

BIO 109 NATURAL HISTORY OF THE SOUTHWEST

Fall 2009; CRN 12005; (TTh 8:40-11:20 am)

SYLLABUS (subject to change)

Instructor: Dr. Brad Fiero

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Office Hours: MW 10:00-11:00 am; Tue/Thu 12:00-1:30 pm. Also by appointment

Dept. Office: Tortolita E-255; Phone: 206-6031

Texts: Natural History of the Southwest Lecture Outlines and Lab Manual by Brad Fiero

Optional Texts: A Natural History of the Sonoran Desert by Arizona-Sonora Desert Museum

Home Page Website: <http://wc.pima.edu/~bfiero/>

Description: Study of the common plants and animals of the Southwest. Includes their distribution, adaptation, behavior and ecology. Also includes physical geography and geological principles of the region.

Course Objectives: Upon completion of the course, the student will be able to do the following:

1. Apply basic geological principles to interpret the physical setting of the Southwest.
2. Apply meteorological and biological principles to describe the formation of the major biotic communities in the Southwest.
3. Describe major desert adaptations and the process of natural selection.
4. Identify common plants and animals of the Southwest.
5. Integrate basic biological principles and specific natural history information into an understanding of the common plants and animals of the Southwest.
6. Demonstrate skills necessary for life-long learning of natural history including conducting scientific research.

Grading System: Based on percentage of total accumulated points from both lecture and lab.

Evaluation:	Points:	Percentage:
Quizzes	60 pts (15 @ 4pts)	30%
Identification Tests	40 pts (4 @ 10 pts)	20%
Labs	40 pts (see schedule)	20%
Project	40 pts (see schedule)	20%
Final Exam (comprehensive)*	20 pts*	10%
Make-up/Extra-credit (optional)**	5 pts	Bonus 2.5%
Total Points:	200 pts	100%

* Final Exam grade counts both as 20 points in the class, and it will be used to replace the grade received on your lowest 5 quizzes (if it is to your benefit).

** Make-up/Extra-credit assignment is online (from home page link to mini-lecture).

Final Grade:	A = 90 - 100%	180 - 200 points
	B = 80 - 89%	160 - 179 points
	C = 70 - 79%	140 - 159 points
	D = 60 - 69%	120 - 139 points
	F = Below 60%	000 - 119 points

POLICIES

Attendance Policy: You are expected to arrive to class on time and actively participate each class period. Tardies and absences usually result in lost points. Quizzes are given out at the beginning of class time and must be completed in the time allotted (often 20 minutes but may be more or less). Field trips and other class activities begin at the start of class and may be missed if you do not arrive to class on time. Because quizzes and/or other assignments potentially occur every class period, points potentially will be lost each class period missed. If you miss all or a portion of a class, then you are solely responsible for obtaining missed class material from fellow students. Complete attendance is mandatory during all student presentations; otherwise presentation points will be forfeited. Because of insurance limitations, non-registered visitors are not allowed at class sessions or on field trips.

Make-up Policy: Quizzes cannot be made up (except through the Final Exam score replacing the lowest 5 quiz grades). Late assignments (ID tests, labs, etc.) that can be made up will be accepted but will be penalized 25%. If you are going to miss or have missed a class, please see instructor as soon as possible. There is a 5 point make-up/extra-credit assignment (link to mini-lecture on home page).

Rebuttal System: If you think you were graded unfairly (or erroneously) on an assignment or quiz, please turn in a written explanation (rebuttal) with your graded assignment/quiz to me within two weeks. I will write a response and return it to you. An appointment can be set up if you disagree with the resolution.

Scholastic Ethic: You are expected to abide by the College's Student Rights and Responsibilities (<http://www.pima.edu/~coadmissions/studresp.htm>). Breaches in scholastic ethic (e.g. cheating and plagiarism [see attachment]) will be dealt with severely (including receiving an F in the class).

Be Courteous: You are expected to do your own work, be honest, and not be disruptive or disrespectful of others. Please turn off cell phones, laptops, headphones, and chit-chat while in class.

Withdrawal (W): Students who fail to attend the first class or fail to attend 3 consecutive classes without notifying the instructor may be withdrawn. If you decide you cannot continue in class, then officially withdraw by the official deadline. If you wish to receive a grade of "W" after the withdrawal date, please request this in writing to the instructor; however, granting a grade of "W" after the deadline is up to the discretion of the instructor.

Incomplete (I): Given only when a student has missed 20% or less of the course material for a reason acceptable to the instructor. Eligibility for an incomplete requires earned grades that average "C" or above at the time of request.

Posting of Grades: Grades will be posted anonymously using a "secret code" supplied by the student. Posting grades allows students to track their grade throughout the semester (and to double-check my bookkeeping). If you do not wish your grades to be posted in this manner, please inform the instructor.

General Education Requirement: Because this course fulfills a general education requirement, I will use assessment techniques to determine whether your skills improved in at least one of the following areas: oral and written communication, critical inquiry, cultural diversity and global awareness.

Americans with Disabilities Act: Pima County Community College District strives to comply with the provisions of the Americans with Disabilities Act and Section 504 of the Rehabilitation Act. Students with disabilities requiring special accommodations must notify the instructor of this need or directly contact the Disabled Student Resources Office on your campus at the beginning of the semester. One or more field trips are tentatively planned during the course. A reasonable accommodation will be provided unless it creates an undue hardship or is not possible. Total participation may be denied for education or safety reasons, and an alternative activity will be provided.

PHILOSOPHY OF CLASS

I want this course to be interesting, applicable, and challenging for you. I hope each of you is successful in this class (see Study Tips at <http://wc.pima.edu/~bfiero/study.htm>), and I will enjoy meeting you outside of class to help you in your progress toward success. But learning is something **you** do and requires your attendance, active participation and effort. I want you to better understand science and to learn how to acquire, synthesize, apply, and evaluate information on this unique region.

LABORATORY ASSIGNMENTS

Please note that most laboratory assignments will be held outside where proper clothing is necessary (e.g. walking shoes, hat, etc.). Field trips will take place within allotted class time barring unforeseen circumstances (caution: we leave promptly).

The field trip to the Arizona-Sonora Desert Museum may require a \$5 entrance fee paid by you at the time we enter the Museum.

PROJECT

PROJECT INFO: online at http://wc.pima.edu/~bfiero/bio109/project/109_project.htm

PLAGIARISM: online at <http://wc.pima.edu/~bfiero/plagism.htm>

HOW TO CITE SOURCES: online at <http://wc.pima.edu/~bfiero/cite.html>

TIPS FOR POWERPOINT PRESENTATIONS: online at http://wc.pima.edu/~bfiero/bio105/ppt_tips.htm

BIO 109 NATURAL HISTORY OF SW GRADING SYSTEM

SCORING RUBRIC FOR QUIZZES

Essentially Correct (4 pts)

Mostly Correct (3 pts)

Somewhat Correct (2 pts)

Mostly Incorrect (1 pt)

Completely Incorrect or No Answer (0 pts)

Total: 4 points

SCORING RUBRIC FOR PROJECT PROPOSAL

RESEARCH QUESTION AND TITLE (1 pt)

Contains informative title

Research question(s) clearly given

HYPOTHESES (1)

Lists null hypothesis and all alternative hypotheses

METHODS (2 pts)

Specific enough to be repeated by another person

Includes dates, times (if relevant), and locations

Specifies exactly what data are to be collected and how

Specifies how all data will be summarized and analyzed

RESULTS (1 pt)

Sample data table(s)/graph(s) complete

Tables/graphs are completely labeled and have complete captions.

PENALTIES

Improper Format or Plagiarism (-5)

Grammar/Neatness (-1)

Late (-0.5 pts/day to max. of -2)

Total: 5 points

SCORING RUBRIC FOR PROJECT REPORT

RESEARCH QUESTION AND TITLE (1)

Contains informative title

Research question(s) clearly given

HYPOTHESES (1)

Lists null hypothesis and all alternative hypotheses

METHODS (3)

Specific enough to be repeated by another person

Includes dates, times (if relevant), location, and sample design

Specifies exactly what data were collected and how

Specifies how all data were summarized and analyzed

RESULTS (5)

Data summarized clearly in paragraph form

Table(s)/graph(s) provided and are completely labeled

Tables/graphs have complete captions.

DISCUSSION (6)

Each tentative conclusion is presented

For each tentative conclusion, a causal question is presented

For each causal question, multiple hypotheses (3+) are given with supporting information

Ways to improve study are discussed

A new research question that extends the study is given

ANNOTATED BIBLIOGRAPHY (4)

Contains at least two quality references, properly cited

Contains an annotation for each reference

PENALTIES

Improper Format or Plagiarism (-20)

Grammar/Neatness (-4)

Late (-0.5 pts/day to max. of -4)

Total: 20 points

SCORING RUBRIC FOR PROJECT PRESENTATION

Presentation

Powerpoint used effectively (2 pts)

Talked with interest to audience (2 pts):

Face the entire audience. Do not read verbatim notes. Sound interested.

Quality of content presented (6 pts)

Depth/Relevance of material presented

Presented in organized and logical manner

Penalties

Failed to attend ALL presentations (-0-10 based on percentage of presentations missed)

Total: 10 points

PROPOSAL CHECKLIST

- Contains informative title and name
 - Contains all headings (Research Question, Hypotheses, Methods, Results)
 - Research question(s) clearly given
 - Null and alternative hypotheses clearly given
 - Methods include proposed date(s), time(s), and location(s)
 - Methods include at least 8 hours of data collection
 - Methods include placement and size of sample areas, etc.
 - Methods specify exactly what data are to be collected
 - Methods specify how all data will be collected
 - Methods specify how all data will be summarized and analyzed (statistics to be used)
 - Sample data table(s)/graph(s) provided in Results
 - Tables/graphs are completely labeled
 - Table(s)/Graph(s) have complete caption
 - What did you like most about this proposal?
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- What suggestions for improving the study do you have?

REPORT CHECKLIST

- Contains informative title and name
- Contains all headings (Research Question, Hypotheses, Methods, Results, Discussion, Annotated Bibliography)
- Research question(s) clearly given in introduction
- Null and alternative hypotheses clearly given
- Methods include proposed date(s), time(s), and location(s)
- Methods include placement and size of sample areas, etc.
- Methods specify exactly what data were collected
- Methods specify how all data were collected
- Methods specify how data were summarized and analyzed (statistics used)
- Results include a clear summary of data in paragraph form and refer to Table(s)/Graph(s)
- The data were completely analyzed (contains all totals, averages, significance tests, etc.)
- Results include clearly-labeled data table(s)/graph(s)
- Tables/graphs have complete captions (sample, sample size, dates, locations, etc.)
- Discussion includes tentative conclusions (clear, supported, answers to research question)
- Discussion includes causal question for each tentative conclusion
- Discussion includes multiple hypotheses (possible explanations) for each causal question
- Discussion includes ways to improve/extend study
- Discussion includes suggestion for new question that would extend study
- Annotated Bibliography includes at least two sources, accurately and completely cited
- An annotation was provided for each source (an annotation is one or more sentences, in the student's own words, briefly presenting the relevant information contained within the source and how it pertained to the study)
- What did you like most about this report?
- What suggestions for improving the report do you have?

Bio 109 Grade Tracking Sheet

Quizzes (60 pts): 15 @ 4 pts each = 30% of final grade

Quiz 1 _____		
Quiz 2 _____	Quiz 9 _____	
Quiz 3 _____	Quiz 10 _____	
Quiz 4 _____	Quiz 11 _____	
Quiz 5 _____	Quiz 12 _____	
Quiz 6 _____	Quiz 13 _____	
Quiz 7 _____	Quiz 14 _____	
Quiz 8 _____	Quiz 15 _____	
		Total Quizzes 1-15 _____

Identification (ID) Tests = 4 @ 10 pts. each = 40 pts. = 20% of final grade

Plant ID Test (10) _____		
Bird ID Test (10) _____		
Arthropod/Fish/Amphibian ID Test (10) _____		
Reptile/Mammal ID Test (10) _____		
		Total ID Tests _____

Laboratories = 40 pts. = 20% of final grade

Plant Field Trip (4) _____		
Plant Community Study (5) _____		
Wildflower/Pollinator Lab (5) _____		
Bird Field Trip (4) _____		
Bird Census (5) _____		
Fish/Herps/Mammals Field Trip (5) _____		
Owl Pellets Lab (5) _____		
Geological Detective (2) _____		
Geology Field Trip (5) _____		
		Total Lab Grade _____

Project = 40 pts. = 20% of final grade

Research Question (1) _____		
Proposal (5) _____		
Report Checksheet (4) _____		
Report (20) _____		
Revised Report _____		
Presentation (10) _____		
		Total Project _____

Final Exam (20 pts) _____ Final Exam _____

Subtract sum of lowest 5 Quizzes from Final _____ Final Adds _____

Make-up/Extra-credit = 5 pts. = 2.5% added to grade Mini-lecture Adds _____

Total Points (200 pts): **Grand Total** _____

Grade Percent = Grand Total _____ / 200 points possible = _____ X 100 = _____ %

FINAL GRADE:

A	=	90 - 100%	=	180 - 200 points
B	=	80 - 89%	=	160 - 179 points
C	=	70 - 79%	=	140 - 159 points
D	=	60 - 69%	=	120 - 139 points
F	=	Below 60%	=	000 - 119 points