**11th Grade Biology Syllabus August 30th  – September 23rd 2016**

**Teacher:** Kyle Collins  **Contact Info:** (707) 575 - 7194 Ext. 127 [kyle@summerfieldwaldorf.org](mailto:kyle@summerfieldwaldorf.org)

**Website**: [www.kylecollinsbiology.weebly.com](http://www.kylecollinsbiology.weebly.com)

This course starts with an exploration of Mendelian Genetics as a conceptual basis for understanding the diversity of phenotypic expression in plants and animals. We will study the processes of DNA replication, RNA, and protein biosynthesis. The ever-diversifying field of Biotechnology will help us apply our study and lead us to core bioethics questions. We’ll also take a look at the exciting emerging field of Epigenetics. We’ll discuss Plant/Fungi relationships and look at Symbiosis as a main guiding theme for this block. We’ll review botanical and mycological development, anatomy and classification to delve into the complex theory of evolution. I encourage students to bring questions, information, and their ideas to the class. We will work together to create an atmosphere that is motivating and fosters trial and error supportive curiosity.

**Guiding Block Goals**

1. Students draw connections between the content of the block and their own experiences.
2. Students’ preconceptions, perspectives, and understanding of the world are transformed.

3. Students feel comfortable, relaxed and capable of learning in the classroom.

**Botany & Mycology Genetics, Epigenetics & Evolution**

Fungi Lifecycles Mendelian Genetics, Criticisms and Development

Plant-Fungi Relationships Gene Theory and the Central Dogma

Plant and Fungi Anatomy DNA Replication, RNA & Protein Synthesis

Plant and Fungi Evolution Mutations, Gene Regulation and Epigenetics

Symbiosis Biotechnology Applications

Darwinian Evolution: The Basics

**Grading Important Dates**

Participation/Lab Work 15% Quiz #1 Friday, September 2nd

Quizzes (2) 10% Midterm Friday, September 9th

Midterm 15% Quiz #2 Friday, September 16th

Final 15% Final and MLB Due Friday, September 23rd

Main Lesson Book 45%

**Participation:** Students will be graded daily on participation. Students are asked to actively participate in careful observation and thoughtful reflection during class discussions, lectures, activities, and labs. Students must participate cooperatively and wholeheartedly in all activities, including listening carefully to others and helping to create an environment where others can learn. Students must be prepared for class, including wearing proper clothing for outdoor activities and being ready to start class at 8:00am.

**Main Lesson** **Books:** Books will be graded on completeness, presentation and student comprehension. Book assignments will be announced in class and on the website. Drawings and compositions should be of a finished quality with few to no spelling and grammar mistakes.

**MLB Content:**

3 Completed Lab Packets (All designated work/questions completed)

* #1 – Genetics of Drosophila
* #2 – Environmental Influence of Fungi Phenotypes
* #6 – Evidence For Evolution: Form Fits Function

3 Fully Finished Lab Reports

* #3 – Nature’s Dice – A Genetic Screening Simulation
* #4 – Corn Dihybrid Genetics
* #5 – Genotype–Phenotype Connection: Basic Molecular Genetics

Essay on Mendelian Genetics\*

Essay on DNA Replication, Protein Synthesis and Biotechnology\*

Notes/Bullets on Epigenetics and Evolution (finished quality)

Essay on Nature, Nurture and Freedom\* \* Prompts for essays will be given in class.

**Alternative Grading Option – Partial MLB, Labs Only**

Participation/Labs 15%

Quizzes 15%

Midterm 25%

Final 25%

MLB 20%

If you chose the Alternative Grading Option, you’ll need to let me know before the Monday of the last week of the block. Otherwise, I’ll assume that you’ll be submitting a Main Lesson book on the last day of the block.