

GEOGRAPHY 220: Our Diverse Biosphere

Instructor: Dr. Greg Barron-Gafford

Email: gregbg@email.arizona.edu

Office: ENR2 - S439

Office Hours: Wednesday, 10am-11am and by appt.

Recommended Text: *Biogeography, Fourth Edition*; Lomolino, Riddle, Whittaker, and Brown; Sinauer Associates, Inc.

Further reading: I will also post PDFs and web links through the Course D2LWebsite.

Course Overview

The Earth is a dynamic, wondrous, and complex planet. The diversity we see in the living systems, i.e. the Earth's Biosphere, is the result of many processes studied individually among many disciplines including hydrology, geology, ecology, and soil science. In this course, we will take a holistic and integrating look at the complex spatial variations in the elements of Earth's biosphere.

Within the Tier One course *Earth's Environments: Introduction to Physical Geography* you were introduced to Earth's four spheres (Atmosphere, Hydrosphere, Lithosphere, and Biosphere). Of these, the Biosphere is the habitat for all life forms and the focus of this course. The objective of this Tier Two course is to have fun learning and to expand your studies of the **Earth's Biosphere**. We will focus on spatial variations in Earth's living systems—more specifically, on patterns and processes that determine the composition (plants and animals) of different biomes around the globe. Note that humans are considered members of the biosphere too and, as such, the course also considers **human** activities in the causes and consequences of environmental change.

Ties with other Tier Two courses (and beyond) in Geography

Geog. 220: Our Diverse Biosphere is designed as a companion to other Tier Two courses in Geography, which cover the Climate System (GEOG 230: Our Changing Climate) and Earth's Landforms (GEOG 240: Our Dynamic Landscape). You should take these courses; they're really good! Our strategy is to **immerse** non-science majors in the biological aspects of Physical Geography and, through lively debate and discussion, to **enhance the critical thinking skills** students need to make intelligent decisions about the world around them. Many of the concepts we will cover in this course have a direct link to future of science and humanity – our changing climate. In order to estimate where our world is heading, one needs to understand the drivers and constraints of life. This course is designed to give you that introduction. An additional aim is to give you a foretaste of one of our more advanced courses (i.e., GEOG 438, Biogeography) and some basic understandings of how the Earth works to find opportunities for active engagement (through lab or field experiments) offered within Geography.

The Honors Experience

Honors students are welcome in this course! I will gladly work with honors students to develop special projects suitable to their interests. Potential projects include added readings, field projects, lab-based research, or conducting supervised experiments within Biosphere 2! Contact me early in the semester so that we can make a plan.

Attendance and Participation (A&P; 10% of Course Grade)

Class meetings will be mixtures of lectures, discussions, group activities, and writing assignments. Some class time will include practical aspects of data analysis techniques and graphical interpretation. Students will receive -->feedback<-- from the instructor/reader on writing proficiency.

IMPORTANTLY ~ Your attendance is crucial to your success, and I need feedback to insure I am getting the material across, so there will be 12 'pop' quizzes throughout the semester. **There are no make-up quizzes (No exceptions!), but there are two built-in 'freebies' such that there are 20 additional points available.**

Writing Assignments (45% of Course Grade)

Throughout the course five (2 -3 pages, double-spaced) writing assignments will be required. Each writing assignment will constitute 9% of the course grade. Writing assignments will be submitted to our D2L course Dropbox.

NOTE: Late assignments submitted before the following class period will be assessed a one letter grade penalty.

Tests (45% of Course Grade)

There will be 3 tests. Each is worth 15% of your final grade. **Many test questions will be taken from the lecture main points (given at start of class; so be on time).**

Two tests will be taken in class during the semester. The final exam (the 3rd test) is on Thursday, May 11th at 10:30am - 12:30pm in our normal classroom. (All final exam schedules are posted online at the Office of the Registrar's website:

<http://www.registrar.arizona.edu/schedules/finals.htm>)

Tests will *not* be comprehensive. All tests are required. **Students absent due to illness or family emergency may submit documentation and alert the professor prior to missing the exam, and with my approval may make up a missed test.** Not taking a test will result in a zero grade for that missed test. If you miss the 'Final' and are otherwise passing, you will be given the grade of 'I' (incomplete) and the chance to take the 'Final' at the end of the next semester when the course is offered, pending documentation as noted above. Should you miss the 'Final' and otherwise be failing, you will be given the grade of 'E' (fail) for the course.

The weights are as follows:

Participation (A & P)	10%
Writing Assignments	45%
3 Tests	45%
Total	100%

As a rule, work will not be accepted late except in case of documented emergency or illness.

Please show up on time. Your tardiness disrupts the learning experience of those that actually arrived on time. Tardiness may result in you missing the quiz; again no make-ups...

Final course grades will correspond to the following scale:

A = 90 or above

B = 80 - 89

C = 70 - 79

D = 60 - 69

E = 59 or below

Special Needs and Accommodations

It is the University's goal that learning experiences be as accessible as possible. If you anticipate or experience physical or academic barriers based on disability or pregnancy, please let me know immediately so that we can discuss options. You are also welcome to contact Disability Resources (520-621-3268) to establish reasonable accommodations. Please be aware that the accessible table and chairs in this room should remain available for students who find that standard classroom seating is not usable.

Students who need special accommodation or services should contact the SALT (Strategic Alternatives Learning Techniques) Center for Learning Disabilities (SALT Center, Old Main PO Box 210021, Tucson, Arizona 85721-0021, (520) 621-1242 FAX (520) 621-9448 TTY (520) 626-6072), <http://www.salt.arizona.edu/>, and/or the Disability Resources Center, 1540 E. 2nd Street, PO Box 210064, Tucson, Arizona 85721-0064, (520) 621-3268, FAX (520) 621-9423, <http://drc.arizona.edu/>. If you have a documented disability and anticipate needing accommodations in this course, please make arrangements with me immediately.

Students with Extracurricular University activities

If your University-related travel will cause you to miss class, contact me at the beginning of the semester to make arrangements. Bring documentation of the "Dean's Excuse" to our discussion and a proposed plan for any needed accommodations. Any and all arrangements must be made in advance of the absence.

Academic Dishonesty

Don't cheat. All work submitted in this class is expected to represent your own effort and be original work (i.e. not completed for a prior class assignment). You are responsible for understanding and abiding by the University's Code of Academic Integrity. Review it here:

<http://deanofstudents.arizona.edu/codeofacademicintegrity>.

Students are encouraged to share intellectual views and discuss freely the principles and applications of course materials. However, graded work/exercises must be the product of independent effort unless otherwise instructed. Students are expected to adhere to the UA Code of Academic Integrity as described in the UA General Catalog. See: <http://deanofstudents.arizona.edu/academic-integrity/students/academic-integrity>.

The University Libraries have some excellent tips for avoiding plagiarism available at: <http://www.library.arizona.edu/help/tutorials/plagiarism/index.html>.

Selling class notes and/or other course materials to other students or to a third party for resale is not permitted. Violations to this and other course rules are subject to the Code of Academic Integrity and may result in course sanctions. Additionally, students who use D2L or UA email to sell or buy these copyrighted materials are subject to Code of Conduct Violations for misuse of student email addresses. This conduct may also constitute copyright infringement.

Disruptive behavior

Disruptive behavior during class time will not be tolerated. Please be considerate of others at all times. Cell phones are not to be used. Laptops are allowed for note taking. Any other use of electronic devices is prohibited, and I will ask you to put them away or leave the class. If we find that laptops are not being used for note taking, and are becoming a distraction for others, I will no longer allow them in the classroom. UA has clear policies on disruptive and threatening behavior. The Arizona Board of Regents' Student Code of Conduct, ABOR Policy 5-308, prohibits threats of physical harm to any member of the University community, including to one's self. See: <http://policy.arizona.edu/threatening-behavior-students>.

** If you experience any disruptive behavior, please notify me as soon as possible so that I may address the issue. **

Attendance Policy

The UA's policy concerning Class Attendance and Administrative Drops is available at:

<http://catalog.arizona.edu/2014-15/policies/classatten.htm>

The UA policy regarding absences on and accommodation of religious holidays is available at <http://deanofstudents.arizona.edu/policies-and-codes/accommodation-religious-observance-and-practice>.

Absences pre-approved by the UA Dean of Students (or Dean designee) will be honored. See:

http://uhap.web.arizona.edu/chapter_7#7.04.02

Withdrawal

Students permanently leaving the course must file a drop or withdrawal form. Students must not assume that they will be dropped after failing to attend class.

Subject to Change Statement

Information contained in the course syllabus, other than the grade and absence policy, may be subject to change with advance notice, as deemed appropriate by the instructor.

Course Schedule

January 11th = First day of class

May 6th = Last day of class

Class will not be held on the following dates:

January 16th - Martin Luther King, Jr. Holiday

March 13th-17th - Spring Break

Lectures

Please NOTE: Lecture note-taking templates can be printed from the D2L course site. These templates are *abbreviated versions* of the PowerPoint slides and might help you take notes. Full-resolution PowerPoint lectures will be posted to D2L the week following the lecture.

Course Schedule

Week	Dates	Topic	Assignments due by Friday
Week 1	1/11, 1/13	Introduction of course, Basic Concepts	
Week 2	1/18, 1/20	Historical Perspectives, Biogeography as an integrating science	Writing Assignment #1
Week 3	1/23, 25, 27	Large Scale Physical Gradients Across the Globe - what drives the global environment?	
Week 4	1/30, 2/1, 2/3	Small Scale Physical Processes - local drivers of the Earth's Biosphere / Critical Zone Science	Writing Assignment #2
Week 5	2/6, 8, 10	Impacts of Climate Change / Review / Test 1	
Week6	2/13, 15, 17	Life History, Physiognomy and Physiology	
Week 7	2/20, 22, 24	Dispersal and Niches	Writing Assignment #3
Week 8	2/27, 3/1, 3/3	Evolution, Speciation, and Extinction	
Week 9	3/6, 8, 10	Geographic Distributions	
	3/13, 15, 17	SPRING BREAK	
Week 10	3/20, 22, 24	Review / Test 2 / Biogeographic Distributions - Terrestrial Biomes	
Week 11	3/27, 29, 31	Biogeographic Distributions - Terrestrial Biomes	
Week 12	4/3, 5, 7	Biogeographic Distributions - Terrestrial Biomes	Writing Assignment #4
Week 13	4/10, 12, 14	Ecosystem and Critical Zone Services	
Week 14	4/17, 19, 21	Impacts of Climate Change	
Week 15	4/24, 26, 28	Conservation & Restoration Ecology	Writing Assignment #5
Week 15	5/1, 5/3	Conservation / CLASS EVALUATIONS	
	5/11	FINAL EXAM (Test 3) 10:30am-12:30pm	