

GENERAL BIOLOGY (BIOL 1305) – FALL 2016

Instructor: Dr. Jeffrey Olimpo

Office: B226A Biology Building (Tues. 10:00 – 11:00am & Thurs. 1:30 – 2:30pm)*

E-mail: jtolimpo@utep.edu

*These are hours when I am **guaranteed** to be in my office. If these times do not work for you, please send me an e-mail, and we can arrange another time to meet. I'm here to help!

COURSE DESCRIPTION

Welcome to *a study of life*! This course examines biological principles from cells to communities with a particular emphasis on structure and function. As a result, you will be introduced to a variety of topics including genetics, metabolism, cell structure and physiology, and homeostasis. Applications of biology to other areas of science will also be discussed.

COURSE OBJECTIVES

This course is designed to provide students with a broad introduction to the field of Biology. Upon completion of the course, students will be able to:

- Understand the basic principles of the discipline including relationships and applications to other areas of science (e.g., chemistry)
- Discuss and demonstrate how scientists solve problems in the discipline
- Discuss and demonstrate attitudes important to the scientific community such as discerning cause-effect relationships, making evidence-based claims, and synthesizing facts from multiple sources in order to understand situations as a whole
- Demonstrate the ability to think critically including understanding and using the “language” of biology

COURSE TEXTBOOK & MATERIALS

1. *Principles of Life (1st or 2nd Ed.)*; Hillis, Sadava, Heller, and Price. W.H. Freeman, Publishers; ISBN-10: 1429257210 (1st Ed.)

* **NOTE:** The textbook is **not required** for this course, and all assignments and exams will be structured around the lectures and activities given in class. However, the textbook is a recommended reference for reviewing material you might have found particularly

challenging or need further clarification on.

2. *OpenStax* Textbook: The *OpenStax* site provides both online and PDF versions of a general Introductory Biology textbook (<https://openstaxcollege.org/textbooks/biology/get>). Please note that Units 1-3 are most relevant to this course.
3. Four GREEN Scantron® forms (purchased at the bookstore or library).

ACADEMIC INTEGRITY

As members of a scholarly community dedicated to healthy intellectual development, students and faculty are expected to share the responsibility of maintaining high standards of honesty and integrity in their academic work. All material for this course must be your work and no one else's. **Cheating or plagiarism in any form will not be tolerated.** This includes, but is not limited to, copying someone else's work on an assignment or exam and using banned material while taking exams (e.g., iPods or cell phones). Please note that all suspected instances of plagiarism or academic dishonesty will be referred to the Dean of Students' Office, in accordance with UTEP policies and procedures.

The honor code also states that all members of the UTEP community are entrusted with the responsibility to uphold and promote five fundamental values: Honesty, Trust, Respect, Fairness, and Responsibility. These core elements foster an atmosphere, inside and outside of the classroom, which serves as a foundation and guides the UTEP community's academic, professional, and personal growth. Endorsement of these core elements by students, faculty, staff, administration, and trustees strengthens the integrity and value of our academic climate.

COMMUNICATIONS

When you e-mail me, please include a proper subject, any message you are responding to, the course name and CRN, as well as your name. Please use your UTEP account to ensure the e-mail is not blocked by the university's spam filter. If you e-mail from the Blackboard course, essential information like the course name and section will automatically be included. I will do my best to respond to your e-mail within 24-48 hours. If you do not get a response in this timeframe, I ask that you please re-send your e-mail. Ensure that you regularly check the e-mail account listed for you in Blackboard *or* feel free to provide me with an alternate account that works best for you.

CENTER FOR ACCOMMODATIONS AND SUPPORT SERVICES

Students with disabilities who wish to request accommodations must be registered with the Center for Accommodations and Support Services (CASS) Office in Room 106 of the Union East Bldg. You may contact them at (915) 747-5148 or cass@utep.edu for more information. Once you are registered with the CASS Office, you will need to please see me as soon as possible so that we may have a private conversation to discuss accommodations, as recommended by CASS.

TECHNICAL SUPPORT

The IT Support Team can assist with Blackboard, password resets, and student e-mail accounts. Hours and other helpful information can be found at <http://www.helpdesk.utep.edu>.

TUTORING SUPPORT

The ACES Tutoring Center is located in the Classroom Building - Room C-001. You are encouraged to stop in the office between 9:00am – 3:00pm to schedule an appointment, or you can contact them directly at (915) 747-6148/aces@utep.edu. “In-house” tutoring support is also available.

COURSE GRADING & EXPECTATIONS

COURSE GRADING:

- Exams 1-3 40% (lowest grade will be dropped)
- Final Exam 25%
- *Teaching Me Biology* Project 10%
- Pre-Examination Review Questions (PERQs) 15%
- Participation 10%

| | |
|---------------|--------------|
| A = 90 – 100% | D = 60 – 69% |
| B = 80 – 89% | F = <60% |
| C = 70 – 79% | |

I may, at times, distribute extra credit that is designed to reinforce course concepts. It is your choice whether or not to complete these assignments. Please also note that the “+/-” grading system will not be used in this course as per departmental and university policies.

ATTENDANCE

Your attendance is expected for all lectures and is **required** for all exams. Since the exams are based primarily on the lectures and in-class activities we will discuss/complete throughout the semester, I highly recommend that you attend each class. Class will begin promptly at **3:00pm** and will run no later than 4:20pm. If, for whatever reason, you cannot make it to class on time, please do your best to enter quietly when you do arrive.

LECTURE CONDUCT

Please make every effort to be courteous to your fellow students and myself. If you know you’re a constant Facebook-er or texter, please sit towards the *back* of the classroom so as to minimize distraction. Disruptions will not be tolerated – this means no cell phones on ring mode, no iPods,

and no conversations with neighbors. If it is an emergency and you must make/take a call, please exit the lecture hall quietly, complete your call, and return quietly once you are finished.

BLACKBOARD

This class makes extensive use of BlackBoard® (<https://adminapps.utep.edu/blackboardlearn>). You will use Blackboard to download lectures, access assignments, download or print course materials, and check your grades. Please note that your login and password are the same as you would use to access your UTEP e-mail account.

LECTURES

Lecture notes will be posted at least 24 hours in advance of our class session. **It is your responsibility to print and/or download these notes and bring them to class (though please do not hesitate to let me know if you require assistance in this regard).** You will notice also that there are several blanks throughout these notes. As the lecture proceeds, you will want to be sure to fill in these blanks based on the day's material. A word of caution – these blanks *do* indicate important topics or ideas from the lecture; however, you should *not* focus only on those terms when studying for exams!

EXAMS

Each of the first three exams will cover material from the lectures directly preceding it, not including material covered on previous exams (if applicable). The final exam is **cumulative** and will cover material from the last fourth of the course, as well as from the rest of the semester. The format for all exams will be a combination of multiple choice/open-ended items, and the lowest grade of the first three exams will be dropped. Please bring the following with you to each exam:

- Several #2 pencils (and erasers)
- Scantron® form
- Your student ID card

You will **not** be allowed to listen to your iPod or any other portable device (cell phones included) during the exam, so please ensure that they are left in your backpack throughout the exam. I will have the time displayed for you on the projector screen.

Attendance is mandatory for all exams, and the exam dates are non-negotiable. If you miss an exam without prior notification and approval, you will receive a score of zero for that exam. Because the lowest exam grade of the first three exams is dropped, there are **NO MAKE-UP EXAMS**. It is therefore in your best interest to take all exams in case you experience an emergency and need to miss one later in the semester.

The final exam for this course will be held on **Thursday, Dec. 8th**, from **4:00pm – 6:45pm** in our classroom. You are **required** to attend the final, and no make-up finals will be administered.

TEACHING ME BIOLOGY PROJECT

This is an opportunity for you to be creative and showcase your talents! We will discuss several major topics in biology throughout the course of this semester, but you are also likely interested in other topics as well. For this project, you will select one major topic (either one discussed in class or one researched on your own) in biology and prepare a deliverable/product that could be used to teach the class about that topic. Deliverables/products might take the form of a comic book strip, one-minute video, poster, or model (among many others). You might choose, for instance, to create a song about photosynthesis, to build a model of a cell out of household materials, or to create a video illustrating how the fields of biology and nursing intersect.

You may work together on these projects (no more than four students per group, please) or work independently. A rubric detailing how projects will be evaluated will be distributed mid-semester, if not sooner. **Completed projects will be due to me, in my office (B226A Biology Bldg.) or electronically, no later than 5:00pm on Thursday, Dec. 1st.**

PRE-EXAMINATION REVIEW QUESTIONS (PERQS)

In an effort to help you prepare for upcoming exams in the course, I will distribute (via quizzes on BlackBoard) a series of multiple choice questions for those chapters covered within each unit. These questions will be distributed at least two weeks in advance of each exam and are due **at the beginning of class on the day prior to when the exam will be held** (e.g., on Thursday if the exam is to be held on Tuesday), unless otherwise noted.

You are strongly encouraged to work together on these assignments (though please ensure that all submitted work is your own) and can make use of any textbook and/or online resources at your disposal. You are also strongly encouraged to contact me or to stop by my office with any questions or concerns you might have! There will be four PERQs distributed throughout the semester (one for each unit exam as well as one for the final), with this series of assignments collectively accounting for 15% of your overall grade in the course.

PARTICIPATION

Your participation in this course will assist you in gaining the most from this experience and will give us an opportunity to grow as a community of learners. We will make frequent use of embedded thought questions within each lecture, and I will occasionally ask you to complete in-class activities/case studies throughout the semester. These exercises are designed to help me gain a better understanding of how to best structure the course in a way that will allow you to be successful and meet your own personal learning goals. *On random days throughout the semester, I*

will grade these activities/case studies for participation points. Collectively, these exercises will account for 10% of your overall grade in the course.

LECTURE SCHEDULE

| Wk. | | Date | Lecture Topics | Textbook Chapters |
|----------|----------|-----------------|--|-------------------|
| 1 | T | Aug. 23 | Intro. to Biology Scientific Inquiry | 1.1, 1.2 |
| | R | Aug. 25 | Scientific Inquiry (Cont'd) | 1.5 |
| 2 | T | Aug. 30 | Introduction to Evolution | 1.4+ |
| | R | Sept. 1 | Chemistry of Life Small Molecules | 2.1, 2.2 |
| 3 | T | Sept. 6 | Carbohydrates and Lipids | 2.3, 2.4 |
| | R | Sept. 8 | Nuc. Acids and Proteins (PERQ #1 due) | 3.1, 3.2 |
| 4 | T | Sept. 13 | EXAM ONE | |
| | R | Sept. 15 | Cells: The Building Blocks of Life | 4.1, 4.2 |
| 5 | T | Sept. 20 | Cells: Organelles | 4.3, 4.4 |
| | R | Sept. 22 | Cell Membranes (Part 1) | 5.1 – 5.4 |
| 6 | T | Sept. 27 | Cell Membranes (Part 2) | |
| | R | Sept. 29 | Thermodynamics | 2.5 |
| 7 | T | Oct. 4 | Enzymes | 3.3, 3.4 |
| | R | Oct. 6 | ATP & Metabolism (PERQ #2 due) | 3.4, 6.1, 6.4 |
| 8 | T | Oct. 11 | EXAM TWO | |
| | R | Oct. 13 | Cellular Respiration (Part 1) | 6.2 – 6.3 |
| 9 | T | Oct. 18 | Cellular Respiration (Part 2) | |
| | R | Oct. 20 | Photosynthesis | 6.5, 6.6 |
| 10 | T | Oct. 25 | DNA Replication (Part 1) | 9.1, 9.2 |
| | R | Oct. 27 | DNA Replication – ONLINE Case Study | |
| 11 | T | Nov. 1 | DNA Replication (Part 2) | |
| | R | Nov. 3 | Transcription | 10.2 |
| 12 | T | Nov. 8 | Translation (PERQ #3 due) | 10.3, 10.4 |
| | R | Nov. 10 | EXAM THREE | |
| 13 | T | Nov. 15 | Regulation of Gene Expression | 11 |
| | R | Nov. 17 | Mitosis | 7.1 – 7.3 |
| 14 | T | Nov. 22 | Meiosis (PERQ #4 due) | 7.4, 7.5 |
| | R | Nov. 24 | ~~THANKSGIVING HOLIDAY~~ | |
| 15 | T | Nov. 29 | Introduction to Genetics (Part 1) | 8.1 – 8.3 |
| | R | Dec. 1 | Introduction to Genetics (Part 2) | (TMB due) |

** Please note that the course drop date is **Oct. 28th**.*

*** Disclaimer: I reserve the right to change the contents of this syllabus due to unforeseen circumstances. Students will be given notice of relevant changes through BlackBoard and e-mail. Exam dates will **NOT** change.*

TUTORING AVAILABLE THIS SEMESTER!

This term, three individuals are available to provide one-on-one or group tutoring sessions. These students successfully completed my BIOL 1305 course last semester and can therefore serve as an invaluable, “insider” resource should you have a desire to work with them. The contact information for these individuals is as follows:

Ms. Kendra Rosales

karnold@miners.utep.edu

Mr. Omar Moreno

omoreno9@miners.utep.edu

Mr. David Esparza

desparza12@miners.utep.edu

Please note that you should contact one or more of the above individuals directly if you would like to schedule an appointment with them.

WELCOME TO BIOL 1305!!! 😊

TIPS FOR SUCCESS IN BIOL 1305

1. **Come to Class!** ☺

This seems obvious, but cannot be stressed enough. Some students believe that they can get by using Xeroxed copies of their friend's notes. This might work, but chances are you aren't going to understand what your friend's notes actually mean (unless they're gracious enough to explain it to you in detail). Also, participation points = full letter grade!!

2. **Recopy your Lecture Notes**

You don't have to copy everything word-for-word, per se, but you should at least take a few moments after class to make sure you understand what you've jotted down. This will prevent those "what does that say/did that mean?" moments later on down the line. When we've used visuals a lot in a given lecture (and we will), you'll benefit a ton from redrawing these visuals and describing out loud to yourself what you've drawn.

3. **Science is a Different Language**

This is the only time I'm going to condone memorization. You just can't get by in a Biology course (or any science course) without having an understanding of the definitions and terminology used by that discipline. The easiest way to accomplish this goal is to keep a series of notecards containing the definitions of popular terms we've discussed in class. Do **NOT** try to copy everything from your notes onto a flashcard -this will only become overbearing. Remember, if your stack of notecards for *one* chapter looks like it required someone to destroy a whole rainforest, you're doing it wrong!

4. **Your Textbook is a Resource**

Your textbook is a guide and a resource. It is not meant to replace coming to lecture, and we will not cover much of the minutia discussed in the book. That doesn't mean you shouldn't read it. Just be aware that it is a tool to support your learning, not a mechanism to learn via osmosis.

5. **Find a "Study-Buddy" or form a Study Group**

Do this sooner rather than later, but only if study groups help you!! Try re-teaching lectures to your friends or quizzing them on important topics. If you're capable of teaching material to your group, believe me, you understand it.

6. **Get Help Sooner, not Later**

If you're having difficulty with a topic, don't wait to seek help. I've included information on tutoring resources, etc. in this syllabus. I also included information about my office hours. *Please use them!!* I could sit in my office and watch the paint dry, but I'd much rather be

helping you master material. Don't be afraid to come to me for help, no matter what question you might have!

7. Budget your Time Wisely

I understand that you have other classes and obligations. The rule of thumb has always been to spend 2-3 hours outside of class each week for every hour in class. Personally, I find that to be insane. Instead, I recommend keeping a calendar that indicates, each day, what goals you intend to accomplish for BIOL 1305. It doesn't have to be anything big, either. Your goal might be "make flashcards for Chapter 3." Setting reasonable and manageable goals will help keep you motivated.

8. Stay Positive!

I got a "D" on the first biology exam I ever took in college, and I about died. But here I am, more than 10 years later, still in one piece. My point: *stick with it!* Believe in yourself and do everything you need to succeed. And remember, I'm here to help!