

## ANIMAL BIOLOGY

S. CALLISON

Reedley College-Fall 1999

I. **OFFICE HOUR:** By appointment M or W after class. Voice mail #3821

Email shaunnac@jps.net

II. **PREREQUISITES:** Engl. 25 &/or 26; Math 1.

III. **REQUIRED TEXTS:**

- A. Starr, Cecie- Biology Concepts and Applications Fourth Edition. 2000. Wadsworth Publishing Company, Belmont, CA.
- B. Elson, Lawrence- The Zoology Coloring Book. 1982. Harper Perennial.
- C. KRCC Animal Biology, Course Objectives and Laboratory Reports...

IV. **EQUIPMENT AND MATERIALS:**

- A. Lab supplies will be made available for each lab exercise but a replacement fee will be charged for lost or broken materials.
- B. You will be responsible for obtaining your own textbook, zoology coloring book, coloring utensils, course objectives/lab report, & three 882 scantrons.

V. **COURSE DESCRIPTION:**

- A. To gain an understanding of basic zoology terms and principles.
- B. To study the structure and function of various life forms.
- C. To become aware of the diversity of life and become familiar with the hierarchical schemes of biological organization and taxonomy.
- D. To recognize and identify different animals through the use of lab specimens, color plates, slides, and overheads.
- E. To perform basic hands on experiments in lab to increase your knowledge of animals.

VI. **EVALUATION:** student progress in the course will be based upon the following:

A. **Lab:** 50%

**Lecture:** 50%

3 tests (100 points each) = 300 points

Quizzes 14 = 130 points

\*Quizzes will be given after each section. There will be **no make-ups** on quizzes, due to the fact that you will be able to drop your lowest score.

B. **GRADES** will be determined on a percentage basis:

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

VII. **ATTENDANCE POLICY:**

- A. Excessive absences &/or a failing grade will cause you to be *dropped* on September 3rd.
- B. **NO MAKE-UPS ON TESTS**
- C. 20 Points extra-credit is possible. Research a topic that is covered in class on the internet or scientific magazine. Turn in one **WHOLE** double spaced type written page at 12 font with one inch margins. You will summarize the article & what you learned from it. Each is worth a maximum of 5 points. Attach a copy of the article.

### VIII. SEMESTER OUTLINE

<b>WEEK</b>	<b>LECTURE</b>	<b>LABORATORY</b>
1	Chapter 1	1
2	Chapter 2 & 3	2
3	Chapter 4 & 5	3
4	September 6 <sup>th</sup> holiday Chapter 8 & 9	4
5	Chapter 5, 6, 7	5
6	<b>TEST #1</b>	<b>TEST #1</b>
7	Chapter 10, 11, 12, 13	7
8	Chapter 38	8
9	Chapter 20 (ch19 p296-299)	9
10	Chapter 23	10
11	Chapter 23	11
12	<b>TEST #2</b>	<b>TEST #2</b>
13	Chapter 24	13
14	Chapter 24	14
15	Chapter 28, 32	15
16	Chapter 33	16
17	Chapter 29, 30	<b>TEST #3</b>
18	<b>TEST #3</b> <b>(FINALS WEEK-Monday 10:30 to 12:30)</b>	<b>*****no labs*****</b>

## CHAPTER ONE OUTLINE

### I. LIFE

1. DNA sets them apart

### II. SHARED CHARACTERISTICS OF LIFE / organization

BIOSPHERE  
ECOSYSTEM  
COMMUNITY  
POPULATION  
MULTICELLULAR ORGANISM  
ORGAN SYSTEM  
ORGAN  
TISSUE  
CELL~~~~~*basic unit of life*  
ORGANELLE  
MOLECULE  
ATOM  
SUBATOMIC PARTICLE

B. METABOLISM= energy transfers within cells.

C. INTERDEPENDENCY AMONG ORGANISMS= recycling of raw materials (indirectly ~energy)

**PRODUCERS** (plants photosynthesis)

**DECOMPOSERS**

(bacteria and fungi)

**CONSUMERS**

(animals)

D. SENSING AND RESPONDING TO CHANGE

1. organisms have cellular means to sense change in the environment and make responses to them.
2. **HOMEOSTASIS**= maintenance of a tolerable internal environment

E. REPRODUCTION (growth and reproduction)

F. MUTATIONS= change in DNA

1. **mutations**- change in kind, structure, sequence, or number of parts.
2. most are harmful ex. Down's Syndrome
3. Some may be harmless or beneficial ex. Pepper Moth P.7

**ADAPTIVE TRAIT**= helps organism survive and reproduce in environment

4. all living things have the ability to **EVOLVE** and adapt to their environment

### III. LIFE'S DIVERSITY

#### A. SO MUCH UNITY, YET SO MANY SPECIES

##### 1. CLASSIFICATION

SPECIES

GENUS

FAMILY

ORDER

CLASS

PHYLUM

KINGDOM

2. Organisms are named by **binomial nomenclature**

##### 3. 5 KINGDOMS

- a. MONERANS= bacteria, single celled, prokaryotic
- b. PROTISTANS= mostly single celled, eukaryotic
- c. FUNGI= mostly multicelled, eukaryotic, decomposers
- d. PLANTAE= mostly multicelled, eukaryotic, producers
- e. ANIMALIA= multicellular, eukaryotic, consumers

#### B. EVOLUTION by means of Natural Selection

1. EVOLUTION= population change over time

2. CHARLES DARWIN= Origin of Species (author)

##### a. NATURAL SELECTION

1. Members vary in form and behavior; much of the variation is heritable
2. some varieties of heritable traits will improve survival and reproductive chances
3. Those with improved chances will be more likely to reproduce and pass the adaptive traits on with greater frequency in future generations (Natural Selection)
4. Any population evolves when some forms of traits increase in frequency and others decrease or disappear over generations.  
(organisms best "fit" to survive)

### IV. SCIENTIFIC METHODS

1. explanations are sought using the following approach.

- a. ask a **question** and develop a **hypotheses** (educated guess) using all known information to what the answer(s) may be..
- b. **test** the predictions by experiments, models, and observations
  1. control groups
- c. report objectively on the tests and conclusions

2. Theory: formulated when there is convincing evidence to support the hypotheses