

Geography 387/487: Biogeography (Spring 2013)

Lecture: Mon, Tues, Wed, Thur 12-12:50 pm (Dean 209), lab: Tuesday 1-2:50 pm (Dean 209 or outside)- 5 credits

Instructor: Dr. Megan Walsh, 308 Dean Hall, 963-3699; email: WalshMe@cwu.edu, office hours: Tues 3:30-4:30pm/Thurs 1-2pm, or by appointment.

Prerequisites: Geog 107 (Physical Geography) or similar preparation, or consent of instructor.

Overview: Biogeography is the science that attempts to document and understand spatial patterns of biological diversity, both past and present. This includes studies of all patterns of geographic variation—from genes to entire communities and ecosystems—and incorporates the geographic ideas of area, isolation, latitude, depth, and elevation. In this course we will address such questions as:

- What enables a species to live where it does?
- How do geographic variables (i.e., climate, topography) play a role in determining a species habitat and range?
- How have historical events such as continental drift, glaciation, and climate change shaped a species' distribution?
- How will human impacts on ecosystems continue to shape the future biogeography of species (especially in light of global warming)?

Course objectives:

- To be able to analyze and describe the basic biogeographic patterns of life on earth
- To recognize the relationships and linkages between abiotic and biotic parameters and biogeographic patterns
- To be able to describe and analyze the physical processes that generate biogeographical patterns of life on Earth (including human activity)
- To become comfortable with and be able to communicate in the language of the discipline through writing activities and in-class discussions
- To be able to successfully research a topic related to biogeography and write a scientific paper about that research

Text and other resources: *Biogeography*, 4th Edition, Lomolino, Riddle, Whittaker, and Brown, 2010, ISBN 978-0-87893-494-2, hardcover, 878 pages (required). Additional required readings will be posted on blackboard.

Please make sure to bring a notebook to every class (especially labs for taking notes in the field). I will advise you ahead of time if it is necessary to bring your textbook to class.

Grades, lecture notes, announcements, additional readings, lab assignments and other information will be posted on blackboard (courses.cwu.edu). Make sure you check this regularly to insure you know what is going on in class!

Grading: Your grade in the course will be based on your performance on:

- Exam 1 (20%)
- Exam 2 (20%)
- Four quizzes (10%)
- Eight lab exercises (25%)
- Final research paper (20%)
- Class attendance and participation (5%)

Grades will be assigned based on the following scale:

- A = 100-94, A- = 93-90
- B+ = 89-87, B = 86-83, B- = 82-80
- C+ = 79-77, C = 76-73, C- = 72-70
- D+ = 69-67, D = 66-63, D- = 62-60
- F = 59 and below

You will not be allowed to miss or make up an exam or quiz unless you notify me ahead of time, and then only at my discretion. Quizzes may be given at any time during the lecture period in which they are scheduled. You will be allowed to drop your lowest quiz grade. With adequate documentation of a medical or other issue that created an unavoidable absence, scores from another quiz may be substituted for a single missed quiz (this is at my discretion). Exam and quiz questions will

consist of a mix of multiple choice, short-, medium-, and long-answer questions, and will emphasize concepts (as opposed to factoids). Any material presented in the lectures, readings, and labs is fair game for the exams and quizzes.

Lecture will meet for 1 hour four times a week. Lecture attendance will be recorded daily and attendance is expected (5% of your grade). It will not be possible to make-up these points if you miss class, but everyone is allowed to miss two days of class before it affects your grade. It is in your best interest to come to class and pay attention. Please ask for help as soon as possible if you are lost or confused. DO NOT wait until after an exam!!!

Lab will meet for 2 hours once a week (Tuesday) either in Dean 209 or outside. Depending on the lab, we may use all three hours so that we can get out into the field (I will let you know ahead of time so you can dress appropriately). You must be present in lab to get credit for the lab exercises. Some labs will require that you prep ahead of coming to class. Each lab will have a take-home portion that will require on average an additional 1-2 hours per week. All exercises must be handed in by 5:00 pm on Friday. One point will be deducted from the exercise grade for every day (or partial day) it is late (including weekends). **All exercises must still be completed to pass the course, even if they are too late to receive points.** You will be allowed to drop your lowest lab grade. There will be several questions on each exam based on this material. You may work with someone else on the exercises, but all work turned in must be your own. See the exercises for more detailed instructions.

In addition to the lab exercises, you will be required to complete a research paper worth 20% of your final grade. The papers are due Monday June 1st by 5 pm (submit online and put a hard copy in my mailbox in the Geography Department office, Dean 301). I will give out more detailed instructions regarding the paper during our first lab meeting.

Lastly, there will be one mandatory all-day field trip on a Saturday May 10th.

Policies: You will need to arrive to class on time and leave only when dismissed. Please do not arrive or leave in the middle of lecture. It is distracting for many people, including myself. When in class you are expected to pay attention (please do not engage in unrelated conversations) and participate in all activities and discussions. Cell phones and other communication devices should be turned OFF during class. Anyone talking on the phone, texting, surfing the web, or emailing during class will be asked to leave and will automatically lose all attendance/discussion points for the day. Please be respectful of your fellow students and instructor by following these rules.

Cheating or any other academic misconduct/dishonesty will **NOT BE TOLERATED**. Examples of these behaviors include (but are not limited to):

- Plagiarism (passing off the work of another as that of your own)
- Copying answers from your neighbors during exams/activities or using a "cheat sheet"
- Dishonesty concerning reasons for absence from class or your presence in class
- Any other actions that might give you an unfair advantage over your classmates

All cases of academic dishonesty/misconduct will be treated very seriously. The penalties for engaging in academic dishonesty and/or misconduct can range from a grade of "F" for an assignment/exam to an automatic failure of the course. Please consult the university policy at <http://www.cwu.edu/~saem/index.php?page=student-conduct-code> if you have additional questions/concerns regarding academic dishonesty or CWU's Student Conduct Code.

Students with disabilities who require academic adjustments in this class are encouraged to meet with me during my office hours to discuss their disability-related needs. Please bring a copy of your Confirmation of Eligibility for Academic Adjustments (or email it to me) and your current class schedule to this meeting. If you are unable to meet during office hours due to class schedule conflicts, please call me at 963-3699 or email me at WalshMe@cwu.edu to schedule an appointment. Students with disabilities who have not registered with the Center for Disability Services are not eligible to receive accommodations/academic adjustments. Please contact the CDS for additional information. Contact info: Center for Disability Services, Boullion room 205, phone: 963- 2171, email: dahlberc@cwu.edu website: <http://www.cwu.edu/~dss/cms/>

Additional resources: Other useful links can be found at <http://www.cwu.edu/~acadadv/programs.php> and <http://www.cwu.edu/~acadadv/>

If you have any questions or concerns throughout the quarter, please email me or come see me! Don't wait until the end of the quarter to voice your concerns. I am here to help you get the most out of this course, so please let me know how I can help.

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. By being a student in this course, 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.

Lecture topics, schedule, and assignment due dates:

Date	Day	Topic	Reading	Quizzes and Due Dates
<i>Week 1-</i>				
3/26	T	The Science of Biogeography	Chapter 1	
<i>Lab Topic: Introduction to the Scientific Writing Process</i>				
3/27	W	The History of Biogeography	Chapter 2	
3/28	Th	The History of Biogeography	Chapter 2	
<i>Week 2-</i>				
4/1	M	The Geographic Template	Chapter 3	
4/2	T	Lab (no lecture)		
<i>Lab Topic: Patterns of Species Distribution (field trip)</i>				
4/3	W	Distribution of Species	Chapter 4	
4/4	Th	Distribution of Species	Chapter 4	
4/5	F			Quiz 1
4/7	Su			Lab 1 due @ 5pm Paper topic due @ 5pm
<i>Week 3-</i>				
4/8	M	Distribution of Species	Chapter 4	
4/9	T	Guest Speaker- TBA		
<i>Lab Topic: Geography and Biogeographic Patterns (on your own-no lab meeting)</i>				
4/10	W	Video- TBA		
4/11	Th	No Class (AAG annual meeting)		
4/12	F			Lab 2 due @ 5pm
<i>Week 4-</i>				
4/15	M	Geography of Communities	Chapter 5	
4/16	T	Dispersal and Immigration	Chapter 6	
<i>Lab Topic: Dispersal and Speciation Game</i>				
4/17	W	Dispersal and Immigration	Chapter 6	
4/18	Th	Speciation and Extinction	Chapter 7	
4/19	F			Quiz 2 Lab 3 due @ 5pm
<i>Week5-</i>				
4/22	M	Speciation and Extinction	Chapter 7	
4/23	T	Exam 1 (Chapters 1-6 or 7)		
<i>Lab Topic: Invasive Species- Cane Toads Video!</i>				
4/24	W	Speciation and Extinction	Chapter 7	
4/25	Th	The Changing Earth	Chapter 8	
4/26	F			Lab 4 due @ 5pm
<i>Week 6-</i>				
4/29	M	Dynamics of the Pleistocene	Chapter 9	
4/30	T	Dynamics of the Pleistocene	Chapter 9	
<i>Lab Topic: Pleistocene Megafauna Extinctions Debate</i>				
5/1	W	Dynamics of the Pleistocene	Chapter 9	
5/2	Th	Geography of Diversification	Chapter 10	
5/3	F			Lab 5 due @ 5pm
5/5	Su			Paper resources due @ 5pm
<i>Week 7-</i>				
5/6	M	Geography of Diversification	Chapter 10	
5/7	T	Geography of Diversification	Chapter 10	
<i>Lab Topic: Plant Evolution Walk (on-campus field trip)</i>				
5/8	W	The History of Lineages	Chapter 11	
5/9	Th	The History of Biotas	Chapter 12	
5/10	F			Quiz 3 Lab 6 due @ 5pm

Week 8-

5/13	M	Island Biogeography	Chapter 13
5/14	T	Island Biogeography	Chapter 14
<i>Lab Topic: Island Biogeography Experiment (outside, weather permitting)</i>			
5/15	W	Island Biogeography	Chapter 14
5/16	Th	Island Biogeography	Chapter 14
5/17	F		

Lab 7 due @ 5pm

Week 9-

5/20	M	Ecological Geography	Chapter 15
5/21	T	Ecological Geography	Chapter 15
<i>Lab Topic: Video- Galapagos: Born of Fire</i>			
5/22	W	Conservation Biogeography	Chapter 16
5/23	Th	Conservation Biogeography	Chapter 16
5/24	F		

**Quiz 4
Lab 8 due @ 5pm**

Week 10-

5/27	M	No Class (Memorial Day)	
5/28	T	Lab (no lecture)	
<i>Lab Topic: Biodiversity Gradients of Reecer Creek Canyon (field trip)</i>			
5/29	W	Conservation Biogeography	Chapter 16
5/30	Th	Catch-up day	
5/24	F		

Lab 9 due @ 5pm

6/3 **Papers due Monday June 3rd @ 5pm**, please submit a digital version through Blackboard and a hard copy to my mailbox (301 Dean)

6/5 **Exam 2 (Chapters 7-16, some cumulative ideas) – Tuesday June 5th noon-2pm**