

Warren County School District

PLANNED INSTRUCTION

COURSE DESCRIPTION

Course Title: Biology

Course Number 00311

Course Prerequisites: None

Course Description:

Biology is recommended for tenth grade students who have successfully completed Introduction to Earth Science and Environmental Science. The course focuses on the study of biochemistry, cells, genetics, and evolution. 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 and 9744 state, "All classes in grades 9-12 shall have a final exam."*

2. Does this course issue a mark/grade for the report card? ☒ Yes ☐ No

3. Does this course issue a Pass/Fail mark? ☐ Yes ☒ No

4. Is the course mark/grade part of the GPA calculation? ☒ Yes ☐ No

5. Is the course eligible for Honor Roll calculation? ☒ Yes ☐ No

6. What is the academic weight of the course?

☐ No weight/Non credit

☒ Standard weight

☐ Enhanced weight