Syllabus Biology 1301 section 60 Term Fall 2024

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Course Overview: Biology 1301 is the first of two courses designed to provide a thorough introduction to biological science. The goal of the course is that students learn important facts about the natural world and understand the significance of these facts within the context of major biological concepts.

Student Learning Outcomes:

1) Define biology and evolution.

2) Contrast the types of biological Literature and utilize search engines to engage with it.

3) Comprehend and apply the scientific method.

4) Understand experimentation and its limitations.

5) Describe the characteristics of living organisms

6) Analyze the chemical nature of life

7) State and discuss Cell Theory

8) Compare and contrast prokaryotic and eukaryotic cell structure

9) Be familiar with cellular metabolic pathways. Analyze the implications on diet on health

10) Compare and contrast mitosis and meiosis

11) Describe how cell division and cancer are linked.

12) Be familiar with the immune system and cancer treatments.

13) Diagram and solve basic genetic crosses and health impact.

14) Understand the significance of biology to you and your life

15) Apply the knowledge you have acquired to making educated decisions as a member of society

Required Textbooks and Readings:

Modified Mastering Online Workbook for Belk and Maier's - Biology: Science for Life with Physiology (6th edition). Publisher: Pearson Benjamin Cummings, NY. © 2019 ISBN: 9780134819549

Note: This comes bundled with an electronic version of the textbook. Therefore, you do not need to buy the textbook separately unless you would like a print copy.

<u>Special Course Notes:</u> -- Webcam, computer, and Internet connection are critical: Given the online nature of this course, there will be a large amount of material that will be delivered through Canvas, online homework will need to be completed, and quizzes will be proctored using the LockDown Browser. To provide you the most flexibility, I recommend that you have easy access to these materials.

School computer labs and the Muntz Library computers provide an adequate option; however, they have specific hours, and a limited number of computers with webcams attached to the computers for proctoring (see computer lab on 4th floor), so plan your time accordingly if you go with this option.

Assignments and weights/point values

1. Mastering Biology Workbook	278 pts.
2. Science Roundup	100 pts.
3. Experiments	80 pts.
4. Group Presentation	100 pts.
5. Post Module Quizzes	322 pts.
6. Discussion Board	30 pts.

Total Points: 910 pts.

Grading Scale:

- A 814 or greater
- B 723 813
- C 632 722
- D 541-632
- F below 548

Late Work and Make-Up Exams: Late work will be accepted, but it will be penalized. Each day late will decrease the maximum point value by 5%; i.e., if an assignment is 10 days late the maximum an assignment could receive is 50%. An assignment that is late by 20 days will no longer yield points.

*** Exception*** The group video project is an exception, since it will be due toward the end of the semester and will be peer assessed for extra credit point awards. Late submission of your video project will also result in an inability to compete for the extra credit points that are awarded.

Make up quizzes will be allowed in extenuating circumstances. Talk with your instructor if this is required; however, please don't put these off to the last minute if at all possible.

Attendance Policy: "Attendance" in an asynchronous learning environment involves the viewing of course recordings and materials as necessary. Answering quizzes, completing homework, or submitting comments in discussions is required so that I can note attendance in class. I am required to provide attendance data for Financial Aid, midterm, and final grades submissions; therefore, it is critical that you maintain activity in this class. If you cannot for reasons of Illness or other acceptable situations, please contact your instructor to determine the best course of action.

A list of acceptable absences can be found in the UT Tyler <u>Class Attendance policy</u> in the catalog.

Graded Course Requirements Information:

Mastering Biology: For each chapter, there will be assigned reading and lectures. Following this, you will want to work through the assigned workbook problems that go with each Module/Chapter. *Please note that some assignments require you to read articles at the NY Times website. UT Tyler has a subscription, so if it tells you that you cannot read the article because you have past your limit, contact the library to get access.*

Post-Module Quizzes: End of Module Quizzes: At the end of each module there will be a short quiz that will ask you to apply the knowledge that you have gained from that module. This allows me to assess how the activities, readings, and lectures are conveying the information. These quizzes will be timed and proctored through the LockDown Browser. These quizzes replace the utilization of a midterms and final. We do not have a final for this class; however, there will still be material assessed during finals week.

A Cool Glass of Water: You will be performing an experiment at home. This experiment will require you to use Ice, Salt, and Water. You will be asked to document the data, and then analyze it in Microsoft Excel. Answers to the questions should be typed and uploaded to Canvas on the assigned date.

Understanding Your Nutrition: You will be tracking your diet for 7 consecutive days and analyze it using the diet tracker program: **cronometer** (https://cronometer.com) also available as a free phone app for Apple or Google Devices. Please note, for this assignment, you do **not** need to pay money for this app/website. We will be using the **free version Cronometer Basic**. There are many advertisements that suggest you buy additional upgrades. You **will not need** them for this project.

The Group Video Project: You will work in assigned groups up to 4 people. You should pick a topic in Biology that interests you and make a video presentation that informs the class on this topic. This does not have to be a topic that we cover in class, but it can be. Please discuss options for the topic with your group. Please upload the topic via Canvas for instructor topic approval. Once the topic is approved (5 points), then an outline will be generated by the group and responsibilities assigned. Your group will create a 5–7-minute video on the biological topic. This will be uploaded, and the instructor will select the top videos to nominate for Awards. You will get to vote on the winners that will receive extra credit points for their work. The winning three groups will receive 20 points extra credit for first, 15 points extra credit for second and 10 points extra credit for third. Additional prizes for cinematography, Best Actor/Actress, etc. Will be awarded at my discretion and may earn 5 points extra credit.

Science Round up: Changes in journalism have decreased the amount of science and biology specifically that is reported in the popular press; however, there are still several shows/websites that focus on distributing science to the public. You will listen to your choice of Radio Programs/Articles/Videos (from the list of podcasts *See Canvas site for links) then answer the following questions for each Round up.

- Which podcast/date did you listen to?
- What was one biology story that you found interesting?
- What was their hypothesis? If not explicit, you may need to infer their hypothesis.
- How did the story correlate with topics that have been covered in class?
- What was one question that you had based on one of the stories?

If you have a podcast that you think is appropriate and not on the list, please contact your instructor for approval.

Discussion Boards:

There will be 3 discussion boards that will need to be completed. In each discussion board, a portion of your grade will come from the post that you create, while the other portion of the score coming from your participation by commenting on other students work.

*** Please note**** As the syllabus is setup, we will start a little slower to get used to the format, technology, and flow of the course. The material covered will accelerate as we proceed toward the end. Since this is an asynchronous course, you can complete work at your pace. Therefore, although I know that procrastination is a basic trait of humanity, I would suggest that you could get ahead if you wanted this will make your semester a lot less stressful towards weeks 14 and 15.

Calendar of Topics, Readings, and Due Dates

Dates	Week #	Class Topic	Readings	Assignments Due
8/26-8/30	1	Class Setup	Syllabus	Intro Video
9/2-9/6	2	The Common Cold, the Scientific Method, and Evaluating Science	Ch. 1	Roundup 1 Mastering Biology (Intro, and Math) Welcome Ouiz
9/9-9/13	3	The Common Cold, the Scientific Method, and Evaluating Science	Ch. 1	Cool Glass of Water Mastering Biology Ch. 1 Quiz Ch. 1
9/16-9/20	4	What is life made of?	Ch. 2	Roundup 2 Group Video Project Topics
9/23-9/27	5	What is life made of? What am I eating?	Ch. 2 Ch. 3	Mastering Biology Ch. 2 Quiz Ch. 2 Understanding your Nutrition
9/30-10/4	6	Can I supplement my way to health?	Ch 3	Mastering Biology Ch. 3 Quiz Ch. 3
10/72-10/11	7	BMI and Metabolism	Ch. 4	Round up 3
10/14-10/18	8	BMI and Metabolism Cancer	Ch. 4 Ch. 6	Mastering Biology Ch. 4 Quiz Ch. 4 Group Video Outline
10/21-10/25	9	Cancer	Ch. 6	Round up 4
10/28-11/1	10	GMOs and the Central Dogma of Biology	Ch. 10	Discussion Assessing Information: Cancer Mastering Biology Ch. 6 Quiz Ch. 6
11/4-11/8	11	GMOs and the Central Dogma of Biology	Ch. 10	Mastering Biology Ch. 10 Quiz Ch. 10 November 4th - Last day to withdraw with a "W"
11/11-11/15	12	Disease and the Immune System, Cancer Treatment	Ch. 21	Round up 5
11/18-11/22	13	Disease and the Immune System, Cancer Treatment	Ch. 21	Group Video Projects Due Self and Peer evaluation for the Group Video Project Mastering Biology Ch. 21 Quiz Ch. 21
11/25-11/29	Thanksgiving Week			
12/2-12/6	14	Meiosis, Mendel, and Fertility.	Ch. 7	Discussion Assessing Information: COVID19 Mastering Biology Ch. 7 Quiz Ch. 7
12/9-12/13	15	Biology of Wrongful Convictions.	Ch. 9	Mastering Biology Ch. 9 Quiz Ch. 9