

# Curriculum Outline



**Campbell High School**

Character – Courage – Respect – Responsibility

Course & Level: **Basic Biology**

Department: **Science**

Teacher: **Frost, Parker**

Grade level: **10**

## Description of Course:

Basic Biology stresses the practical applications of studying topics such as ecology, cell structure, genetics and evolution. The emphasis of this course will be a hands-on approach with many laboratory investigations. Basic Biology is not eligible for the honor's option.

This course is a co-taught class with a Special Education teacher. Entry to this course requires the recommendation of the High School Education Team. This course meets the State requirements for Biology and the CHS Biology requirements for graduation.

## School – Wide Expectations:

### Academic:

1. Read, write and speak effectively
2. Exhibit critical thinking and problem solving skills
3. Use resources to obtain information and facilitate learning

### Civic/Social:

1. Exhibit personal responsibility
2. Work cooperatively in an atmosphere of mutual respect

*The school-wide expectations are incorporated into all courses at Campbell High School. Underlined words in the following text illustrate this alignment between the school-wide expectations and the course curriculum.*

## Core Competencies and State Standards:

- 1. Scientific Knowledge** - Students will exhibit scientific knowledge in the content areas using appropriate terminology, either in their writing or orally. They will be able to demonstrate understanding of the content knowledge by exhibiting critical thinking and problem solving skills.  
*LS 1 All living organisms have identifiable structures and characteristics that allow for survival (organisms, populations, and species).*  
*LS 2 Matter cycles and energy flows through an ecosystem.*  
*LS 3 Groups of organisms show evidence of change over time (structures, behavior, and biochemistry).*  
*LS 4 Humans are similar to other species in many ways, and yet are unique among Earth's life forms.*  
*LS5 The growth of scientific knowledge in Life Science has been advanced through the development of technology and is used (alone or in combination with other sciences) to identify, understand and solve local and global issues.*
- 2. Scientific Investigation and Technique** - Students will investigate, solve, explain solutions, and evaluate scientific problems through the scientific process. Students will work both individually and cooperatively during different investigations.  
*SPS1 – Scientific Inquiry and Critical Thinking Skills (INQ) SPS2 – Unifying Concepts of Science SPS3 – Personal, Social, and Technological Perspectives SPS4 – Science Skills for Information, Communication and Media Literacy*
- 3. Scientific Research** - Students will research, read, review and interpret significant scientific developments.  
*SPS1 – Scientific Inquiry and Critical Thinking Skills (INQ) SPS2 – Unifying Concepts of Science SPS3 – Personal, Social, and Technological Perspectives SPS4 – Science Skills for Information, Communication and Media Literacy*

### **Suggested Texts and Media (Software, AV, etc.):**

1. Textbook and ancillary materials (concept development sheets, labs etc.): Life Science: Concepts and Challenges, 4<sup>th</sup> Edition (GLOBE FEARON: Pearson Learning Group)
2. www.conceptsandchallenges.com
3. DVD/Videos: Inside a cell (Teachers video company), The Eyes of Nye: Human Demographics

The science curriculum at Campbell High School is a dynamic document, reflecting the nature of the subject. It addresses ever-changing areas of study, such as genetics and quantum physics, as well as the fundamentals, such as the Periodic table and Newton's Laws of Motion. Scientific Research is an important component for each course at Campbell. The analysis and interpretation of recent scientific information and articles will vary appropriately with grade level and course difficulty.

We utilize a variety of instructional resources beyond the identified textbooks and materials throughout the school year to enhance your student's educational experience. Parents/Guardians are welcome to review the available resources throughout the school year by contacting their student's teacher. Due to religious or moral objections, alternative assignments may be available upon request.

### **Suggested Instructional Strategies:**

1. **Lecture, Discussion and Demonstration** – Students will learn a number of strategies for acquiring appropriate information from the textbook, lecture and class work. Students are encouraged to read, ask questions, and illustrate their knowledge through class discussions; this is an integral part to the inquiry process.
2. **Lab, Investigation** – Exploratory or investigation labs allow students to ask their own questions about a particular concept. Students also use labs to explore different concepts with expected outcomes. Hands-on activities are stressed within this course. Some labs will be completed individually, or cooperatively.
3. **Projects** – Students are expected to use prior knowledge learned as well as research to create projects that are meaningful and fun. Collection of their own data to be used in projects will be stressed. Students are expected to present projects to class through various forms such as posters, reports, oral presentations, and power points.
4. **Current Events** – Students are expected to research recent discoveries or current events in Biology. Students are to exhibit critical thinking and problem solving skills as they evaluate the research information. Different research areas include: Integrating the Sciences, Science and Technology, People in Science, and Real-Life Science.

### **Suggested Assessment Strategies:**

1. **Quiz / Test** – Students are given multiple choice, short answers and extended questions. These may be given in a written format or orally as appropriate.
2. **Project** – Students are assessed on oral and written presentations.
3. **Groupwork** – Various modes of formative and summative assessment in which students work on a particular problem in groups of two to four. Groupwork encourages peer learning, strengthens topical skill sets through teaching, and promotes collaboration and community. Examples of group work include whiteboarding, presentations and written assignments.