

# BIO 105: ENVIRONMENTAL BIOLOGY

Fall 2009; CRN 11964 (MW 11:40-2:20)

SYLLABUS (subject to change)

**Instructor:** Dr. Brad Fiero

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**Office Hours:** MW 10:00-11:00 am; TTh 12:00-1:30 pm. Also by appointment

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

**Texts:** Essential Environment: the Science Behind the Stories, 3<sup>rd</sup> ed. 2009. Withgott/Brennan [optional]  
Environmental Biology Lecture/Lab Packet [required]  
Home Page Web Site: <http://wc.pima.edu/~bfiero/bio105/>.

**Description:** Fundamentals of ecology and their relevance to human impact on natural ecosystems. Includes ecosystem structure and function, population dynamics, and human impacts on air, water, land, and biodiversity.

**Course Objectives:** Upon completion of this course, the student will be able to:

1. Synthesize ecological principles into an understanding of how the Earth functions.
2. Apply ecological principles to understand human impact on the environment.
3. Evaluate scientific basis of environmental issues.
4. Describe possible causes and analyze potential solutions to current environmental issues.
5. Demonstrate skills necessary for life-long learning, critical examination, and personal decisions relative to environmental biology.

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

<b>Evaluation:</b>	<b>Points:</b>	<b>Percent of Total Points:</b>
Quizzes	60 pts (15 @ 4pts)	30%
Reviews	40 pts (see schedule)	20%
Labs and activities	100 pts (see schedule)	50%
Optional Comprehensive Final Exam	(20 pts used to replace lowest 5 quiz grades)	
<b>Total Points:</b>	<b>200 pts</b>	<b>100%</b>

**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. 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). Because quizzes, group meetings, 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 materials. Complete attendance is mandatory during all group meetings and presentations; otherwise points will be forfeited. Because of insurance limitations, non-registered visitors are not allowed at class sessions or on field trips.

**Make-up Policy:** No make-up quizzes, labs, or presentations allowed; in some cases they may be turned in early if a class will be missed. Note: the Final Exam replaces your lowest 5 quiz grades. There is also one make up assignment. Unless otherwise stated (see Rubrics), late assignments are penalized 25% of the grade. If you are going to miss or have missed a class, please see instructor as soon as possible.

**Group Projects:** It is important that clear communication occurs between group members, and that expectations of each member are clear to all, and that all members fulfill what is expected of them on time. Each member of a group will be graded independently. Each in-class group meeting missed may result in one or more points missed.

**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:** Please be respectful of other students and the educational process. Turn off cell phones, laptops, ipods, mp3s, headphones, and chit-chat while class is in session.

**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, 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, 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 active participation and effort.

Regarding class discussions, please respect others' opinions. Through voicing your own current opinion and rationale, hearing others' opinions and rationales, and critically examining them all, you will develop more informed opinions yourself.

# REVIEWS

**OBJECTIVE:** To foster current environmental awareness and to use critical thinking when applying environmental information personally and globally.

**ASSIGNMENT:** Reviews may be turned in 48 or more hours early for feedback.

I. **Article Reviews:** See sample and due dates online.

Format of Article Review: Use the **headings** in capital letters below in your entry.

TITLE

AUTHOR

DATE PUBLISHED

LINK TO ARTICLE

SUMMARY: summarize the author's main ideas in your own words (50-150 words).

GLOBAL RELEVANCE: why should each person in the world care? Put in your own thoughts, not more info from article (50-150 words).

Rules of Article Review:

- The article must be on a topic we cover in class (e.g., not just health-related).
- Your article must be from an article published since the previous article review due date (within last 2 weeks for article review 1) in the science or environment sections of the New York Times.
- Your summary and global relevance sections must be within word limit.

II. **Website Review:** See sample and due date online.

Format of Website Review: Use the **headings** in capital letters below in your entry.

TOPIC: specify content area (see list below)

TITLE OF SITE: give title of website (found at the very top of the browser screen)

WEBSITE ADDRESS: **complete and accurate** (I recommend copying/pasting it in)(not Wikipedia).

AUTHOR/AFFILIATION: give author **and** author's affiliation (if individual author is not given, give only the affiliation – e.g., the agency or organization.). Spell out all acronyms.

ANNOTATION: indicate information obtainable from site and relevance to class (50-150 words long).

Rules of Website Review

Find **the best** website on the subject (especially useful if contains links to related sites but the site **cannot** contain **only** links; it must contain significant, relevant info; not wikipedia).

E-mail your website review to me to post it at <http://wc.pima.edu/~bfiero/bio105/105sites.htm>.

Give a short (less than 3 minutes) oral presentation on your assigned website to persuade your classmates to go to the website.

<b>Web Topics presented on these dates: please circle your topic so you remember later.</b>
<b>Sept 21:</b> Environmental News, Environmental Organizations, Environmental Agencies, Tucson Environmental Info., Science, Plate Tectonics, Atmospheric Circulation, Desert Ecology, CAP, Water Use
<b>Sept 23:</b> Freshwater Pollution, Marine Pollution, Human Population Growth/Control, Evolution, Soil, Food, Biological Diversity, Endangered Species, Introduced Species, Theory of Island Biogeography
<b>Sept 28:</b> Energy Use/Conservation, Alternative Energy Sources, Environmental Economics, Air Pollution, Ozone Depletion, Acid Deposition, Global Warming, Solid Waste, Recycling, Public Lands

III. **Easter's End Review:** See assignment online. You will read the article and answer questions.

## MAKEUP/EXTRA CREDIT (UP TO 10 PTS)

**To be announced:** The assignment will be available online.

# ONLINE SYLLABUS MATERIALS

## Links are on the Bio105 home page

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

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

**FAIL-SAFE STUDY TECHNIQUE:** online at <http://wc.pima.edu/~bfiero/study.htm>

**TIPS FOR POWERPOINT PRESENTATIONS:** online at [http://wc.pima.edu/~bfiero/bio105/ppt\\_tips.htm](http://wc.pima.edu/~bfiero/bio105/ppt_tips.htm)

**OPTIONAL CIVIC LEARNING PROJECT:** online link from <http://wc.pima.edu/~bfiero/bio105/index.htm>

## BIO 105 ENVIRONMENTAL BIOLOGY GRADING SYSTEM

### SCORING RUBRIC FOR QUIZZES

Essentially Correct (4 pts)

Mostly Correct (3 pts)

Somewhat Correct (2 pts)

Attempted (1 pt)

No Answer (0 pts)

### SCORING RUBRIC FOR ARTICLE REVIEW

Title, Author, Date, Link: complete and accurate (1 pt)

Summary: author's main ideas summarized (in 50-150 words) (1 pt)

Global Relevance: explained importance of information globally (in 50-150 words) (2 pts)

Penalties: Article not directly related to course content (-4)

Five or more grammatical errors (-1)

Late (-1/day late)

**Total: 4 points x 5 reviews during semester = 20 total points**

### SCORING RUBRIC FOR WEBSITE REVIEW

Website Topic and Title accurate (1 pt)

Author/Affiliation complete and accurate and must include affiliation (2 pts)

Annotation useful (5 pts)

Oral Presentation persuasive (2 pts)

Penalties: Website Address not accurate (-2 if corrected; otherwise -8)

Website not clearly one of the best on the class subject area (-4)

One or more grammatical errors (-1)

Late (-1/day late)

**Total: 8 points for review + 2 points for presentation**

### SCORING RUBRIC FOR DESERT ECOLOGY LAB

**Proposal (5 pts):** Participated fully in writing proposal. See website for more details.

Contains Introduction: title, names, research question, biological interest, and hypotheses

Contains Methods: repeatable

Contains Results: Tables/Graphs fully labeled with complete caption; statistics to be used

Failed to meet all in-class meetings (up to -5 pts)

**Data Collection (10 pts):** Participated fully in collecting data

**Presentation (10 pts): see presentation rubric**

Failed to meet all in-class meetings (up to -10 pts)

**TOTAL: 25 points**

## **SCORING RUBRIC FOR EASTER'S END AND MAKEUP**

Answered all questions completely and in depth (10 pts)

Penalties:

Grammar: -1 point

Late: not accepted late.

**Total: 10 points**

## **SCORING RUBRIC FOR 10 POINT PRESENTATIONS**

**Presentation**

PowerPoint used Effectively (2 pts)

Talked with interest to audience (2 pts): do not read verbatim notes, do face audience

Quality of Content Presented (6 pts)

Depth/Relevance of material presented

Presented in organized and logical manner

**Penalties**

Failed to attend all presentations (up to -10 pts based on % missed)

**Total: 10 points**

## **SCORING RUBRIC FOR WATER PUBLIC HEARING**

**Participation:** Attend all in-class meetings (5 pts)

**Persuasive**

Talked with interest to audience (2 pts): do not read verbatim notes, do face audience

Quality of Content Presented (8 pts)

Depth/Relevance of material presented

Presented in organized and logical manner

**Total: 15 points**

## **SCORING RUBRIC FOR HOME ECOSYSTEM LAB**

**Home Data (10 pts):** turned in (one copy to me and one to analyzer) on time and totally complete

Due beginning of class (-2 pts if turned in by next class period; not accepted for points afterward)

**Group Outline (2 pts):** complete

**Individual Outline (3 pts):** complete

**Presentation (10 pts):** see presentation rubric

**Participation:** failed to attend all in-class meetings/presentations (up to -10 pts)

**Total: 25 points**

## **SCORING RUBRIC FOR OPTIONAL CIVIC LEARNING REPORT**

**Report (15 pts)**

**Introduction:**

Were **Personal Goals** that **you** want to achieve through this volunteer work stated clearly?

Was **Background** information provided on the organization (mission, projects, and goals)?

**Methods:** Were activities grouped into categories and was % of time spent in each category included? Were each of your activities explained fully?

**Results:** Was how your efforts helped the organization and the environment included? Was how the experience tied in to class included?

**Discussion:** Was the discussion complete (fulfillment of goals, future effect, suggestions)?

**Presentation (10 pts):** see presentation rubric

**Penalties:**

Missing Documentation -- Log and Letter (up to -25 pts)

Not Neat or Grammatically Correct (-2 pts)

Late (includes weekends) (- 1/day).

**Total: 25 points (instead of home eco lab)**

# Bio 105 Environmental Biology Grade Tracking Sheet

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

Quiz 1 \_\_\_\_\_ Quiz 6 \_\_\_\_\_ Quiz 11 \_\_\_\_\_  
 Quiz 2 \_\_\_\_\_ Quiz 7 \_\_\_\_\_ Quiz 12 \_\_\_\_\_  
 Quiz 3 \_\_\_\_\_ Quiz 8 \_\_\_\_\_ Quiz 13 \_\_\_\_\_  
 Quiz 4 \_\_\_\_\_ Quiz 9 \_\_\_\_\_ Quiz 14 \_\_\_\_\_  
 Quiz 5 \_\_\_\_\_ Quiz 10 \_\_\_\_\_ Quiz 15 \_\_\_\_\_

Total Quizzes 1-15 \_\_\_\_\_

**Final Exam (20 pts)** \_\_\_\_\_ - Sum Lowest 5 Quizzes \_\_\_\_\_ = Amount Final Adds \_\_\_\_\_

## Reviews = 40 pts. = 20% of final grade

Article Review 1 (4) \_\_\_\_\_  
 Article Review 2 (4) \_\_\_\_\_  
 Article Review 3 (4) \_\_\_\_\_  
 Article Review 4 (4) \_\_\_\_\_  
 Article Review 5 (4) \_\_\_\_\_  
 Website Review (8) \_\_\_\_\_  
 Website Pres. (2) \_\_\_\_\_  
 Easter's End (10) \_\_\_\_\_

Total Reviews \_\_\_\_\_

## Laboratories and Activities = 100 pts. = 50% of final grade

Desert Ecology Lab (25 total)  
 • Proposal (5) \_\_\_\_\_  
 • Data Collection (10) \_\_\_\_\_  
 • Presentation (10) \_\_\_\_\_  
 Ecological Footprint (5) \_\_\_\_\_  
 Water Public Hearing (15) \_\_\_\_\_  
 Waste Water Treatment Plant (5) \_\_\_\_\_  
 Fish Banks Lab (10) \_\_\_\_\_  
 Landfill Lab (5) \_\_\_\_\_  
 Home Ecosystem Lab (25 total)  
 • Home Data (10) \_\_\_\_\_  
 • Group Outline (2) \_\_\_\_\_  
 • Individual Outline (3) \_\_\_\_\_  
 • Presentation (10) \_\_\_\_\_  
Or Civic Learning Report (15) \_\_\_\_\_  
 and Presentation (10) \_\_\_\_\_  
 Land Use Simulation Lab (10) \_\_\_\_\_

Total Labs \_\_\_\_\_

**Makeup Credit (+10)** \_\_\_\_\_

Makeup Credit \_\_\_\_\_

## Total Points:

**Grand Total** \_\_\_\_\_

Grade Percent = Grand Total \_\_\_\_\_ / 200 total 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  
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