructor and register with Disability Support Service in Shoemaker Hall.

**Honor Code**

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The University of Maryland, College Park has a nationally recognized Code of Academic Integrity, administered by the Student Honor Council. This Code sets standards for academic integrity at Maryland for all undergraduate and graduate students. As a student you are responsible for upholding these standards for this course. For more information on the Code of Academic Integrity or the Student Honor Council, please visit http://www.studenthonorcouncil.umd.edu/whatis.html.

Please keep the following pledge in mind when you are writing papers or submitting exam material: “I pledge on my honor that I have not given or received any unauthorized assistance on this assignment/examination.”

**STUDENT CONDUCT**

Students are expected to treat each other with respect. Disruptive behavior of any kind will not be tolerated. Students who are unable to show civility with one another, the teaching assistants, or the instructor will be subject to being referred to the Office of Student Conduct or to Campus Police. You are expected to adhere to the Code of Student Conduct.

**ATTENDANCE POLICY**

Attendance is mandatory with exceptions for medical absences (see above), religious holidays, or unexpected closure of the University of Maryland. The instructor understands that sometimes issues come up that are out of your control that will cause you to miss class. If you are aware of such an issue, talk with the instructor *in advance* to obtain an excused absence. Sometimes it is not possible to plan potentially excusable absences in advance (e.g., medical emergency). If this happens to you, inform the instructor as soon as reasonably possible.

**MEDICAL ABSENCES**

Campus Senate policy requires students who are absent due to illness/injury to furnish documentary support to the instructor. For this course, I require students to contact me by email or by phone prior to class time in which you indicate that you have an illness or an injury, or as soon as possible if the treatment by medical personnel conflicts with this requirement. You must provide written documentation verifying your illness/injury immediately upon your return to class.

**DISABILITY**
Students with disabilities are encouraged to contact the instructor, and register with Disability Support Service in Shoemaker Hall. Arrangements will be made to accommodate students with disabilities.

**ADDITIONAL INFORMATION**

Additional course information, assignment details, supplementary material, and updates to this syllabus will be conveyed in class and posted on the UMD Electronic Learning Management System (ELMS).

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