

Warren County School District

PLANNED INSTRUCTION

COURSE DESCRIPTION

Course Title: Introduction to Environmental Science

Course Number: 00308

Course Prerequisites: None

Course Description:

This course focuses on the principles of ecology and the interdependence of natural and human systems. Students will develop skills in making informed decisions and taking constructive actions. Relevant lab activities will be incorporated throughout, utilizing scientific inquiry and appropriate technology. This course will involve writing, detailed content and lab analysis.

Suggested Grade Level: Ninth Grade

Length of Course: ☐ One Semester ☒ Two Semesters ☐ Other

Units of Credit: 1.0

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

CSPG 32 Biology 34 Chemistry 43 Environmental Education 46 General Science 56 Physics 30 Agriculture 40 Earth and Space 54 Middle Level Science

Certification verified by WCSD Human Resources Department: ☒ Yes ☐ No

TEXTBOOK AND SUPPLEMENTAL MATERIALS

Continue using Board approved textbook? ☒ Yes ☐ No

Board Approved Textbooks, Software, Supplemental Materials:

Title: Environmental Science Your World Your Turn

Publisher: Pearson

ISBN #: 978 – 0 – 13 – 372475 - 2

Copyright Date: 2011

Date of WCSD Board Approval: May 14, 2018

BOARD APPROVAL:

Date Written: 2/28/18

Date Approved: May 14, 2018 (November 5, 2018)

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

PA Standards:

3.1.10: Biological Sciences
3.3.10: Earth and Space Sciences
4.1.10: Ecology
4.2.10: Watersheds and Wetlands
4.3.10: Natural Resources
4.4.10: Agriculture and Society
4.5.10: Humans and the Environment

Common Core Standards:

CC.3.5.9-10 Reading Informational Text
CC.3.6.9-10 Writing

Content:

- I. Introduction to Environmental Science
 - A. Focus of Environmental Science
 - 1. Environmental Science vs Environmentalism
 - 2. Humans and the environment
 - B. Scientific Method and Community
 - C. Environmental Systems
 - 1. Feedback loops
 - 2. Earth's spheres
 - D. Biogeochemical Systems
 - 1. Carbon / Oxygen
 - 2. Phosphorous
 - 3. Nitrogen
 - 4. Water
- II. Ecology
 - A. Levels of Organization
 - B. Population Ecology and Growth
 - C. Community Ecology
 - 1. Evolution
 - 2. Interactions
 - 3. Energy Flow
 - 4. Succession

- D. Biomes
- E. Aquatic Ecosystems
- III. Humans and the Environment
 - A. Biodiversity and Conservation
 - 1. Components and Benefits of Biodiversity
 - 2. Extinctions and Biodiversity Loss
 - 3. Conservation Practices
 - B. Human Population
 - 1. Population Growth
 - 2. Impacts of Population Growth
 - C. Environmental Health
 - 1. Types of Hazards
 - 2. Chemical Hazards
 - 3. Natural Disasters
 - D. Urbanization
 - 1. Land Use
 - 2. Sprawl
 - 3. Sustainability
- IV. Earth's Resources
 - A. Resource Use
 - B. Conservation and Sustainability
 - 1. Land and Soil
 - 2. Agriculture and Forestry
 - 3. Minerals
 - 4. Water
 - 5. Atmosphere
- V. Future of the Environment
 - A. Climate Change
 - 1. Causes
 - 2. Effects
 - 3. Responses
 - B. Energy
 - 1. Non-Renewable
 - 2. Renewable
 - C. Waste Management
 - 1. Municipal vs Industrial
 - 2. Ways to Minimize
 - 3. Hazardous Waste

ASSESSMENT

Portfolio Assessment: ☐ Yes ☒ No

District-Wide Common Final Examination Required: ☒ Yes ☐ No

Course Challenge Assessment: Students must score a minimum of an 80% on the 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