Biol 147JS Biogeography (Fall 2012)

Instructor	Sarah Gilman	Phone	909-607-0715
Office	Keck Sci. 013 (basement)	E-mail	sgilman@kecksci.claremont.edu
Office Hours	Tues 1:30-3:30pm, Thurs 9-11am		

Goals:

The aim of this course is to provide a broad overview of biogeography and the major processes structuring the distribution of species and communities. We will cover the major ecological, evolutionary, and geological processes that influence distribution. We will also cover the effects of human activity on biogeographic patterns. By the end of the course you will:

- be able to describe the major ecological, evolutionary, and geological processes that shape global patterns of biodiversity
- be able to articulate a biogeographic perspective of important environmental problems, such as climate change or extinction
- have gained practical experience with software programs commonly used in biogeographic research
- have developed your writing and analytical skills through the completion of research project

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Class Meeting Times:

MW 12:00-1:10, Keck Sci. 125

Final Exam: Thursday, Dec 20, 7pm

Online

Course Website: http://sakai.claremont.edu

Course Email: biol147_f12@sakai.claremont.edu (any email sent to this address will be forwarded to the whole class and archived on Sakai)

Text:

Lomolilno, M.V., B.R. Riddle, R.J. Whittaker, and J. H. Brown. 2010. Biogeography, 4th Ed. Sinaeur

Additional readings will be posted on Sakai

Prerequisites

Biol 43L and Biol 44L, or both semester of AISS, or consent of the Instructor

Evaluation:

Midterm Exams (2)	30%
Final Exam	30%
Group Projects	25%
Other assignments	10%
Class Participation	5%

Classroom Etiquette: Please arrive on time. Cell phones must be silent and put away in a pocket or bag. No texting, web-surfing, or emailing during class.

Readings: The reading assignments are intended to provide background needed for lectures and class activities. Therefore I strongly recommend that you **complete reading assignments before coming to class**. I may use quizzes or other exercises to assess whether you have done the reading.

Exams: There will be two in-class midterm exams plus a final exam. The final exam will be roughly twice as long as the midterms, and consist of a third midterm plus a cumulative final. The exams will consist of a combination of short answer and essay.

Late Assignments and Make-up Exams: When possible, notify me ahead of time if you are unable to submit work on time or need to reschedule an exam due to illness, sports activity, family emergency, or other reasons. Late assignments will be docked 2% for each weekday late. If you miss an exam, a make-up exam will be given only if you have a legitimate excuse, verified by your Dean of Students.

Students with disabilities: To request academic accommodations due to a disability, please contact your home campus' disability officer. The disability officers are:

CMC, Julia Easley: julia.easley@claremontmckenna.edu
Pitzer, Jill Hawthorne, jill_hawthorne@pitzer.edu
Scripps, Sonia De La Torre-Iniguez: SDelator@Scrippscollege.edu
Pomona, Dan Tzuang: dan.tzuang@pomona.edu
HMC, Maggie Browning: Maggie_browning@hmc.edu

Grade change policy: Requests for grade changes must be made in writing (email does not count) within one week of receiving the grade.

Plagiarism: I will indicate if an assignment is meant to be done cooperatively, otherwise you are expected to do your own work. **Cheating, plagiarism, and collusion will not be tolerated!** If I suspect you of cheating, I will notify your Dean of Students.

Syllabus modification: I reserve the right to modify this syllabus (including course schedule) during the semester as considered necessary to improve the quality of this course. Any changes to the syllabus or schedule will be clearly announced. **You are responsible for being aware of any changes.**

Computer Projects: Three of our class meeting times (Sept 19, Sept 26, and Nov 05) will consist of practical exercises using computer software. These exercises will give you a change to work directly with GIS and phylogeny software and increase your understanding of how they are used in biogeography. Check the syllabus for class meeting locations on those dates. Each exercise will have a written assignment due one week after the computer session.

Group Projects: To further your understanding of biogeography and its applications, you will be conducting a group research project on a topic in biogeography of your choosing. This may include projects using the GIS and phylogeny computer software you worked with in class. Each student will be responsible for proposing a project idea. All students will then rank their project preferences and I will assign students to

groups based on preferences. The groups will conduct their research collaboratively and give a joint presentation on their projects at the end of the semester. Each student will also individually submit a written report of the project, similar in organization to a thesis. Class time will be used for peer editing and evaluations of the written reports and oral presentations. Additional details will be provided later in the semester

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Course Schedule:

Date	Topic	Reading
Wed, Sep 05	Welcome	skim Ch 1 & 2
Mon, Sep 10	Geographic Template	read 47-58,63-68, 136-156, skim the rest of Ch 3
Wed, Sep 12	Species Distributions	read 83-114, skim 114-119
Mon, Sep 17	Species & Community Distributions	read 121-136, 156-159, Barry et al paper on Sakai
Wed, Sep 19	GIS Exercise 1, meet in KS 137	69-81, handout
Mon, Sep 24	Dispersal/Immigration/Introduced Species	Ch 6 (read all), 719-729
Wed, Sep 26	GIS Exercise 2, Broad Hall 213 (Pitzer Campus) *GIS 1 assignment due*	handout
Mon, Oct 01	Speciation	read 210-217, 224-236, skim 217-224
Wed, Oct 03	History of Lineages: Systematics & Phylogenetics *GIS 2 assignment due*	read 424-436, McLennan article on Sakai
Mon, Oct 08	Exam 1	
Wed, Oct 10	Phylogeny Exercise	Knowlton et al. paper on Sakai, handout
Mon, Oct 15	Extinction & Macroevolution	read 242-250, 697-719 skim 236-242, 250-258
Wed, Oct 17	Geographic Ranges & Rules *Project proposals due*	621-657
Mon, Oct 22	*Fall Break, no class*	
Wed, Oct 24	Island Biogeography I: The Theory	read 510-525
Mon, Oct 29	Island Biogeography II: Tests & Beyond *Groups Assigned*	read 525-541, 559-570, skim 541-557
Wed, Oct 31	Island Biogeography III: Assembly & Evolution	read 570-599, skim 586-613

Mon, Nov 05	Quaternary Glacial Cycles	read 320-353
Wed, Nov 07	Plate Tectonics *Phylogeny assignment due*	read 259-286, skim the rest of Ch 8
Mon, Nov 12	Geographical Patterns I: Endemism/Provincialism *Draft #1 due*	read 362-396
Wed, Nov 14	Exam 2	
Mon, Nov 19	Geographical Patterns II: Disjunction & Interchange	read 396-421
Wed, Nov 21	*no class, Thanksgiving Break*	
Mon, Nov 26	History of Biotas I: The Early Years	read 458-478
Wed, Nov 28	History of Biotas II: *Cladistic* vs. Phylogenetic *Draft #2 due*	read 471-478, 490-498
Mon, Dec 03	History of Lineages: Fossils & Phylogeography	read 441-456, 490-498
Wed, Dec 05	Latitudinal Diversity Gradients	read 657-693
Mon, Dec 10	Group Presentations *All presentations uploaded to Sakai*	
Wed, Dec 12	Group Presentations *Final Draft of Project Due*	
Thu, Dec 20	7pm, Final Exam	