

BIOLOGY

2007-2008

Teacher: Therese Hinckley
Phone: (978) 602-0897

E-mail: dnareject@hotmail.com

COURSE DESCRIPTION

This Biology course will be the study of life and its Creator. This laboratory course is based on the interaction of living and nonliving things. Emphasis is placed on the use of the scientific method including controlled experiments, logic, and theory. Scientific laws, theories, principles, and concepts are also covered.

COURSE GOALS

This Biology course will help the student to achieve the following:

1. Recognize the role of God as Creator, Master designer, Sustainer and Redeemer.
2. Develop an appreciation for both the exquisite beauty and complexity created for us by a generous God.
3. Respect for the earth's resources and recognition of the individual's role in the wise and ethical stewardship of resources.
4. Understand classification systems of organisms.
5. Understand the molecular basis of structure and function.
6. Understand the interrelationship between structure and function in cells, tissues, organs and systems.
7. Understand the interaction of living organisms and their environment.
8. Understand the principles of heredity and genetics.
9. Recognize the factors that influence population growth, stability and decline.
10. Understand and apply the mathematics necessary for the quantitative aspects of biology.
11. Recognize the factors that influence population growth.
12. Understand and apply the mathematics necessary for the quantitative aspects of biology.
13. Understand and apply the scientific method.
14. Understand that scientists, many of who were Christians, developed the foundation for classical scientific concepts.
15. Introducing potential science careers and vocations for consideration.

COURSE TEXTBOOKS

Biology, Prentice Hall

COURSE EVALUATIONS

- There will be a test after each chapter
- There will be two cumulative final one in January and one in June.
- Homework
- Class work (bell work, participation, assignments)
- 2 Projects
- Quizzes

- Laboratory (about 37)

COURSE TOPIC OUTLINE

The following is a general outline of topics to be covered in this class (subject to change if necessary):

| Chapters | Topic |
|----------|---|
| 1 | The Science of Biology |
| 2 | The Chemistry of life |
| 3 | The Biosphere |
| 4 | Ecosystems and Communities |
| 5 | Populations |
| 6 | Humans in the Biosphere |
| 7 | Cell Structure and Function |
| 8 | Photosynthesis |
| 9 | Cellular Respiration |
| 10 | Cell Growth and Division |
| 11 | Introduction to Genetics |
| 12 | DNA and RNA |
| 13 | Genetic Engineering |
| 14 | The Human Genome |
| 15 | Darwin's Theory of Evolution |
| 16 | Evolution of Populations |
| 17 | The History of life |
| 18 | Classification |
| 19 | Bacteria and Viruses |
| 20 | Protists |
| 21 | Fungi |
| 22 | Plant Diversity |
| 23 | Roots, Stems, and leaves |
| 24 | Reproduction of Seed Plants |
| 25 | Plant Responses and Adaptations |
| 26 | Sponges and Cnidarians |
| 27 | Worms and Mollusks |
| 28 | Arthropods and Echinoderms |
| 29 | Comparing Invertebrates |
| 30 | Nonvertebrate Chordates, Fish, and Amphibians |
| 31 | Reptiles and Birds |
| 32 | Mammals |
| 33 | Comparing Chordates |
| 34 | Animal Behavior |
| 35 | Nervous System |
| 36 | Skeletal, Muscular, and Integumentary System |
| 37 | Circulatory and Respiratory Systems |
| 38 | Digestive and Excretory Systems |
| 39 | Endocrine and Reproductive Systems |
| 40 | Immune System and Disease |

COURSE ASSIGNMENT DUE DATES

After each chapter there will be a 50 minutes test, which will not be accumulative. Only finals are accumulative. The test will be made up of matching, multiple choice, fill-in-the-blank, and essay.

There will be a quiz daily except on the day of a test and the day after the test.

Homework will be due the day after assigned at the beginning of class. Late assignments will only be accepted one day after the day due at half the points.

There will be a project that the learner will present to the class. There will be a more detailed description for the learner to follow about mid-semester.

Class assignments will be due at the class time allotted.

There will be a lab once a week on Friday.

COURSE GRADING SYSTEM

The grades will be earned on a point system. The letter grade will be given in accordance to the points the learner earned, points are approximated:

Chapter test: 100 points (x 40)
Classwork: 25 points per day (x 135)
Quizzes: 10 points (x 135)
Projects: 200 points (x 2)
Finals: 250 points (x 2)
Laboratories 370 points
Total points: 9995 (possible)

A = 9995 to 9541

A- = 9540 to 9086

B+ = 9085 to 8631

B = 8630 to 8176

B- = 8175 to 7721

C+ = 7720 to 7266

C = 7265 to 6811

C- = 6810 to 6356

D+ = 6355 to 5901

D = 5900 to 5446

D- = 5445 to 4991

F=4990 and less