

BIOLOGY 10: Introduction to Life Science

Summer 2016

Instructor: Andrew Strankman

E-mail: andrew.strankman@reedleycollege.edu

Course Number: 71608 Time: Mon-Thu 9:00AM-11:05AM June 20th – July 28th

I. COURSE DESCRIPTION

A. Title: Biology 10 – Introduction to Life Science

B. Prerequisite: None - Just the desire to learn.

C. Summary: This course is recommended for the non-biological science and pre-education majors. This is an introductory course using biological concepts. The organismal structure, function, inheritance, evolution, and ecology are covered. Not open to students with credit in Biology 3.

D. Biology 10 is a 3 unit lecture class.

II. COURSE CONTENT

Student Learning Outcomes:

Upon completion of this course, students will be able to:

1. Evaluate current scientific literature and examine how the scientific method is employed in biological research.
2. Identify levels of biological organization and apply these concepts to living systems.
 1. By examining anatomical and physiological features.
 2. By investigating chemical and energy relationships.
3. Assess human impacts on natural systems and evaluate solutions to environmental problems.
4. Explore the cellular basis of life.
5. Apply the principles of Mendelian genetics to evolutionary theory and human medicine.
6. Recognize the function of DNA and how its discovery has impacted modern science.
7. Classify the wide range of living organisms and identify the evolutionary mechanisms that have impacted this diversity.
8. Recognize the chemical basis of life.

Objectives:

In the process of completing this course, students will:

1. compare and contrast Eukaryote and Prokaryote cell structure.
2. recognize chemical elements, bonds and properties of water.
3. compare anatomical and physiological features seen in the animal kingdom with emphasis on human body systems.
4. calculate genetic probabilities based on the principles of Mendelian genetics.
 - o identify human genetic mutations and explain probable causes for their occurrence.
5. distinguish the processes of transcription and translation and identify their roles in protein synthesis.
6. diagram plant life cycles and identify major plant adaptations.
7. explain and compare the processes of photosynthesis and cellular respiration.
8. demonstrate knowledge of evolutionary theory and identify the different mechanisms responsible for biological change.
9. describe energy flow and nutrient cycling within an ecosystem.
 - o consider human impact on natural systems.
10. relate principles of population ecology to the study of the global human population.
11. read scientific literature and apply the steps of the scientific method to laboratory research.

III. REQUIRED MATERIALS:

1. Text: Mader, S. Essentials of Biology, custom, 4th edition McGraw Hill. *With active Learnsmart access code.*
2. Scantron 882-E (6)

IV. ATTENDANCE:

I will drop any student who fails to attend the first two days of class. After that point dropping the course is YOUR responsibility. If you are late more than 15 minutes to class you will be considered absent for that class period. Three tardies of between 1-15 minutes will result in you being classified as absent for the class.

More than **5 undocumented absences** will result in you failing the course. Providing adequate documentation is the responsibility of the student.

V. EXPECTATIONS AND POLICIES

- Be respectful and discipline yourself so others don't have to.
- No makeups without prior arrangement.
- Cheating and plagiarism will result in failing the assignment and discussed further with administration.
- Please keep electronic devices silent and electronics of any kind are not permitted during exams.
- No food or drink in the trash cans.
- I will do my best, I expect you to do the same.

VI. TESTS AND EVALUATIONS:

A. Grading

<u>Description</u>	<u>Points Possible</u>
30 Learnsmart assignments (5 pts. each)	150
5 Exams (100 pts. each)	500
1 Final Exam	150
Research Paper	125
<u>Quizzes/Writing Responses (5 pts. each)</u>	<u>75</u>
Total Points =	1,000

To calculate your grade, total all points earned and divide that number by the total points available (1,000). **Course grades are non-negotiable; Instructor reserves the right to curve individual tests and/or assignments. FINAL GRADES WILL NOT BE CURVED... ALSO, I DO NOT round up your grades to the next letter grade.**

The final course grade is based on:

<u>Percent Range</u>	<u>Grade</u>
90-100	A
80-89.99	B
70-79.99	C
60-69.99	D
Less than 60	F

At any point you can check your grades on blackboard via our Blackboard site through the Reedley College homepage: www.reedleycollege.edu

- C. *Exams* will include multiple choice questions, true/false, short answer, and essay questions. Many times these essays will be the main objectives of each chapter.

Policy for missed exams: NO MAKE UP EXAMS WILL BE PROVIDED WITHOUT PRIOR NOTIFICATION TO THE INSTRUCTOR. You are expected to provide documentation in cases where a make-up is requested (make up exams are only allowed in cases of serious and compelling reasons). You will have one week to make up the missed exam.

Your exam score will have 10 percentage points deducted as a penalty for late work. If you have a medical excuse you will be exempt for the point deduction.

- D. *Learnsmart assignments:* will be assigned for each chapter covered in the textbook. You will need an active Learnsmart access code purchased through the publisher. Learnsmart assignments for each week are due by Sunday at 11:59pm at the end of the week assigned (example week 1 learnsmaps are due by Sunday June 26th at 11:59PM)

- F. Research Paper will be completed on a biology topic of your choice. Paper will be submitted through Blackboard/Turnitin. More information will follow.

VII. Other information:

Drops: You have until half way through the semester to drop. If you elect to do so, be sure to drop yourself. Do not assume you have been automatically dropped. This is very important, as after the half way point a grade must be given, by state law, whether you attend class or not.

Extra Credit: Extra credit may be assigned periodically throughout the course. Extra credit is recommended if you feel that you are a borderline grade and that you need points to get you over the hump. Extra credit should be viewed like an insurance policy. You're never quite sure when it may be needed. All extra credit is due the last week of the semester.

VIII. Help:

If you should have difficulty grasping the material presented during the course be sure to talk to your instructor at the first sign of trouble. Often, a few minutes can clear up many problems! If you are having trouble studying, perhaps you need a few study hints or a tutor at the Tutorial Center. Please go in for help!

Always keep in mind that this is a three-unit course. As a general rule, each hour of lecture requires two hours of additional study outside of the classroom each week. Do your planning accordingly. Success comes before work only in the dictionary. Overall, I hope you have a fun semester and learn Biology along the way. Good Luck

IX. College Policies

The university has several policies that you will be expected to adhere to in my course. The **Policy on Students with Disabilities, the University Honor Code, the Policy on Cheating and Plagiarism, a statement on copyright,** and the **university computer requirement,** portions of which are below, can all be found in the University Catalog (Policies and Regulations) and Class Schedule.

X. Cheating and Plagiarism:

DON'T DO IT. The University policy reads, "Cheating is the actual or attempted practice of fraudulent or deceptive acts for the purpose of improving one's grade or obtaining course credit; such acts also include assisting another student to do so. Typically, such acts occur in relation to examinations. However, it is the intent of this definition that the term 'cheating' not be limited to

examination situations only, but that it include any and all actions by a student that are intended to gain an unearned academic advantage by fraudulent or deceptive means.

Any student caught cheating or plagiarizing will be subject to the Reedley College disciplinary procedures (review the Reedley College catalog section on academic dishonesty). Electronics of any kind are not permitted during exams and will result in an automatic zero for that exam.

Students with diagnosed disabilities should contact the Disabled Students Programs and Services' (DSP&S). Please give me a copy of the letter you receive from DSP&S detailing class accommodations you may need. If you require accommodation for test-taking please make sure I have the letter no less than three days before the test. If you have a need for an academic accommodation or materials in alternate media (i.e., Braille, large print, electronic text, etc.) per the Americans with Disabilities Act (ADA) or Section 504 of the Rehabilitation Act, please contact me as soon as possible.

Tentative Lecture Schedule

Biology 10 – Summer

Lecture	Text & Learnsmart	Assignments
Week 1: 6/20-6/23		
<u>Lesson #1 6/20</u>		
Orientation, Grading, Goals, Attendance	Syllabus,Schedule	
A View of Life	Ch. 1	
<u>Lesson #2 6/21</u>		
Chemistry	Ch. 2	Q1
Organic Molecules	Ch. 3	
<u>Lesson #3 6/22</u>		
Inside the Cell	Ch. 4	Q2
Dynamic Cell	Ch. 5	
<u>Lesson #4 6/23</u>		
Cell Reproduction	Ch. 8	Q3
Cellular respiration/Fermentation	Ch. 7	
Week 2: 6/27-6/30		
<u>Exam #1 (ch 1,2,4,7,8) 6/27</u>		
<u>Lesson #5 6/28</u>		
Photosynthesis	Ch. 6	Q4
DNA	Ch. 11	
Protein synthesis		
<u>Lesson #6 6/29-6/30</u>		
Sexual Reproduction	Ch. 9	Q5
Patterns of Inheritance	Ch. 10	Research Paper
Genetic Counseling	Ch. 13	Topic DUE (6/30)

Week 3: 7/5-7/7

Exam #2 (ch 6,9-11,13) 7/5

Lesson #7 7/5

Evolution Ch. 14 Q6

Lesson #8 7/6

Microevolution Ch. 15 Q7

Macroevolution Ch. 16

Classification Ch. 16

Lesson #9 7/7

Viruses Ch. 17 Q8

Prokaryotes Ch. 17

Week 4: 7/11-7/14

Exam #3 (ch. 14-17) 7/11

Lesson #10 7/12

Protists Ch. 17 Q9

Lesson #11 7/13

Fungi Ch. 18 Q10

Plants Ch. 18

Lesson #12 7/14

Invertebrate Animals Ch. 19 Q11

Protostomes Ch. 19

Deuterostomes Ch. 19

Week 5: 7/18-7/21

Exam #4 (ch. 17-19) 7/18

Lesson #13 7/19

Animal Organization Ch. 22 Q12

Lesson #14 7/20

Animal Digestion Ch. 24 Q13

Animal Circulation Ch. 23

Lesson #15 7/21

Animal Respiration Ch. 24 Q14

Animal Excretion Ch. 24 **Research Paper**

DUE (7/21)

Week 6: 7/25-7/28

Exam #5 (ch. 22-24) 7/25

Lesson #16 7/26

Ecology of Populations Ch. 30 Q15

Lesson #17 7/27

Communities & Ecosystems Ch. 31 Q16

Human Impacts Ch. 32

Conservation Biology

Final Exam (ALL CHAPTERS) 7/28