

GARRETT COLLEGE
PRINCIPLES OF BIOLOGY - BIO 104
FALL, 2013
SYLLABUS

Instructor: Peter Skylstad - Professor of Biology, Associate Director - NRWT Program
Office: CAOS Building - NRWT Program Office (Room 1010)
Office Phone: 301-387-3332 (leave message, 72 hour weekend response delay possible)
Office Hours: Tu/Th 10:30 - 11:30 or Friday by appointment
E-mail: peter.skylstad@garrettcollege.edu (72 hour weekend response delay possible)
NRWT webpage: <http://www.garrettcollege.edu/educationalopportunities/creditoptions/academic-departments/nrwt>
Instructor webpage: <http://www.garrettcollege.edu/faculty-web-pages/peter-skylstad>

Course Meeting Dates/Times: Lecture: Tu-Th 1:30-3:00
Labs: as scheduled starting first week

Course Description

This is a course designed to acquaint students with the science of biology and to stimulate interest in the minds of students who do not plan to major in biology or a related discipline. Topics covered include biochemistry, cellular structure and function, photosynthesis and respiration, genetics, evolution, ecology, plant and animal diversity, and human biology. Laboratory exercises demonstrate and support principles covered in lecture.

Course Assessment Techniques

Course Learning Goal	Outcome Measures and/or Classroom Assessment Techniques	When Assessment Occurs
1. The student will demonstrate the ability to recognize, understand, and discuss basic biochemistry, cell structure and function, enzymatic form and function, photosynthesis, cellular respiration, DNA and RNA, cell division, and Mendelian genetics.	Exam I	Middle of semester
2. The student will demonstrate the ability to apply the taxonomic hierarchy, understand evolutionary processes that generate species diversity, understand principles of ecology, recognize representative organisms from the five kingdoms, and identify, label, and discuss components and systems in basic animal anatomy and physiology.	Exam II	End of semester
3. The student will demonstrate the ability to use basic biological equipment in a laboratory setting and to integrate material covered in lecture with models, specimens, and lab activities.	Lab Exams I and II (average score used for assessment)	Middle and end of semester
4. The student will demonstrate the ability to discuss, in written form, contemporary issues, as well as theoretical and technological advances in the biological sciences, including scientific report writing.	Contemporary Scientific Article Reviews (2) (rubric-scored) Group Research Project Written Report (Lab) (average score used for assessment, 50/50)	Periodically and end of semester

Course Text

Concepts in Biology, 13th edition, by Enger and Ross (a lab book is not required for this course)
Webpage for text supplements and study aids: See textbook inside front cover and page xxi - Learning Supplements for the Student - ARIS (Assessment Review and Instruction System).

Attendance

Attendance is mandatory. If a student misses more than one scheduled lecture or lab, one may have a very difficult time passing this course. The student is responsible for any information disseminated during lecture or lab and from reading assignments. If a class is missed, it is the student's responsibility to obtain the information (share notes with a friend or use CD lecture notes from Library). Tests, quizzes, and other assignments cannot be taken at a date other than the assigned date and time unless the student has a verifiable doctor's excuse (on office letterhead, etc.), or valid proof of a life-threatening illness affecting an immediate family member or death of an immediate family member. Other absences will be evaluated on a case by case basis (there are very few valid reasons for being late or absent that the instructor will approve). All approved missed exams/quizzes must be made up within one class period. Labs cannot be made up under any circumstances. **TARDINESS POLICY**: For every 3 tardy marks, a 10% participation penalty will be assessed against the student's final grade. **ABSENTEE POLICY**: If a student misses more than three days of class (four absences), the student will receive a FA and fail the course. Attendance information is required by the Registrar's office and poor attendance or lack of attendance can impact financial aid adversely.

Classroom Etiquette

All students are expected to adhere to appropriate classroom behavior. The goal of any classroom activity is to provide the greatest educational benefit to all students. A student should correctly expect, in word and deed, respect and consideration from the instructor and other students and vice versa. The instructor holds, in reserve, the authority to dismiss a student, either temporarily or permanently, who interferes with the rights of others in the educational process. Disruptive behavior includes, but is not limited to, tardiness, leaving without permission before class is over, inappropriate or disruptive language or conversation, sleeping during class, failure to turn off cell phones or other electronic devices during class, etc.

Academic Dishonesty Policy

All students at Garrett College are expected to adhere to a strict code of academic honesty and integrity. Violations of the "Code of Academic Conduct" include all forms of cheating, plagiarism, and misuse of college documents and/or instruments. Students determined to be in violation of the "Code of Academic Conduct" will receive an automatic "F" in the course in which the dishonesty occurred and will, in addition, be withdrawn from all other courses. The violator will be academically suspended from Garrett College for a minimum of one semester. Additional penalties may be levied as each violation is investigated and reviewed on an individual basis. To facilitate a more positive atmosphere of learning in this course, please make every effort to avoid even the appearance of any academic impropriety.

Cellular Phones and Pagers and Other Electronic Devices

All cell phones and other electronic devices must be turned off and stowed away (in a backpack, briefcase, or purse) during class. At no time are cell phones or any other type of communication device allowed on a student's desk (or hands) during class. Exceptions based on physical disability or other need will be evaluated on a case by case basis. Violators of this policy during testing will be assumed to be cheating and will be adjudicated according to the penalties for academic dishonesty listed above.

Tobacco Use on Campus

Tobacco products are not to be used anywhere on campus. Students may use these products within the privacy of your own vehicle in the parking lot. Smoking, chewing, and dipping are not allowed anywhere on campus, especially around entrances to college buildings. Please do not throw butts or spit on college property. Your cooperation is appreciated.

Progress Assessment Allocations

Lecture quizzes, lecture and lab tests, outside assignments, lab reports/assignments, and a comprehensive lecture final exam will be required for this course. The lowest quiz grade will be dropped (this helps those that missed a quiz because of an absence).

Midterm Lecture Exam.....	100
Final Lecture Exam (comprehensive).....	100
Preparatory Reading Quizzes (6-10).....	100
Science Article Reviews (2).....	50

Note: Lab activities schedule will be determined by the lab instructor.

Lab.....	150
<i>Total Possible Points</i>	<i>500</i>

Science Article Reviews

Students are required to complete two article reviews. Appropriate sources are current magazines, newspapers, or science journals. Sources must be science-based or from a science section in a popular magazine, e.g., Time, Newsweek, etc. No source should be older than January, 2005. The internet may be used as a source, but the website must be science-based (.edu sites are a good source, no Wikipedia). Articles should cover an appropriate topic in biology, preferably related to subjects discussed in class or in the textbook. Students must apply the following criteria when writing the review:

1. Use a three paragraph, two full page format (no more and no less than two pages, include a title, author, source and your name in upper left corner, single spaced). The article that you choose must be at least twice as long as the review! A two page review should contain approximately **600-700 words**.
2. Reviews must be typed. Use a 12 point font, double spaced and set all margins, headers, footers to one inch (will be measured).
3. Summarize the article in your own words in the first paragraph (**about 150 words**).
4. Explain how the article is relevant to your coursework/textbook in the second paragraph. This paragraph should rely heavily on your textbook and class discussions for support (**about 400 words**).
5. Logically express your science-based opinion of the article in the third paragraph (**about 150 words**, don't rant!).
6. Attach the article (or a copy) and staple it to your review.
7. **Failure** to follow each and every one of the instructions listed above will result in an automatic **0!**

Due dates are listed in the syllabus schedule. Article reviews may be turned in early. However, no article reviews will be accepted after the due date.

Library Schedule: Visit the library and talk to a librarian. Use this resource!

Writing Lab: Visiting the Writing Lab can improve your article reviews and your grade!

*** PLEASE READ AND STUDY THIS PAGE!!!!!!!!!!!!!!**

PLAGIARISM

"To borrow another writer's **language or ideas** without proper acknowledgment is a form of dishonesty known as plagiarism" (Hacker 353).

Writers are obliged to acknowledge all material that is **quoted, paraphrased, or summarized from any work. This includes information downloaded from the Internet.** If a writer fails to cite a source, **whether deliberately or accidentally**, he/she is guilty of plagiarism. Research papers are a collaboration between the student and his/her sources. To be fair and ethical, students must acknowledge the origin of these sources, whether from print or electronic media. **Failure to do so is a serious academic offense (plagiarism)** (Hodges & Whitten 413).

Plagiarism is a form of academic dishonesty. Students who plagiarize, whether in written work or in computer assignments, are subject to the following disciplinary actions as stated in the Code of Student Conduct published in Garrett's catalog:

"All forms of academic dishonesty are causes for dismissal from the institution. The penalty is course failure and College expulsion. The individual may request readmittance to the institution. However, readmittance is not automatic, nor is it guaranteed" (41).

Plagiarism may take three different forms:

- 1) failing to cite quotes and borrowed ideas,
 - 2) failing to enclose borrowed language in quotation marks,
 - 3) failing to put summaries and paraphrases in your own words
- (Hacker 354).

Students often believe that as long as they do not quote directly from their source, they have not plagiarized. On the contrary, unless the paraphrase or summary is truly the student's work, distinct from the author's language, the summary is plagiarized.

To avoid plagiarizing an author's language, students should resist the temptation to look at the source while summarizing or paraphrasing. For instance, they should **close the book, write from memory, then open the book to check for accuracy** (Hacker 356).

EXAMPLES

The following paraphrases are plagiarized - even though the source is cited - because the language is too close to that of the original source.

Original Version

If the existence of a signing ape was unsettling for linguists, it was also startling news for animal behaviorists.

-Davis, Eloquent Animals, p. 26

Unacceptable Borrowing of Phrases

The existence of a signing ape unsettled linguists and startled animal behaviorists. (Davis 26).

Unacceptable Borrowing of Structure

If the presence of a sign-language-using chimp was disturbing for scientists studying language, it was also surprising to scientists studying animal behavior (Davis 26).

Acceptable Paraphrases

When they learned of an ape's ability to use sign language, both linguists and animal behaviorists were taken by surprise (Davis 26).

According to Flora Davis, linguists and animal behaviorists were unprepared for the news that a chimp could communicate with its trainers through sign language (26).

(Hacker 356)

When in doubt, a student should consult his/her English text or research manual or the writing lab.

WORKS CITED

Hacker, Diana. Rules for Writers. Boston: Bedford, 1996.

Hodges, John C. and Mary E. Whitten. Harbrace College Handbook. New York: Harcourt, 1989.

WARNING! If you cut and paste text from the Internet, you will be caught and expelled from the College!

TENTATIVE LECTURE SCHEDULE Fall, 2013

<u>DATE</u>	<u>CHAPTERS TO READ "BEFORE" CLASS!</u>
9/5	Orientation, Introduction and Chp 1, What is biology?
9/10	Chp 2 The Basics of Life: Chemistry
9/12	Chp 2 The Basics of Life: Chemistry
9/17	Chp 3 Organic Molecules - The Molecules of Life
9/19	Chp 4 Cell Structure and Function
9/24	Chp 5 Enzymes, Coenzymes and Energy
9/26	Chp 6 Biochemical Pathways - Cellular Respiration
10/1	Chp 6 Biochemical Pathways - Cellular Respiration
10/3	Chp 7 Biochemical Pathways - Photosynthesis
10/8	Chp 8 DNA and RNA - The Molecular Basis of Heredity
10/10	Chp 9 Cell Division (Article Review #1 due)
10/15	Chp 10 Patterns of Inheritance
10/17	<u>EXAM 1</u>
10/22	Chp 13 Evolution and Natural Selection
10/24	Chp 14 The Formation of Species and Evolutionary Change
10/29	Chp 15, 16, 17 Ecology Overview with Supplementary Handout
10/31	Chp 19 The Origin and Classification of Life
11/5	Chp 20 The Classification and Evolution of Organisms
11/7	Chp 21 The Nature of Microorganisms
11/12	Chp 21 The Nature of Microorganisms
11/14	Chp 22 The Plant Kingdom
11/19	Chp 23 The Animal Kingdom
11/21	Chp 24 Materials Exchange in the Body
11/26	Chp 26 Control Mechanisms/Immunity (Article Review #2 due)
11/27	Thanksgiving Holiday Break Begins (Wed. 11/27 - Sun. 12/1)
12/3	Chp 27 Human Reproduction, Sex and Sexuality
12/5	Catch Up and Review
12/9 to 12/12	Finals Week <u>EXAM 2</u> (TBA)

LAB SCHEDULE/ASSIGNMENTS

Provided by the lab instructor

NOTEWORTHY QUOTES

Genius is 1% inspiration and 99% perspiration. (T. A. Edison)

If I have seen further than others, it is because I stand on the shoulders of giants. (Sir Isaac Newton)

Science knows no country, because knowledge belongs to humanity, and is the torch which illuminates the world. Science is the highest personification of the nation because that nation will remain the first which carries the furthest the works of thought and intelligence. (Louis Pasteur)

It is the teacher's role to provoke students to teach themselves. (Lawrence Skylstad)

The harder I work, the luckier I get! (Lawrence Skylstad)

Ignorance is voluntary bad luck! (Lawrence Skylstad)