

FRONTIERS IN BIOLOGY
BIOL 3000

I. General Information

Professor: Dr. Stuart Wooley
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Course webpage: Blackboard Frontiers in Biology (Biology 3000) page.

- **Required Reading:**
 - Biology: Science for Life with Physiology 3rd edn. Belk and Maier. Pearson.
We will go through all of the chapters of this book. Many of assignments will come from this textbook.
- Online posts of reading/video material.

II. Course Description

Biology 3000 counts as an upper-division GE (F1) course. Therefore, you must have completed at least 60 credit hours to receive GE credit for this course. That is a University requirement.

The primary objective of this course is to improve students understanding of science. This is done by surveying the science of Biology and how different aspects are found in so many areas of your life. From entertainment (e.g., X-Men, Jurassic Park, Gattaca), to law (DNA tests), to politics (e.g., climate change, endangered species act, Delta smelt). We will discuss life from the earliest cells to ecosystems. This course is important not only to fulfill your degree requirements, but you will learn a main reason that life (as we know it) exists on Earth you will learn about the diversity of life.

I will also try to provide some short videos of the biology of Honduras for you to see what kinds of Biology I am experiencing at the same time.

Key Principle: This class will have to be entirely self-motivated, since we won't meet during a specific time. You will have to motivate yourself to complete the homework.

III. Course Objectives

Learning Outcomes

Students will

- complete the course understanding the main principles of biology.
- Improve your communication about concepts and issues in biology
- Develop a framework for critical evaluation and use of information from reliable scientific sources to answer important biological questions.
- Understand the relationships between botany, zoology, chemistry, physics, and geology.
- Recognize the interdependence of life including humans.
- Be able to describe why plants are the foundation of life on earth.
- Be able to trace the evolutionary advances of life from unicellular to multicellular organisms.

GE Goals

This course will address GE Goals 1-5 as follows:

1. **Subject Knowledge** This course by design is a comprehensive overview of the basic principles and methodologies of science through studying Biology. In addition, students will come to understanding their place in the natural world.
2. **Communication** As an online class clear communication between students and instructors is critical. Students will learn to communicate clearly, logically and concisely via electronic means. Furthermore, by completing written assignments, students will develop greater communication skills.
3. **Information Retrieval and Evaluation** This specific goal is a major reason to teach this course as a GE course and not solely as a majors-only course. Information about biology and biological topics, many medical, abound on the internet and other places. A significant underlying theme of the course is helping students learn to recognize reliable sources of information and where to go to find additional reliable information.
4. **Interdisciplinary Relationships** Biology is inherently interdisciplinary connecting chemistry, anthropology, religion, society and even politics.
5. **Inquiry and Critical Thinking** Student inquiry will be necessary each week as students complete assignments. Students will also need to respond to various questions that require critical thought to determine the best answer in the situation. Students will also need to utilize resources outside of class to find the best answer or the information needed to address complex issues.

Social Responsibility Students need to utilize the knowledge gained here in their lives when they vote, where they purchase materials, how they treat other people and how they choose to utilize resources.

IV. Course Requirements

This course is a science course. We will cover chemistry, biology, botany, as well as anthropology, politics and popular culture. You will be required to learn scientific names, chemical names and some human physiology. In addition, you will learn about the nature of science and how modern science is practiced.

A. Assignments

Students will be assessed on weekly assignments that will be posted at least one week ahead of time on the Mastering Biology Website. Deadlines will be the same days each week (Saturday evenings). Other assignments will be posted on via Blackboard and you will have plenty of notice to complete those assignments.

Late Policy: Because you will have an at least one full week (sometimes two weeks) to turn in material I will not accept late material.

Assignments posted on Blackboard must be turned in according to the instructions provided on the Blackboard page. Only assignments turned in the appropriate way will be accepted. Because an online class may be new for you, I will give you a grace period of two weeks for the first assignment. After that first grace period in the first 2 weeks of the class, the late policy will be in effect.

Syllabus: You need to read the syllabus and be familiar with it. An exercise to understand the syllabus will be required the first week. It will be worth 20 points.

Reading: Reading the text will be assessed by providing questions for students to answer during the reading. Reading assignments are variable points because the amount of reading required each week is variable. These assignments will be on MasteringBiology and you can do them at any time during the assignment window. You can also leave them unfinished and return to them later.

Blackboard: I will intermittently post assignments on Blackboard. These will be assignments to watch or read something related to the chapter we are studying. They will also be from more popular sources (PBS, Discovery, Vimeo, etc.) rather than videos from the text book. They will be accompanied by a set of questions to look for during the presentation and then turn in later, following the instructions for turning in assignments via Blackboard.

B. Make up Work

You are responsible for your own work. If something serious happens to you during the semester, I will need some documentation (electronic) about that. Usually you will have 1 week to make up any work. These will be determined on a case-by-case basis. You must contact me immediately so we can work something out. Don't just drop off the radar.

V. Grading

Grade Calculations Grades are based on the percentage of points earned.

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|----|---------|----|--------|----|--------|
| A | 93-100% | A- | 90-93% | | |
| B+ | 87-90% | B | 83-87% | B- | 80-83% |
| C+ | 77-80% | C | 73-77% | C- | 70-73% |
| D+ | 67-70% | D | 63-67% | D- | 60-63% |
| F | 0-60% | | | | |

If you take the credit/no credit option: CR 70-100% NC 0-70%

Options: University policy states that census date is the last day to choose CR/NC. It is also the last day to drop the course. Instructors can extend the time. Therefore, **February 29** is the **last day** you may change your grading option (CR/NC). I will strictly follow the grading option indicated on the final grade sheet supplied by Admissions and Records. Consult with your advisor before making your decision. Grades will **not** be changed once they have been submitted. **In short, choose wisely, and if you choose CR, I won't change the grade to a NC later if you don't do as well as you hoped.**

NOTE: Changing your grade in the last 4 weeks of the term is very difficult, especially if you have already earned nearly 80% of your grade. Please keep up on your grades so you can make adjustments as needed. I will grade material in a timely manner so you can know exactly your grade and *you can calculate your own grade*. Then, you can make adjustments in your study to do better and/or talk with me if you need help.

VI. Learning Environment and Citizenship

Teaching philosophy

Professor

I will strive to make sure you have all the information necessary to know what you need to do and when you need to do it.

I will respond respectfully to your queries as soon as I can.

I will not give you assignments or homework just so you have something to do.

Students

I expect students to actively participate and to do the work.

I expect students for an online class to be self-motivated to do the work.

I expect students respect the rights of others and to provide positive, helpful criticism.

I expect honesty from the students.

Cheating is “submitting an in-class assignment for a student who is not present or submitting work that is not your own, but claiming that it is your own original work.”

Lying is “communication with intent to deceive” and cheating falls into that category.

Study skills

Assignments will be due the same day each week. Saturday night by 10 pm. Plan your schedule to check the course webpage to make sure that you have completed the assignment and posted it at the appropriate location. You should check the course webpage at least once per day.

VII. Communication with the Instructor

I am out of the country for the semester. As such, electronic communication is the main means of contacting me. I generally won't respond to email questions about the class via email to a single student. Instead, I will communicate with students via the Blackboard discussion boards. Please if you have questions post your question at the Discussion board question thread. I will answer there so all students can find out.

VIII. Schedule

The schedule may change. Material to read, watch, and listen to will be posted online on the course Blackboard page. Otherwise, check the MasteringBiology page for assignments. They will become available on early Monday morning and turn off late Saturday night.

| Date | Topics | Reading |
|----------|---|---|
| 23-Aug | Intro, Nature of Science | |
| 25-Aug | Plant Morphology/Taxonomy | Links to info Online |
| 30-Aug | Plant Chemistry | Hoffman Ch 3; Ecological Biochem (Blackboard) |
| 1-Sep | Human Physiology | See links and animations (Blackboard page) |
| 6-Sep | Human Physiology | |
| 8-Sep | History of Medicinal Plants | Encyclopedia of Med. Plants reading |
| 13-Sep | History of Medicinal Plants & res Methods | |
| 15-Sep | Philosophies of medicinal plant usage | Buhner article on Blackboard |
| 20-Sep | Ethnobotany | Cox Ch 3 on Blackboard |
| 22-Sep | DSHEA & Supplements | see texts for information; ABC documents |
| 27-Sep | Garlic and Goldenseal | |
| 29-Sep | Chamomile and Capsicum | |
| 4-Oct | Chohosh, Ginseng and Manzanita | Moore |
| 6-Oct | Mints and Plantain | |
| 13-Oct | Tea, Jimsonweed, Coffee Berry | Moore |
| 18-Oct | Elder and Ginkgo | Moore |
| 20-Oct | Cinnamon, California Bay, Agave | Moore |
| 25-Oct | Kava | |
| 27-Oct | Marijuana | |
| 1-Nov | Marijuana and Echinacea | |
| 3-Nov | Medicinal Plants of Malaysia, Sweet Annie | |
| 8-Nov | Hawthorne and St. John's Wort | |
| 10-Nov | Cherokee and Native Am. Medicine | Cherokee Medicine Web book |
| 15-Nov | Preparation of Medicinal Plants | Hoffman Ch 11 |
| 17-Nov | Student Choice | |
| 22-Nov | Student Choice | |
| 29-Nov | Student Choice | |
| 1-Dec | Frankincense and Myrrh | |
| 12/06/11 | | |
| 8-Dec | | |
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