

## **BIOLOGY 10: Introduction to Life Science -- Fall 2019**

Instructor: Ms. Karen Marks

E-mail: karen.marks@reedleycollege.edu

Lecture: Monday/Wednesday/Friday 1:00-1:50pm; CCI 203

Phone number: 559-638-0300 ext. 3715

Office Hours: held in LFS 14  
W 2:30-3:30  
Th 1:00-3:00  
F 10:00-12:00

### **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. Units:** 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.
  - 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.
  - 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, 5th edition McGraw Hill. ***With active LearnSmart access code.***
2. Scantron #882-E for lecture tests (x5)

## **IV. ATTENDANCE, ADDING, and CLASSES:**

**ATTENDANCE:** You must attend class to pass. I will drop any student who fails to attend the first day of class. I will also drop any student who misses 3 hours of class within the first 3 weeks of the semester.

**ADD/ LATE ADD POLICY:** If there are open slots on the roster, students will be added to the course in order of the waitlist, followed by drop-ins. Students may officially add the class when given an add code by the instructor. In order to receive an add code, you must follow the same attendance policy listed above. Failure to do so will result in you not receiving an add code. Once you receive an add code,

it is YOUR responsibility to use it in a timely manner! Add codes MUST be used as soon as possible, no later than the add deadline. Failure to use an add code will result in you being dropped from the class.

CANCELLED CLASSES: If I must cancel a class meeting, you will be notified both on the door of the classroom with an official form as well as with a message sent from me via Canvas. I will NEVER leave a handwritten notice on the door cancelling class.

## V. TESTS AND EVALUATIONS:

### A. Grading

<u>Description</u>	<u>Points Possible</u>
21 LearnSmart assignments (10 pts. each)	210
5 Exams (100 pts. each)	500
<u>Research Paper</u>	<u>140</u>

Approximate Total Points = 850

### 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 site through the Reedley College homepage: [www.reedleycollege.edu](http://www.reedleycollege.edu)

C. *Exams* will include multiple choice questions, true/false, matching and essay questions. Many times these essays will be the main objectives of each chapter. You must bring your own Scantron for all exams. Exams **cannot** be made up unless there is a serious reason and require approval of the instructor.

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. *Research Paper* will be completed on a biology topic of your choice. Paper will be submitted through Turnitin on Canvas. More information will follow in class and on Canvas.

## 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 offered randomly in class in the form of small group work, pop quizzes, and question sets. Extra credit is ONLY available to students who attend class that day. Because of this, regular attendance is expected. Students who have poor attendance will NOT be given alternate extra credit assignments.

**\*\* I reserve the right to make changes in this syllabus with notification \*\***

### **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, please consider using the Tutorial Center. Office hours, the Tutorial Center, and the Writing Center are all tools you can use to further your understanding of the material, but these are all most beneficial when used early, rather than at the end of the semester.

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.

### **VIII. Academic Dishonesty**

The Reedley College 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 includes any and all actions by a student that are intended to gain an unearned academic advantage by fraudulent or deceptive means."

Cheating includes, *but is not limited to*, copying others' work, knowingly and willfully allowing someone to copy your work, plagiarism, giving false excuses for deadline extensions/exemptions, and using/possessing test or question banks.

Any student caught cheating or plagiarizing will be given a zero on the assignment and may be subject to disciplinary action by the dean. Electronics of any kind are not permitted during exams and will result in an automatic zero for that exam.

## IX. Accommodations

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 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 – Fall 2019

Lecture & Exams	Text readings	Assignments
<b><u>Week #1: 8/12-8/16</u></b>		
Orientation, Grading, Goals, Attendance A View of Life	Syllabus, Schedule Ch. 1	
<b><u>Week #2: 8/19-8/23</u></b>		
Chemistry Organic Molecules	Ch. 2 Ch. 3	
<b><u>Week #3: 8/26-8/30</u></b>		
Inside the Cell Dynamic Cell	Ch. 4 Ch. 5	
<b><u>Week #4: 9/2-9/6</u></b>		
<b>Labor Day Holiday – NO CLASS MONDAY</b>		
<b>Exam 1 -- Ch 1-5 (Friday)</b>		<b>Unit 1 LearnSmart due</b>
Cell Reproduction	Ch. 8	<b>Friday @ 11:59pm</b>
<b><u>Week #5: 9/9-9/13</u></b>		
Cellular respiration/Fermentation	Ch. 7	<b>Topic Submission for Research Paper due Monday @ 11:59pm</b>
<b><u>Week #6: 9/16-9/20</u></b>		
Photosynthesis DNA & Protein synthesis	Ch. 6 Ch. 11	
<b><u>Week #7: 9/23-9/27</u></b>		
Sexual Reproduction	Ch. 9	

**Exam 2 – Ch 6-8, 11 (Friday)**

**Unit 2 LearnSmart due  
Friday @ 11:59pm**

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**Week #8: 9/30-10/4**

Patterns of Inheritance Ch. 10  
Genetic Counseling Ch. 13

**Research Paper  
Rough Draft due  
Friday @ 11:59pm**

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**Week #9: 10/7-10/11**

Evolution Ch. 14  
Microevolution Ch. 15

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**Week #10: 10/14-10/18**

Macroevolution & Classification Ch. 16  
Viruses Ch. 17

**Exam 3 – Ch 9, 10, 13, 14 (Friday)**

**Unit 3 LearnSmart due  
Friday @ 11:59**

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**Week #11: 10/21-10/25**

Prokaryotes Ch. 17

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**Week #12: 10/28-11/1**

Protists Ch. 17  
Fungi Ch. 18

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**Week #13: 11/4-11/8**

Plants Ch. 18  
Animals 1 Ch. 19

**Research Paper Final  
Draft due Friday @  
11:59pm**

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**Week #14: 11/11-11/15**

**Veterans' Day – NO CLASS MONDAY**

Animals 2

**Exam 4 -- Ch 15-18 (Friday)**

Ch. 19

**Unit 4 LearnSmart due  
Friday @ 11:59pm**

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**Week #15: 11/18-11/22**

Ecology of Populations Ch. 30

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**Week #16: 11/25-11/29**

**THANKSGIVING HOLIDAY – NO CLASS FRIDAY**

Ecosystems Ch. 31

Biomes

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**Week #17: 12/2-12/6**

Human Impacts Ch. 32  
Conservation Biology

**Unit 5 LearnSmart due  
Monday @ 11:59pm**

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**Week #18: 12/9**

**Exam 5 – Ch 19, 30-32 (TBD)**