**Honors Biology Syllabus and Curriculum Guide**

**Instructor**: Mr. Matthew Irvin, B.S. Biology, Grove City College 1994

**Text**: Biology, Miller and Levine, 2010

**Course Objective**: Honors biology is designed to give an in-depth overview of the major topics of biology using critical thinking, laboratory experiences, and traditional lecture. Student progress will be assessed using laboratory reports, exams, homework, quizzes, tests, and projects.

**Grading:**

All assignments and assessments will be graded on a point scale. The earned points divided by the total possible points determines the grade for that particular assignment.

The total points of each category will be calculated.

(Total points earned/Total points possible) x 100 = Grade per category

Each category will be weighed a specific percentage (see below) and the grade for the category will be multiplied by that percentage to determine the overall weight of that category. The weights of all the categories will be added together to determine the overall grade.

Categories and Weights:

70.0% Assessments (tests, quizzes, labs)

30.0% Assignments (class work, homework, reading quizzes)

“Quizzes” vs. “Reading Quizzes”: A quiz that covers material that has been discussed in class as part of a lecture or lab will fall in the “Assessment” category for 70% of the grade. A “Reading Quiz” is one that examines a student’s understanding of a reading assignment over material that has YET to be discussed as part of a lecture or lab. Since this “reading quiz” covers material not yet thoroughly explained, it will fall into the “Assignments” category for 30% of the grade.

**Example**: A student earns a total point value per category

Assessments: (350 earned/400 possible) x 100 = 87.5%  
 Assignments: (135 earned/150 possible) x 100 = 90.0%

Final Grade: Each category percentage is multiplied by its weight.

(87.5 X 0.700) = 61.3  
 (90.0 X 0.300) = 27.0

The category scores are added together to determine the final grade.

61.3 + 27.0 = 88.3 %

**Course Outline:**

1. Characteristics and Hierarchy of Life
2. Biotic and Abiotic components of life  
   A. Biological Molecules  
   B. Nutrient Cycles in Nature
3. Cells and Organelles  
   A. Prokaryotic vs. Eukaryotic Cells  
   B. Cell Organelles  
   C. Cellular Transport
4. Cellular Energetics  
   A. Enzymes  
   B. Photosynthesis

C. Cellular Respiration  
D. Productivity in the Ecosystem  
E. Energy Flow in the Ecosystem

V. Cellular Division  
 A. Mitosis  
 B. Meiosis

VI. Genetics:  
 A. Medellian Genetics  
 B. Human traits  
 C. Chromosomal Inheritance  
 D. Sex linked traits  
VII. Molecular Genetics  
 A. DNA Replication  
 B. Protein Synthesis  
 C. DNA Technology  
VIII. Evolution  
 A. Darwin and Natural Selection  
 B. Niches and Biomes  
 C. Population Dynamics  
 D. Speciation: mutations and shifts in genetic frequency  
 E. Taxonomy and Cladograms  
 F. Human Impact and Biodiversity  
IX. Human Anatomy and Physiology

**Make Up Work in the event of a legal absence:**

General Work: (i.e. homework, in class work) For each day of absence, the student will be granted 2 days to make up the work upon his/her return.

Laboratories: In accordance to the science department policy, the student will have ONE week to make up a lab upon his/her return.

Tests: A student is expected to take the make-up exam within two days of his/her return to school. Exams will NOT be returned to the class until all exams are taken. If the student did not have sufficient time (sufficiency deemed by the instructor) to prepare for the test before the absence, the instructor MAY grant extra time for preparation.

Projects: If a student is absent on the day a project is due, the project is still due. Projects will lose 10% per day they are late.

**Late Work**:

Late homework will not be accepted.

**Expectations**:

1. Treat one another with respect.
2. Do not talk while I am talking.
3. Prepare for class, tests, and labs.
4. Complete all Assignments
5. Communicate when you are having difficulties.
6. Do your best!