**Reedley College**

**Syllabus for Biology 10**

**Introduction to Biology**

**Fall Semester, 2016**

**Instructor:**

Gary W. Potter (e-mail **gary.potter@reedleycollege.edu**), Please include **Biol. 10** in the subject line or I will not open your e-mail!

**Meeting Times:**

 Monday & Wednesday, 6:00 PM until 7:15 PM.

**Holidays & Other important dates.**

Monday, August 15, 2016: Fall semester begins.

Friday, August 26, 2016: Last day to drop a class for a full refund.

Friday, September 2, 2016: Last day to register for a full time class in person.

Friday, September 2, 2016: Last day to drop a class to avoid a W in person.

Monday, September 5, 2016: Last day to drop a class to avoid a W using Web Advisor.

Monday, September 5, 2016: Labor Day holiday (No classes held, campus closed)

Friday, October 14, 2016: Last day to drop a class without a letter grade.

 Friday, November 11, 2016: Veteran’s Day Holiday (No classes held, campus closed)

 Thursday & Friday, November 23 & 25, 2016: Thanksgiving Holiday (No classes held,

campus closed)

Monday, December 12, 2016: Final Exam.

Friday, December 16, 2016: End of Fall Semester, 22016.

**Exam Dates**:

 **Exam # 1:** Wednesday, September 21, 2016

 **Exam # 2:** Monday, October 26, 2015

 **Exam # 3:** Monday November 23, 2015

 **Exam # 4:** Monday, December 14, 2015

**Course Description:**

 **Biology 10** is a lecture course 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. Field trips may be required. Not open to students with credit in Biology 3.

**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 organism and identify the evolutionary mechanisms

 that have impacted this diversity.

8. Recognize the chemical basis of life.

**Course 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 of 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 sthe scientific method to laboratory

 research.

**Accommodations for students with disabilities:**

If you have a verified 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.

**Required Materials:**

**1. Textbook:** Mader, Sylvia S., Essentials of Biology, 4th edition (2015), McGraw-Hill

 Companies Inc.

**2.** Notebook or three ring binder for note taking..

**Expectations:**

**A.** You are expected to attend all class sessions. Four absences from lecture periods may very

 likely put you in jeopardy of failing. Unless there are extenuating circumstances, such

 absences may also get you dropped from the course.

**B.** You are responsible for finding out what you missed and for making up missed work due

 to absence.

**C.** Cheating and plagiarism will not be tolerated. Students caught cheating will receive a

 zero for that assignment, quiz, or test. Cooperative learning is limited to working in

 groups during labs.

**D.** Assignments are expected to be turned in on time. In case of absence, I will be accept

 late papers up to two class meetings after the due date, with a grade deduction of 10% per

 per each class meeting that it is late.

**E.** **Guests are not allowed in class!**

**Grading:** Your grade will be determined by using an accumulative point total of assignments, quizzes, and exams. Quizzes are worth 10 points each, the written exams are worth 100 points each. Each exam will consist of a combination of multiple choice and short answer essay questions. Two makeup quizzes will be given. Your score on the makeup quizzes will be used to make up a missed quiz or to replace the score of a quiz on which you scored lower than on the makeup quiz. No low quiz will be thrown out! **Extra credit will be limited to a few bonus questions on tests and an occasional special quiz or assignment. Extra credit will not be given for any other work!**  At the end of the semester, your accumulated point total will be divided by the total number of points possible to determine your percentage grade. Tests will make up about 70% of your grade, quizzes will make up about 15% of your grade, and special assignment and/or essays will make up about 15 % of your grade. Your final letter grade will be determined using the following grading scale:

 **90% to 100% = A**

 **80% to 89.9% = B**

 **70% to 79.9% = C**

 **60% to 69.9% = D**

 **0% to 59.9% = F**

**Grades will not be rounded! 89.99999999% is a B+ not an A-!**

**Project:** 50 points. Pollination Project.More details on each of these will be presented later.

**Week Lecture Topics.**

 **1** Review the Syllabus; Biological Methods and Concepts.

 **2** Introduction to chemistry.

** 3** Biochemistry, The Organic Molecules of Life

** 4** Finish biochemistry & begin cell structure,

 **5** Cell function & cell reproduction

**Test# 1:** **Wednesday, September 21, 2016: Scientific method, chemistry, cell structure &**

**function.**

 **6** Cellular respiration, fermentation & Photosynthesis

 **7** DNA & RNA structure and function. Protein Synthesis

  **8** Meiosis and Mendelian genetics & human genetics.

  **9** Evolution, Microevolution & Macroevolution Classification, Systematics, & Taxonomy

**Test # 2: Wednesday, October 26, 2016:** **Photosynthesis, Respiration, Genetics, & Evolution**

 **10** The First Forms of Life, Viruses, Prokaryotes & Protists,Plants & Fungi

 Pollination Project introduction.



 **11** Plant anatomy & Physiology

 **12** The Animal; Kingdom.

 **13** Human & Animal Structure & Function

 Human Systems

**Test # 3: Exam # 3: Wednesday November 23, 2016:**  **Protista, Fungi, Plants, & Animals**

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 **14** Ecology of Populations, Communities & Ecosystems

 **Pollination Project Presentations.**

 **15** Human Impact onEcosystems

 **16 Exam # 4: Monday, December 12, 2016:** Ecosystems, biomes, communities, animal behavior, & Human populations.