**COURSE OUTCOME:**

* **Course Description**

Biology is the fundamental study of life and living organisms including their structure, function, growth, origin, evolution and distribution. The course will begin with a brief overview of how we study biology and the advantages biological research has brought to our understanding of how life operates. The class will then be given an overview of the smallest structural unit of life, the cell. We will identify the structure and function of cells as well as how cells carry out two of the key processes required for life, metabolism and replication. The remainder of the course will be dedicated to how organisms evolve and interact. This portion of the course will begin with an understanding of DNA and genetics followed by a section on ecology, how organisms interact with each other and their environment. The course will conclude with the study of evolution to give the student an understanding of the ongoing process of life.

* **Hyperlink to local curriculum, state standards, and/or competencies**

**http://www.state.tn.us/education/ci/sci/doc/SCI\_3210.pdf**

**INSTRUCTION:**

* **Course Topics**

**Unit 1 – Basics of Life**

* Characteristics of Life
* Macromolecules
* Cell Types and Component Structures

**Unit 2 – Cellular Processes**

* Plasma Membrane & Cell Transport
* Photosynthesis & Cellular Respiration

**Unit 3 – The Central Dogma**

* DNA Replication and Function
* DNA Replication
* DNA, RNA, & their Role in Protein Synthesis/Enzymes

**Unit 4 – Heredity**

* Mitosis & Cell Cycle
* Meiosis
* Chromosomes, Genotypes, Phenotypes, & Mutations
* Pedigree Analysis

**Unit 5 – Biodiversity**

* Biological Evolution & Evidence of Common Ancestry
* Natural Selection, Gene Frequency, & Alleles
* Ecosystems, Biodiversity, & Human Impact

**Unit 6 – Ecology**

* Ecosystem Dynamics
* Biogeochemical Cycles
* Ecosystem Matter and Energy
* Ecological Succession & Environmental Effects

**Unit 7 – Technological Applications**

* Biotechnology
* Karyotyping Technology
* Bioethics
* **General Pacing**

Biology units to be covered are listed in the course topics section of the syllabus. The order in which the material is covered may change slightly over the course of the year.

* **Materials Needed**
* Spiral Notebook
* Folder
* Pencils
* Loose-leaf paper (no spiral bound)
* Colored Pencils
* **Fees**

**All Biology I courses have a $15.00 fee**

**ASSESSMENT:**

* **Expectations**

Biology students will be expected to master all materials listed in the Tennessee State Standards. Mastery will be determined by chapter and unit tests, as well as the State End of Course Exam.

* **Grading Policy**

Grades will be determined by accumulation of points.

Grade Scale:

A 93-100

B 85-92

C 75-84

D 70-74

F below 70

* + 85% of the student's grade will be determined by the following:

1. Tests and Quizzes

2. Laboratory Activities

3. Classroom Activities

4. Folders

5. Projects

* + 15% of the student's grade will be determined by the State Biology AYP EOC
* **Make-Up Work Policy/Late Work Policy**

See Student Handbook. All make-up work and late work will be handled on an individual basis by the teacher.

**GENERAL EXPECTATIONS:**

* **Students:**
* **Attendance Policy**

***Attendance policy will follow the Gibbs High School student handbook.***

* **Classroom Policy/Procedures**

**Classroom Rules:**

* Be prepared with all materials daily
* Follow directions
* Use class time wisely
* Be on time
* Be respectful of teacher and classmates
* Do your own work
* Cell phones are not to be a distraction
* **Honor Code / Plagiarism**

Students are expected to do their own work. This includes class work, projects, tests, quizzes, etc. If students are found to be in violation of the Honor Code, a zero will be given on the assignment.

* **Teacher:**
* **Communication Strategy:**
* Students are encouraged to communicate with the instructor any problems they may be having with class content. Students are encouraged to check their grades on the portal frequently to maintain an understanding of what their grade is.
* Parents are encouraged to email the instructor with any questions or concerns at any time.
* **Intervention Strategy:**

Tutoring will be made available by the science department. A schedule will be posted on the school website and distributed to students upon completion.

* **Disclaimers**

This class does not and shall not discriminate on the basis of religion, creed or any other beliefs.

* **Contact Information**

**Email Address: chris.bray@knoxschools.org**

**Phone Number: (865) 689-9130 Ext. 1208**

**If you have further questions concerning the details outlined in this syllabus, I will be glad to discuss them with you. In addition, if you do not approve of a specific resource listed on this syllabus, please make your request to me in writing and an alternative assignment and/or materials will be provided. The request should include your name, the student’s name, the specific activity/materials in which you do not want your student to participate or to which you do not want them exposed, and the nature of your objection.**

**Your signatures below indicate that you have read and understand the course syllabus provided on my school fusion page:**

**Student Signature \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Parent Signature \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Parent E-Mail \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**