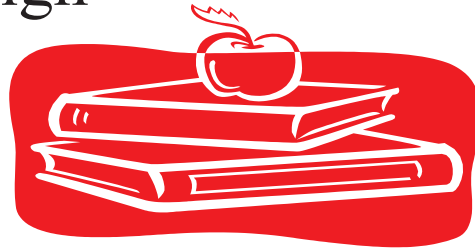


# Mackay Junior/Senior High School



## **COURSE:**

Date: 2011-2012

Teacher with contact information: **Mr. McClure**

**Room: 108**

**michmcl@mackayschools.org**

## **COURSE DESCRIPTION**

-----  
Biology is the study of life, designed for 10<sup>th</sup> grade students. It is a required class. The prerequisite is a passing grade in Physical Science.

Topics covered will include Cell Theory, Genetics, Evolution and Ecology. Students will practice their laboratory skills and learn the use of a microscope to enhance their understanding of cell structure and function. Frequent laboratory investigations involve safe lab practices regarding chemical handling, careful use of sharp instruments and care of equipment.

## **COMMON CORE / STATE CONTENT STANDARDS/VOCABULARY OBJECTIVES**

-----  
9-10.B.1.1.1 Explain the scientific meaning of system, order, and organization. (648.01a)

9-10.B.1.1.2 Apply the concepts of order and organization to a given system. (648.01a)

9-10.B.1.2.1 Use observations and data as evidence on which to base scientific explanations. (648.02a)

9-10.B.1.2.2 Develop models to explain concepts or systems. (648.02b)

9-10.B.1.2.3 Develop scientific explanations based on knowledge, logic and analysis. (648.02c)

9-10.B.1.3.1 Measure changes that can occur in and among systems. (648.03b)

9-10.B.1.3.2 Analyze changes that can occur in and among systems. (648.03b)

9-10.B.1.3.3 Measure and calculate using the metric system. (648.03c)

9-10.B.1.6.1 Identify questions and concepts that guide scientific investigations. (649.01a)

9-10.B.1.6.2 Utilize the components of scientific problem solving to design, conduct, and communicate results of investigations. (649.01b)

9-10.B.1.6.3 Use appropriate technology and mathematics to make investigations. (649.01c)

9-10.B.1.6.4 Formulate scientific explanations and models using logic and evidence. (649.01d)

9-10.B.1.6.5 Analyze alternative explanations and models. (649.01e)

9-10.B.1.6.6 Communicate and defend a scientific argument. (649.01f)

9-10.B.1.8.1 Analyze technical writing, graphs, charts, and diagrams. (658.02a)

9-10.B.3.1.1 Use the theory of evolution to explain how species change over time. (652.01a)

9-10.B.3.1.2 Explain how evolution is the consequence of interactions among the potential of a species to increase its numbers, genetic variability, a finite supply of resources, and the selection by the environment of those offspring better able to survive and reproduce. (652.01a)

- 9-10.B.3.2.1 Explain how matter tends toward more disorganized states (entropy). (653.01a)
- 9-10.B.3.2.2 Explain how organisms use the continuous input of energy and matter to maintain their chemical and physical organization. (653.01b)
- 9-10.B.3.2.3 Show how the energy for life is primarily derived from the sun through photosynthesis. (653.01c)
- 9-10.B.3.2.4 Describe cellular respiration and the synthesis of macromolecules. (653.01d)
- 9-10.B.3.2.5 Show how matter cycles and energy flows through the different levels of organization of living systems (cells, organs, organisms, communities) and their environment. (653.01h)
- 9-10.B.3.3.1 Identify the particular structures that underlie the cellular functions. (651.01a)
- 9-10.B.3.3.2 Explain cell functions involving chemical reactions. (651.01b)
- 9-10.B.3.3.3 Explain how cells use DNA to store and use information for cell functions. (651.01c)
- 9-10.B.3.3.4 Explain how selective expression of genes can produce specialized cells from a single cell. (651.01e)
- 9-10.B.5.1.1 Analyze environmental issues such as water and air quality, hazardous waste, forest health, and agricultural production. (656.01a)
- 9-10.B.5.2.1 Explain how science advances technology. (655.01a)
- 9-10.B.5.2.2 Explain how technology advances science. (655.01a)
- 9-10.B.5.2.3 Explain how science and technology are pursued for different purposes. (656.01b)
- 9-10.B.5.3.1 Describe the difference between renewable and nonrenewable resources. (656.03a)

## INSTRUCTIONAL MATERIALS

Holt, Rinehart and Winston's *Modern Biology*.

## UNITS WITH INSTRUCTIONAL DATES

Week 1	Chapter 1
Week 2	Chapter 1
Week 3	Chapter 1 and 2
Week 4	Chapter 2
Week 5	Chapter 2 and 3
Week 6	Chapter 3
Week 7	Chapter 3 and 4
Week 8	Chapter 4
Week 9	Chapter 5
Week 10	Chapter 6
Week 11	Chapter 6 and 7
Week 12	Chapter 7 and 8
Week 13	Chapter 8
Week 14	Chapter 9
Week 15	Chapter 9 and 10
Week 16	Chapter 10

Week 17	Chapter 10 and 11
Week 18	Chapter 11

### **ASSESSMENTS / TESTS**

The mastery model is employed in Biology, in which students who complete all the daily work on time, but who want to improve their test score, may retake tests, which are of equal difficulty to the original version of the test. Tests are multiple choice with a significant problem solving section.

### **GRADING PROCEDURES**

50% tests, 50% homework and labs. Homework

### **CLASS RULES**

Readiness, Respect, Responsibility.

### **MISCELLANEOUS**

Safety first. All students are made aware of chemical spill procedures, and locations of eyewash station, shower and fire extinguisher.