Geography 323: Biogeography
Fall, 2012

Lecture: Tue & Thu 8:30-9:50 in 302 Gerlinger

Weekly lab sections: Tue 1:00 and 2:00, Thur 1:00 and 2:00. Several will be held outdoors on campus.

Instructor: Erin Herring
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Office Hours: Monday 10-11 am, Thursday 10:15-11:15 am in 217 Pacific, or by appointment

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Office Hours: Wednesday 2:30-3:30 pm in 217 Pacific, or by appointment

Course Overview: The spatial patterns of species distributions are widely recognized, but few appreciate the complex causes of these patterns. Biogeography is the study of the spatial patterns of biological diversity, and its causes, both in the present and in the past. Biogeographers synthesize information from a very broad range of fields, including ecology, evolution, paleontology, and climatology. This course will provide the ecological and historical foundations for understanding the distribution and abundance of species, and the changes in distribution and abundance over time. We will also explore the relevance of biogeography during a time of increasing human impact and climate change.

Prerequisite: GEOG 141 or GEOL 103 or GEOL 203 or BI 370.

The course is divided into six sections. We will begin the course by discussing biogeography as a science and the historical history of the discipline. We will then move onto discussing the ecological foundations of biogeography and how biogeographic processes have shaped species distributions through Earth's history, followed by the midterm. The latter half of the term we will discuss phylogeography, reconstruction of species distributions followed by the topic of island biogeography. The course will end by discussing conservation and the future of the discipline.

Goals of the course:

- To develop an appreciation for the historical and ecological factors that influence the pattern of life on earth.
- To survey the scientific revolutions of evolution, plate tectonics, and molecular ecology that shaped the path to modern biogeography.
- Using the lab assignments, to apply the information covered in lecture to a real world scenario.

- To understand the processes that affect how biotas respond to a changing climate, and the challenges we face today and in years to come.

Course grading:

- Two exams, each covering about 1/2 of the course and each worth 25% of your total grade.
- Six lab assignments will make up the remaining 50% of the course.
    - Labs 1, 2, and 5 are each worth 11.97%
    - Lab 3, 4, and 6 are each worth 4.67%

Required Materials:

1. **Biogeography, 4th edition** by Lomolino, Riddle, Whittaker, and Brown (Sinauer Associates). (ISBN- 9780878934942). NOTE: There are various websites that you can rent this textbook from for a fraction of the cost. Used textbooks are also available via the bookstore and online textbook suppliers (Amazon). There is also a copy of the textbook on reserve in the Knight Library.
2. **Laboratory Instructions**. These will be made available to you via Blackboard. We expect you to print them up and review them before the lab section.
3. Other material will be made available on blackboard.uoregon.edu

General guidelines for this course

1. To do well in this course, you will need to come to lecture and keep pace with the readings. The information being taught is cumulative: you will not understand material if you skip sections. There will be examples provided during lecture that are not in the text but will nevertheless be on the exams.
2. Be sure to complete the required readings BEFORE coming to lecture and lab.
3. During lecture please be respectful of everyone's learning experience. This includes:
    a. No talking amongst each other. Please leave your social conversations outside the classroom. However, questions during lectures are encouraged. If you have a question, raise your hand or catch me after class. If your talking is distracting others you will be asked to leave the class.
    b. Please don't leave in the middle of lecture. It is distracting for many people, including me. If you need to leave, let me know before the lecture starts, then sit near an exit. Obvious exceptions exist, i.e., you are feeling very ill.
    c. Do not have your laptop computer open surfing the web. You can take notes on your computer. Please do not surf the web, check email, etc. because it can be extremely distracting to the people around you!
4. Cheating. Cheating, such as copying material from other students on tests or lab assignments will result in failing the test at a minimum and may require involvement from the Dean of Students. While we encourage you to talk about the lecture material and lab material outside of class, copying other's work is not allowed. In serious cases, you will flunk the class or be expelled from the university.
5. Plagiarizing. Plagiarizing occurs when you copy materials from other sources without citing the source (i.e., taking credit for someone else's work), or copy someone else's lab. All students should be familiar with the material in this guide on avoiding plagiarism.

Policies:

Attendance is mandatory for both lecture and labs. You are responsible for all material covered in lab and lecture. If you miss a lecture ask a fellow student for notes. If you need to miss a **lab,** contact your GTF to make other arrangements.

All lab assignments are due the date and time specified on the syllabus. If the due date is changed, it will be announced during lecture and lab, plus an announcement will be posted on Blackboard and an email sent out. **NO LATE WORK WILL BE ACCEPTED.**

NO MAKE-UP EXAMS. All exams will be on the day and time specified. If an emergency comes up and you are forced to miss an exam, you need to contact me BEFORE the exam starts.

Disability Services Notice
I work hard to ensure a quality learning experience for all students. If you need specific accommodations to get the most out of this class, please let me know by (1) informing me of your particular needs, and (2) providing the appropriate documentation from the campus learning services office. I will make every effort to accommodate your needs, but you must notify me by the first week of class if you need special arrangements.

Academic honesty: We encourage you to work with other students in the class, but all work that you turn in for a grade must be your own. Quotations, paraphrases, and ideas based on published or on-line sources must be properly cited. Academic dishonesty policies will be enforced per University codes and regulations. Please consult the university policy at http://uodos.uoregon.edu/StudentConductandCommunityStandards/StudentConductCode/tabid/69/Default.aspx or ask us if you have any questions.

Note: I consider this syllabus a contract between myself and the students in this course. In writing this syllabus, I have obligated myself to follow the policies and procedures contained herein. You are responsible for understanding and following these policies as well. I reserve the right to make changes to this syllabus. You will receive verbal and written notification of major changes to course policies, procedures and content.

Week	Date	Lecture Topic	Readings
1	Sept 25	The Science of Biogeography	Ch 1 + Gavin
	Sept 27	The History of Biogeography	Ch 2
	Lab 1	*Tree adaptations across the continents: Angiosperms*	
2	Oct 2	The Geographic Template	Ch 3: 47-57, 69-81
	Oct 4	Distributions of Species	Ch 4
	Lab 1	*Tree adaptations across the continents: Conifers* ***Lab 1 due week 3 at lab time***	
3	Oct 9	Distributions of Communities & Darwin	Ch 5: 121-138 & Darwin
	Oct 11	Dispersal and Immigration	Ch 6
	Lab 2	*Spatial patterns of individuals – data collection*	
4	Oct 16	Speciation and Extinction	Ch 7 & Evolution 101
	Oct 18	The Changing Earth	Ch 8
	Lab 2	*Spatial patterns of individuals – data analysis* ***Lab 2 due week 5 at lab time***	
5	Oct 23	**Midterm – Weeks 1-4**	
	Oct 25	Glaciation and Biogeographic Dynamics of the Pleistocene Pt 1	Ch 9
	Lab 3	*Annotated bibliography of a journal article - Pleistocene* ***Due before lecture on Oct 30 (submit via Blackboard)***	
6	Oct 30	Glaciation and Biogeographic Dynamics of the Pleistocene Pt 2	Ch 9
	Nov 1	The Geography of Diversification	Ch 10
	Lab 4	*Annotated bibliography of a journal article - Endemic* ***Due before lecture on Nov 8 (submit via Blackboard)***	
7	Nov 6	Reconstructing the History of Lineages	Ch 11
	Nov 8	Reconstructing the History of Biotas	Ch 12
	Lab 5	*Island biogeography – data collection*	
8	Nov 13	Island Biogeography: Patterns in Species Richness	Ch 13
	Nov 15	Island Biogeography: Assembly and Evolution of Insular Communities	Ch 14
	Lab 5	*Island Biogeography – data analysis* ***Lab 5 due week 10 at lab time***	
9	Nov 20	Catch up Day	
	Nov 22	**Thanksgiving – no class**	
	Lab 6	*Invasive species I: The Silent Invasion (Film)* No meeting at lab time--watch film on your own time.	
10	Nov 27	Conservation Biogeography and the Dynamic Geography of Humanity	Ch 16
	Nov 29	TBD	
	Lab 6	*Invasive species II: Invasive species in-class reports* ***Lab 6 questions due at lab time***	
Finals Week		Final: Thursday, December 6th 8-10 am	