

BIOLOGY 3: Introduction to Life Science

Spring 2010

Instructor: Mr. Bryon Spicci

Office Hours: By Appointment Only

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Lecture: T 6:00 pm to 8:15; LFS 17

Lab: Th 6:00 pm to 8:15; LFS 17

I. COURSE DESCRIPTION

- A. Title:** Biology 3 – Introduction to Life Science
- B. Prerequisite:** None - Just the desire to learn & the ability to drive yourself to field trips.
- 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. Field trips are required.
- D.** Biology 3 is a 4 unit class with 3 hours lecture and 2 hours laboratory each week.

II. COURSE OUTCOMES:

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

- A.** understand the process of scientific method, microscopy, and the cell.
- B.** identify levels of organization from the cell to the organismal level. Identify human organ systems structure and function.
- C.** evaluate scientific literature and current biological achievements.
- D.** assess the role of human ecology, earth resources, and limitations.
- E.** learn nature through the study of plants structure, functions, and process such as photosynthesis
- F.** apply the principles of genetics to humans and understand the outcome of reading DNA.
- G.** classify and evaluate the wide range of living organisms and their place on earth.
- H.** understand the chemical basis of life.
- I.** identify life from an evolutionary approach.
- J.** understand the chemical and energy relationships at all levels of biological organization.

III. COURSE OBJECTIVES:

In the process of completing this course, students will:

- A.** read, analyze, evaluate, and discuss Scientific Method, Microscopy, The cell, and Levels of Organization.
- B.** learn the periodic table of the elements and chemistry of the carbon atom and chemical structure of living organisms.
- C.** read appropriate scientific literature on classification.
- D.** learn the cell's structure, function, and organization of living organisms.

- E. observe and document the structure and function of the human body by examining the organ systems: reproduction, respiration, circulation, excretion, and digestion.
- F. review classical and molecular genetics and learn the process of replication, transcription, and translation.
- G. perform experiments, observe, and record data.
- H. learn plant structure, physiology, and interaction including photosynthesis and aerobic respiration.
- I. study evolution.
- J. observe chemical and energy relationships.

IV. REQUIRED MATERIALS:

1. Text: Mader, S. Essentials of Biology, custom, 2nd edition McGraw Hill.
2. Text: Sierra Nevada Natural History, revised ed. Storer, T., Usinger, R., & Lukas, D. Univ. of California Press. 2004.
3. Biology 3 Handouts, spring 2009
4. Scantron form 886 (X6) and quiz strips
5. E-mail address. This can be obtained free through the school
6. Biology Drawing Paper for lab plates
7. Camera – for field trips

V. OPTIONAL, BUT RECOMMENDED:

1. Colored pencils (hard graphite) (no flow pens or crayons)
2. Trees of the Sierra Nevada, Field Card #4

VI. NO FOOD, BEVERAGE, CELLULAR PHONES OR PROFANITY AT ANY TIME!!!

Hint!! Be sure to always put your name, code & lab day on all papers to insure you will not get 5 points deducted! Thanks!!

VII. ATTENDANCE:

You are expected to be on time for each laboratory and lecture session. Tardiness may be construed as an absence from the class. It is the students responsibility to sign in when late and then to see the instructor after class to be sure that an absence has been changed to a tardy! Be aware that 3 tardies = 1 absence. This is very important because **if you miss more hours than 10 hours of class or lab, you will be dropped** unless your instructor has been informed of the extenuating circumstances causing your absences.

Reasons for being dropped from the course...

1. Student fails to attend the first laboratory or lecture session of the course.
2. 10 hours of absences during the first 9 weeks of the course.

VIII. TESTS AND EVALUATIONS:

A. Grading

<u>Description</u>	<u>Points Possible</u>
Lab Exercises (approx. 14)	140
8 Lab Plates (drawings) (10 pts. each)	80
10 Unannounced Quizzes (10 @ 10 pts. each)	100
6 Exams (100 pts. each)	600
Performance Art Projects (50 pts. Each)	100
Photo Essay Project	100
Approximate Total Points =	1120

B. Grading scale:

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

At any point you can check your grades on webgrade via our Blackboard site through the Reedley College homepage: www.reedleycollege.edu Your Blackboard username and password is your 7 digit student ID number. The 24/7 helpdesk address is: <http://d2.parature.com/ics/support/default.asp?deptID=8032> and phone is 1-866-401-7784.

Choose the webgrade link on the left hand side of the Bb screen. You will need a webgrade password which can be obtained from your teacher. You are encouraged to check this site regularly and keep track of your own grades!

- C. *Exams* will include multiple choice questions and usually 3-5 short essay questions. Many times these essays will be the main objectives of each chapter.
- D. *Lab Exercise Grades* will come from your lab work itself. These are to have the answers to laboratory questions on handouts or from your lab guide as well as any problems to work or tables to fill in. Be sure these are neatly done and in the same order as the handouts. Forgotten lab work means no score – as you are responsible for your work. **Policy for missed labs:** If a lab is missed you will not be allowed to make it up. Attending the lab is mandatory. No points will be given for lab work if you were not present during the lab meeting.
- E. *Laboratory/Lecture Quizzes* will consist of questions concerning the previous labs/lectures and/or the current day's lab/lecture. These quizzes are open note. Only your own notes can be used, no handouts or books. Stay caught up and these will be welcome bonus points! Missed quizzes **may NOT be made up**. Quizzes may also be given at the **end of a laboratory or lecture**.
- F. *Lab Plates* (drawings) will be due at the beginning of the next lab. Approximately 8 plates will be collected throughout the semester. Extra time and neatness as well as accuracy are very important to a successful laboratory grade. See the LAB DRAWING HAND OUT for more details on how the lab drawings will be graded. Drawings that are not on the required Biology drawing paper will not be graded. You will always have one week to complete the lab plate.
- G. Make-up exams will be oral or essay at the discretion of the instructor. It is highly recommended that you call before an absence! You have approximately one week to make-up any missed lecture exam. After one week any missed grade

may not be made up unless prior written arrangements have been made to ensure quality work and fairness to the instructor and the other students.

- H. There will be three laboratory assignments requiring you to create with the knowledge you have gathered from the class. There will be two performance art projects which will be presented to the class during a laboratory session. The photo essay project will require you to travel into the mountains to conduct independent research. You will be responsible for providing your own transportation. More will follow on this later.
- I. Field trips: We will meet at the zoo during lab time one day instead of meeting on campus. We will be traveling by bus to the zoo. We will also be taking a walking tour along the King's River. More will follow on this later.

VIV. Other information:

Drops: You have until the end of the 9th week of school 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 9th week a grade must be given, by state law, whether you attend class or not.

Adds: If you are given an add slip, be sure to turn it into Student Services within two days of receipt. After this date, you will not be allowed to add the class with that add slip.

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 at the beginning of the 17th week. *If you have over four absences within the semester you will not be eligible for these points.*

X. Help:

If you should have difficulty grasping the material presented during the course be sure to see 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 come in for help!

Always keep in mind that this is a four-unit course. As a general rule, each hour of lecture requires two hours of additional study outside of the classroom each week. Each hour of lab requires one hour of study time, outside the laboratory each week. This equals eight hours of study each week in order to pass this class. 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.

XI. Academic Dishonesty

Academic dishonesty is unacceptable and will not be tolerated by Reedley College. Cheating, plagiarism and collusion in dishonest activities erode the college's educational and social role in the community.

Cheating is the act of deception by which a student misleadingly demonstrates that he/she has mastered information on an academic exercise. Examples include but are not limited to:

1. Copying or allowing another to copy a test, paper, project, or performance.
2. Using unauthorized materials during a test, for example, notes, formula lists, or “cheat sheets.”
3. Taking a test for someone else or permitting someone to take a test for you.

Plagiarism is the act of representing the work of another as one’s own without giving credit. Plagiarism includes but is not limited to:

1. Incorporating the ideas or words of another’s work without giving appropriate credit.
2. Representing another’s artistic or scholarly works, such as musical compositions, computer programs, photographs, etc., as one’s own.

Disciplinary Procedures are outlined in your Fresno City College student catalog and are summarized as follows when a faculty member discovers a violation:

1. Conference with student to address allegations
2. Notification of division dean, report for permanent record of student.
3. May give student “F” for assignment or course.
4. If more than one infraction has occurred, the student may go on probation, be suspended, or expelled. An appeal may be made within 15 days of notification.

- XII.** 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.

Tentative Lecture & Lab Schedule

Biology 3 – Spring 2010

Biology 3	Readings	Lab Assignments
Week 1: 1/12-1/14		
Orientation, Grading, Goals, Attendance	Syllabus, Schedule	Microscope safety/use
How Do Biologists Study Life?	Ch. 1	Letter e slides
Chemistry	Ch. 2	
Week 2: 1/19-1/21		
Chemistry cont.		Cheek/Onion cells
Inside the Cell	Ch. 4	Intro to Photo Essay
Cell reproduction	Ch. 8	Lab Plate #1 – cells
Week 3: 1/26-1/28		
Cellular respiration/Fermentation	Ch. 7	Mitosis
Photosynthesis	Ch. 6	Lab Plate #2 – mitosis
Week 4: 2/2-2/4		
Photosynthesis cont.		Biology On-Line Photosynthesis
Exam #1 (ch.1,2,4,& 8)		
Week 5: 2/9-2/11		
DNA & Protein synthesis	Ch. 11	Protein Syn. Worksheet DNA Extraction
Sexual Reproduction	Ch. 9	Lab Plate #3 – DNA
Week 6: 2/16-2/18		
Patterns of Inheritance	Ch. 10	Genetics Problems
Genetic Counseling	Ch. 13	
Evolution	Ch. 14	Intro to Biological Change
Week 7: 2/23-2/25		
Evolution cont.		Dot Game
Microevolution	Ch. 15	
Exam #2 (ch.6,9-13)		
Week 8: 3/2-3/4		
Macroevolution	Ch. 16	Disease Lab
Classification	Ch. 16	
Viruses	Ch. 17	
Week 9: 3/9-3/11 (drop day)		
Prokaryotes	Ch. 17	Biological Change Project Lab Plate #4 – Virus
Protists	Ch. 17	
Fungi	Ch. 18	
Week 10: 3/16-3/18		
Exam #3 (ch.14-17)		
Plants	Ch. 18	Introduction to Pollination Project -video Lab Plate #5 – Alt. Gen.
Week 11: 3/23-3/25		

Animals

Ch. 19

Animal Diversity

Week 12: 4/6-4/8

Animals cont.

Pollination Project

Animal Organization

Ch. 22

Week 13: 4/13-4/15

Digestion Lab

Lab Plate #6 – G.I. tract

Exam #4 (ch.17-19)

Week 14: 4/20-4/22

Animal Digestion

Ch. 24

Circulation Lab

Animal Circulation

Ch. 23

Animal Respiration

Ch. 24

Lab Plate #7 – heart

Week 15: 4/27-4/29

Animal Excretion

Ch. 24

Excretion Lab

Lab Plate #8 –
nephron

Week 16: 5/4-5/6

Exam #5 (Chapters 22-24)

TBA

Ecology of Populations

Ch. 30

**Photo Essay
Project Due**

Week 17: 5/11-5/13

Communities & Ecosystems

Ch. 31

Biology online
Population Dynamics lab

Human Impact

Ch.32

Extra Credit Due

Week 18: Tuesday May.18th 6:00pm

Exam #6 (ch.30-32)