**Warren County School District**

**PLANNED INSTRUCTION**

**COURSE DESCRIPTION**

**Course Title:** Biology College Preparatory

**Course Number:** 00310

**Course Prerequisites:** None

**Course Description:**

Academic Biology is recommended for tenth grade students who have successfully completed Introduction to Environmental Science or those accelerated ninth grade students who are also enrolled in the ninth grade required science course. The course focuses on the study of biochemistry, cells, genetics, and evolution. The course involves additional writing, detailed content and in depth lab analysis. Appropriate lab activities will be used including elements of scientific inquiry, concepts of models and the use of technological devices.

**Suggested Grade Level:** Tenth Grade

|  |  |  |  |
| --- | --- | --- | --- |
| **Length of Course:** | One Semester | Two Semesters | Other (Describe) |

**Units of Credit:** 1(Insert ***None*** if appropriate)

**PDE *Certification and Staffing Policies and Guidelines* (CSPG) Required Teacher Certifications**:

CSPG 32 Biology

**Certification verified by WCSD Human Resources Department**:  Yes  No

**TEXTBOOK AND SUPPLEMENTAL MATERIALS**

**Continue using Board approved textbook?** Yes  No (*If yes, then complete the information below.*)

**Board Approved Textbooks, Software, Supplemental Materials:**

**Title: Miller & Levine Biology**

**Publisher: Pearson**

**ISBN #: 10: 0-32-892512-8**

**Copyright Date: 2019**

**Date of WCSD Board Approval:**

**BOARD APPROVAL:**

**Date Written:** 2/28/18

**Date Approved:**

**Implementation Date:** 2018-2019

**SPECIAL EDUCATION AND GIFTED REQUIREMENTS**

The teacher shall make appropriate modification to instruction and assessment based on a student’s Individual Education Plan (IEP) or Gifted Individual Education Plan (GIEP).

**COURSE OVERVIEW**

(*List the content to be taught*)

### **Content**

I. Nature of Science

A. Scientific Method

B. Observations and Inferences

C. Quantitative and Qualitative Data

D. Data Analysis

II. Biochemistry

A. Chemical bonding

B. Carbon Compounds

C. Acids/Bases

D. Enzymes

III. Cell

A. Types of cells

B. Cell organelles

C. Cell membranes

D. Hierarchy of organization

E. Photosynthesis

F. Respiration

G. Cell Cycle

IV. Genetics

A. Genes and chromosomes

B. Meiosis

C. DNA/RNA

D. Protein synthesis

E. Mendelian genetics

F. Types of inheritance

G. Genetic mutations

H. Reproductive patterns and selective breeding

I. Genetic engineering techniques, applications, and impacts

V. Evolution

A. Microevolution

1. Natural selection and genetic drift

2. Gene frequency

3. Mutations and gene recombination (antibiotic resistance)

D. Macroevolution

1. Speciation

2. Extinction

**ANCHORS AND STANDARDS**

PA Academic Standards: (List by Number and Description)

3.1.10 Unifying Themes

3.2.10 Inquiry and Design

3.3.10 Biological Sciences

3.3.12 Biological Sciences

3.7.10 Technological Design

3.8.10. Science Technology and Human Endeavors

CC.3.5.9-10 Reading Informational Text

CC.3.6.9-10 Writing

**ASSESSMENT**

**Portfolio Assessment:** Yes  No

**District-Wide Common Final Examination Required:** Yes  No

**Course Challenge Assessment** (Describe)**:** Must earn an 80% or higher on Final Exam

**WRITING TEAM:** Warren County School District Teachers

**WCSD STUDENT DATA SYSTEM INFORMATION**

1. Is there a required final examination?  Yes  No

***\*Warren County School District Policy 9741 and9744 state, “All classes in grades 9-12 shall have a final exam.”***

1. Does this course issue a mark/grade for the report card?  Yes  No
2. Does this course issue a Pass/Fail mark?  Yes  No
3. Is the course mark/grade part of the GPA calculation?  Yes  No
4. Is the course eligible for Honor Roll calculation?  Yes  No
5. What is the academic weight of the course?

|  |  |  |
| --- | --- | --- |
| No weight/Non credit | Standard weight | Enhanced weight |
|  |  |  |