

Name of School:

Name of Course: **Molecular Biology**

Instructor Information

Name:

E-mail address:

School phone number:

Web page address:

Best times to be reached:

Course Description

Molecular Biology is the investigation of the principles, lab procedures, and applications associated with the study of life sciences. The concepts include: scientific method and inquiry, organic molecules, cellular processes, DNA and genetics, and evolution.

District Standards and Power Benchmarks

Standard 1: Understands and applies the principles of scientific inquiry

Benchmark A: Formulates and revises scientific explanations and models

Benchmark B: Understands how scientific knowledge changes with new evidence

Benchmark C: Uses technology and mathematics to perform accurate scientific investigation and communications

Benchmark D: Demonstrates safe handling procedures

Standard 2: Understands and applies the principles of life science

Benchmark A: Identifies and differentiates between the four molecules of life

Benchmark B: Describes how cell processes contribute to the characteristics of organisms

Benchmark C: Describes how organisms obtain and use energy

Benchmark D: Investigates the form and function of DNA and its technological applications

Benchmark E: Explains how organisms adapt and change over time

Course Information

This is a two- term class with no pre-requisites. 0.5 credits per term will awarded for this class. This class is aimed for college bound students and daily work will be assigned.

Course Outline/Calendar

Term 1:

Unit 1: Scientific Method/Inquiry

Unit 2: Organic Molecules

Unit 3: Cell Processes (types, transport, enzymes, photosynthesis, respiration)

Term 2:

Unit 3 (con't) Cell Processes – reproduction (meiosis, mitosis)

Unit 4: DNA and Genetics

Unit 5: Evolution

Text/Other Required Materials/Resources

Kaskel, et al. (1998). *Biology Visualizing Life*. New York, NY: Holt Publishers.

Lab manual

Instructional Procedures & Support

Classroom Management Procedures

Assessment Plan

The students are assessed on a point system. In addition to classwork, labs, tests and quizzes, the students are assessed on: Cell Structure and Function Assessment, Macromolecules Assessment, DNA Form and Function Assessment, Physical Adaptations Assessment, Beluga Whale End-of-Term Assessment, Fossil Record End-of-Term Assessment, and a Spreadsheet Integration Project.

Grading System

90 – 100 A

80 – 89 B

70 – 79 C

60 – 69 D

0 – 59 F