

## **BIOLOGY 10: Introduction to Life Science Online Spring 2019**

Instructor: Ms. Smith Bush

E-mail: bethany.bush@reedleycollege.edu

Lecture: Online

Office Hours: Wednesday 9:00am-12:00pm and Thursday 4:00-5:00pm in LFS 13; Friday via email 2:00pm-3:00pm.

### **I. COURSE DESCRIPTION**

**A. Title:** Biology 10 – Introduction to Life Science

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

**C. Summary:** This lecture 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. Students needing a life science lab must enroll in Biology 10L in addition to Biology 10. 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 critically 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. E-mail address. This can be obtained free through the school

### IV. ATTENDANCE:

You will be considered absent if you fail to participate in the weekly online discussions/postings, assignments, and quizzes. After one week of no communication, you may be dropped from the course.

***~ ~ ~ Simply Logging in to the Course Is Not Considered Attendance ~ ~ ~***

**\*\* If you fail to participate in the first introductory online discussion by midnight the first day of class Monday, you will be dropped from the class. Students who do not purchase and use a Learnsmart access code by the end of the second week will be dropped from the class.**

## V. TESTS AND EVALUATIONS:

### A. Grading

<u>Description</u>	<u>Points Possible</u>
31 Learnsmart assignments (10 pts. each)	310
5 Exams (100 pts. each)	500
Research Paper	140
<u>9 Discussions (15 pts. Each)</u>	<u>135</u>

Approximate Total Points = 1,085

### B. Grading scale:

90% = A    80% = B    70% = C    60% = D    59% and below = F

At any point you can check your grades on our Canvas class site through the Reedley College homepage: [www.reedleycollege.edu](http://www.reedleycollege.edu) You are encouraged to check this site regularly and keep track of your own grades!

C. *Exams* will include multiple choice questions, true/false and Matching questions. **Policy for missed exams:** 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. **If I need to reset your exam for any reason I will deduct 10 percent from your grade.**

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.** No late assignments will be accepted unless prior approval is given by the instructor.

E. Discussions will be graded on the thoroughness and completeness of answers. Emphasis will be put on meaningful answers that relate the concepts of biology that we are learning to the discussion post. Posts are required to have correct grammar and spelling and expected to be original unless sources are cited. For full credit students must utilize an outside source of information.

F. Research Paper will be completed on a specified biology topic. Paper will be submitted through Turnitin. More information will follow.

## VI. 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 is recommended if you feel that you are a borderline grade and that you need 25 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.

### **VII. 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.

### **VIII. Academic Dishonesty**

Students at Reedley College are entitled to the best education that the college can make available to them, and they, their instructors, and their fellow students share the responsibility to ensure this education is honestly attained. Because cheating, plagiarism, and collusion in dishonest activities erode the integrity of the college, each student is expected to exert an entire honest effort in all academic endeavors. Academic dishonesty in any form is a very serious offense and will incur serious consequences. See college catalog for details.

### **IX. Accommodations**

If you have a verified need for an academic accommodation or material 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.

## Lecture Schedule

### Biology 10 Online – Spring 2019

*All Learnsmart Assignments are due Friday @ 11:59pm the week they are assigned.*

Lecture & Exams	Text readings	Discussions & Learnsmart
<b><u>Lesson #1</u></b>		
Orientation, Grading, Goals, Attendance A View of Life	Syllabus, Schedule Ch. 1	<b>#1. Introductory Discussion</b> <i>due Monday @ 11:59pm</i>
<b><u>Lesson #2</u></b>		
Chemistry Organic Molecules	Ch. 2 Ch. 3	
<b><u>Lesson #3</u></b>		
Inside the Cell  Dynamic Cell	Ch. 4  Ch. 5	<b>#2. Cell Discussion</b> <i>due Wednesday @ 11:59pm</i>
<b><u>Lesson #4</u></b>		
<b><i>Save the World topic choice due Friday @ 11:59pm</i></b>		
Cell Reproduction Cellular respiration/Fermentation	Ch. 8 Ch. 7	
<b><u>Lesson #5</u></b>		
<b>Exam #1 (ch.1-5,7,8) due Friday @ 11:59 pm</b>		
Photosynthesis	Ch. 6	
<b><u>Lesson #6</u></b>		
DNA  Protein synthesis Sexual Reproduction	Ch. 11  Ch. 11 Ch. 9	<b>#3. Meiosis vs. Mitosis Discussion</b> <i>due Wednesday @ 11:59pm</i>
<b><u>Lesson #7</u></b>		
Patterns of Inheritance Genetic Counseling	Ch. 10 Ch. 13	<b>#4. Genetics Discussion</b> <i>due Wednesday @ 11:59pm</i>
<b><u>Lesson #8</u></b>		
<b>Exam #2 (ch.6,9-11,13) due Friday @ 11:59 pm</b>		
Evolution	Ch. 14	
<b><u>Lesson #9</u></b>		
Microevolution  Macroevolution & Classification	Ch. 15  Ch. 16	<b>#5. Microevolution Discussion</b> <i>due Wednesday @ 11:59pm</i>
<b>Save the World Rough Draft due Friday @ 11:59pm</b>		
<b><u>Lesson #10</u></b>		
Viruses Prokaryotes	Ch. 17 Ch. 17	<b>#6. Antibiotic Discussion</b> <i>due Wednesday @ 11:59pm</i>

**Lesson #11**

**Exam #3 (Ch.14-17) due Friday @ 11:59 pm**

Protists Ch. 17

---

**Lesson #12**

Fungi Ch. 18 *#7. Plant Discussion*  
Plants Ch. 18 due Wednesday @  
11:59pm

---

**Save the World Peer Review due Friday @ 11:59pm**

---

**Lesson #13**

Animals 1 Ch. 19 *#8. Animal Discussion*  
Animals 2 Ch. 19 due Wednesday @  
11:59pm

---

**Lesson #14**

**Exam #4 (Ch.17-19) due Friday @ 11:59 pm**

Ecology of Populations Ch. 30

---

**Lesson #15**

Ecosystems Ch. 31

---

**Save the World Final Proposal due Wednesday 11:59pm**

---

**Lesson #16**

Biomes *#9. Conservation*  
*Discussion*  
due Wednesday @ 11:59

---

**Lesson #17**

Human Impacts Ch. 32  
Conservation Biology

---

**Extra Credit due Friday @ 11:59pm**

---

**Lesson #18**

**Exam #5 (ch.30-32) due Friday @ 11:59 pm**