

GENERAL BIOLOGY (BIOL 1305) – SPRING 2018

Instructor: Jeffrey T. Olimpo, Ph.D.

Office: B226A Biology Building (Tues. 11:00 – 12:00pm & Thurs. 3:00 – 4:00pm)*

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. PENCILS (for Scantron® forms), pens, etc.

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 me directly from our 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 receive a response from me 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, as this is where I will send all communications.

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>.

COURSE GRADING & EXPECTATIONS

COURSE GRADING:

- Exams 1-3 40% (lowest grade will be dropped)
- Final Exam 25%
- *Teaching Me Biology* Video Project 15%
- Animation Review Questions (ARQs) 15%
- Participation 5%

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 **9:00am** and will run no later than 10:20am. 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 are 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. In addition, please note that materials will frequently be distributed at the start of class. If you happen to arrive late, please take your seat quietly, as there will be opportunities to retrieve those materials at a later point during the class session (or I can happily deliver them to you if need be).

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/true-false 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
- Erasers
- Your student ID card

Please note that I will provide a Scantron® form for all exams! 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, and your backpack is placed under your desk. I will have the time displayed for you on the projector screen or chalkboard.

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 Tuesday, May 8th, from 10:00am – 12:45pm in our classroom. You are required to attend the final, and no make-up finals will be administered.

TEACHING ME BIOLOGY VIDEO PROJECT

This is an opportunity for you to be creative and showcase your talents! We will discuss several major core concepts 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 the biological sciences and prepare a short video/animation that could be used to teach the class about that topic. You will then make use of the EdPuzzle platform (more information on this later) to adapt your video/animation for use as a learning tool in future semesters of BIOL 1305: General Biology here at UTEP.

You may work together on these projects (no more than four students per group, please) or work independently. A rubric detailing how projects should be created and how they will be evaluated will be distributed mid-semester, if not sooner. **Completed project URLs will be due to me, electronically, no later than 5:00pm on Thursday, May 3rd.**

ANIMATION REVIEW QUESTIONS (ARQs)

In an effort to help you prepare for upcoming exams in the course, I will distribute (via Blackboard) a series of animation-based modules that contain questions pertaining to the major topics covered within each unit. New modules will be released on Thursdays at 12:00pm and are due **at the beginning of class on the following Tuesday** (please see the homework schedule on the next page for all release and due dates for the semester), unless otherwise noted. There will be ten (10) ARQs distributed throughout the semester, with this series of assignments collectively accounting for 15% of your overall grade in the course.

Each ARQ assignment consists of three components, as follows:

- **Warm-Up Assessment:** Warm-up assessments will consist of seven (7) questions, including both content-based and attitudinal items. You will have ten (10) minutes to respond to all questions once you begin the assessment. Each question will be presented one-at-a-time, and you will not be able to return to previous questions once they have been submitted. Please do not use your notes/other resources when completing the warm-up, as the goal is to generate a baseline representation of your understanding of the material.
- **Video Assignment:** After completion of the warm-up, you will be able to access the animation associated with the ARQ content topic. All animations have been structured using the EdPuzzle online platform, which presents you with additional opportunities to review (via questions embedded in the animation) material covered in the video/in class. In order to access the videos, you will need to register for an EdPuzzle student account. This can be done by: (a) clicking on the video assignment link; (b) clicking “Sign Up” at the bottom-right of the EdPuzzle window that appears; (c) registering as a **student** using your full first name and last name, UTEP login, and a self-generated password; and (d) clicking

“Join.” While watching the animation, I would strongly encourage you to take notes. I will collect these notes at the beginning of class on the day the assignment is due and award 1 pt. of extra credit for each note set that is submitted over the course of the semester (for a total possible 10 pts. of extra credit). Note sets will be returned the following class. **Once you have completed the animation in its entirety, please navigate back to Blackboard and click the “Mark Reviewed” button under the video link.**

- **Wrap-Up Assessment:** Wrap-up assessments will consist of ten (10) questions, including both content-based and attitudinal items. You will have ten (10) minutes to respond to all questions once you begin the assessment. Each question will be presented one-at-a-time, and you will not be able to return to previous questions once they have been submitted. Please do not use your notes/other resources when completing the warm-up, as the goal is to generate an understanding of the extent to which the video itself impacted your comprehension of the material.

Each component must be completed in **sequential order** prior to the due date. Please do not hesitate to let me know if you have any questions or concerns as you are working *or* if you experience any technical issues, and I will work to resolve them ASAP!

ARQ #	Topic	Release Date	Due Date
1	Scientific Inquiry	Jan. 18 th	Jan. 23 rd
2	Macromolecules	Feb. 1 st	Feb. 6 th
3	Cells and Organelles	Feb. 15 th	Feb. 20 th
4	Cellular Membranes	Feb. 22 nd	Feb. 27 th
5	Thermodynamics	Mar. 1 st	Mar. 6 th
6	Cellular Respiration	Mar. 22 nd	Mar. 27 th
7	DNA Replication	Mar. 29 th	Apr. 3 rd
8	Transcription	Apr. 5 th	Apr. 10 th
9	Cell Division	Apr. 26 th	May 1 st
10	Genetics	May 1 st	May 3 rd

PARTICIPATION

Your participation in the 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 5% of your overall grade in the course.

LECTURE SCHEDULE

Wk.		Date	Lecture Topics	Textbook Sections
1	T	Jan. 16	Intro. to Biology Scientific Inquiry	1.1, 1.2
	R	Jan. 18	Scientific Inquiry (Cont'd)	1.5
2	T	Jan. 23	Introduction to Evolution	1.4+
	R	Jan. 25	Chemistry of Life Small Molecules	2.1, 2.2
3	T	Jan. 30	Carbohydrates and Lipids	2.3, 2.4
	R	Feb. 1	Nucleic Acids and Proteins	3.1, 3.2
4	T	Feb. 6	EXAM ONE	
	R	Feb. 8	Cells: The Building Blocks of Life	4.1, 4.2
5	T	Feb. 13	Cells: Organelles	4.3, 4.4
	R	Feb. 15	Cell Membranes (Part I)	5.1 – 5.4
6	T	Feb. 20	Cell Membranes (Part II)	
	R	Feb. 22	Cell Membranes (Part III)	
7	T	Feb. 27	Thermodynamics Enzymes	2.5, 3.3, 3.4
	R	Mar. 1	Enzymes (Cont'd)	3.3, 3.4
8	T	Mar. 6	ATP & Metabolism	3.4, 6.1, 6.4
	R	Mar. 8	EXAM TWO	
9	T	Mar. 13	~~ SPRING BREAK ~~	
	R	Mar. 15	~~ SPRING BREAK ~~	
10	T	Mar. 20	Cellular Respiration (Part I)	6.2 – 6.3
	R	Mar. 22	Cellular Respiration (Part II)	
11	T	Mar. 27	Photosynthesis	6.5, 6.6
	R	Mar. 29	DNA Replication (Part I)	9.1, 9.2
12	T	Apr. 3	DNA Replication (Part II)	
	R	Apr. 5	Transcription	10.2
13	T	Apr. 10	Translation	10.3, 10.4
	R	Apr. 12	EXAM THREE	
14	T	Apr. 17	Regulation of Gene Expression (Part I)	11
	R	Apr. 19	Regulation of Gene Expression (Part II)	
15	T	Apr. 24	Mitosis	7.1 – 7.3
	R	Apr. 26	Meiosis	7.4, 7.5
16	T	May 1	Introduction to Genetics (Part I)	8.1 – 8.3
	R	May 3	Introduction to Genetics (Part II)	(TMB due)

* Please note that the course drop date is March 29th.

*** 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, two individuals are available to provide one-on-one or group tutoring sessions. These students successfully completed my BIOL 1305 course in a previous 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:

Mr. Ruperto Ruiz

[rruiz16@miners.utep.edu](mailto:r Ruiz16@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 photocopies 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).

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 and to others 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 (I know; I'm old). My point: *stick with it!* Believe in yourself and do everything you need to succeed. And remember, I'm here to help!