

Bossier Parish Community College
Master Syllabus

Course Prefix and Number: BLGY 107/ PHSC 107

Credit Hours: 3

Course Title: Environmental Science

Course Prerequisite: none

Textbook: Principles of Environmental Science, 8th edition Cunningham and Cunningham

Course Description:

This course includes an introduction to organism-environment interaction, especially humans and their environment. Exploration of contemporary issues in environmental science with an emphasis on man's interaction with the Earth's biological and physical resources. This course is also listed as PHSC 107. Students **cannot** receive credit for both PHSC 107 and BLGY 107.

Learning Outcomes:

At the end of this course, the student will

- A. relate basic concepts of chemistry, biology, and technology to the understanding of the dynamic functioning of the environment;
- B. critique the role of man in the environment and identify the effects of man's activities on the environment;
- C. integrate concepts of biodiversity, trophic levels, nutrient cycles, and food webs to understand the complex functioning of the biosphere; and
- D. apply knowledge of the functioning of the environment to propose ethical solutions to environmental problems and issues.

To achieve the learning outcomes, the student will

- 1. define environmental science and identify some important environmental concerns society faces today. (A)
- 2. discuss the history of conservation and the different attitudes toward nature at various times in the past. (A)
- 3. critically analyze the major environmental dilemmas and issues that shape out current environmental agenda. (A)
- 4. explain sustainable development and evaluate some of its requirements. (A)
- 5. describe the scientific method and explain how it works. (A)
- 6. explain systems and how they are useful in science. (A)
- 7. discuss environmental ethics and worldviews. (A)
- 8. describe matter, atoms, and molecules and give simple examples of the role of four major kinds of organic compounds in living cells. (A)

9. define energy and explain how thermodynamics regulates ecosystems. (A)
10. describe how living organisms capture energy and create organic compounds. (A)
11. define species, populations, communities, and ecosystem, and summarize the ecological significance of trophic levels. (A)
12. compare the ways the water, carbon, nitrogen, sulfur, and phosphorus cycle within ecosystems. (A)
13. discuss how species interactions shape biological communities. (A)
14. summarize how community properties affect species and populations. (A)
15. explain why communities are dynamic and change over time. (A)
16. recognize the characteristics of some major terrestrial biomes as well as the factors that determine their distribution. (A)
17. describe how and why marine environments vary with depth and distance from shore. (A)
18. compare the characteristics and biological importance of major freshwater ecosystems. (A)
19. summarize the overall patterns of human disturbance of world biomes. (D)
20. describe the dynamics of population growth. (B)
21. summarize the factors that increase or decrease populations. (B)
22. compare and contrast the factors that regulate population growth. (B)
23. identify some applications of population dynamics in conservation biology. (D)
24. analyze some of the factors that determine population growth. (B)
25. explain how ideal family size is culturally and economically dependent. (B)
26. relate how family planning gives humans choices. (B)
27. reflect on what kind of future man is creating. (D)
28. describe how health and disease and the global disease burden are changing. (B)
29. summarize the principles of toxicology. (B)
30. discuss the movement, distribution, and fate of toxins in the environment. (B)
31. characterize mechanisms for minimizing toxic effects. (B)
32. explain ways humans measure and describe toxicity. (B)
33. evaluate risk assessment and acceptance. (B)
34. relate how society establishes health policy. (D)
35. discuss biodiversity and the species concept. (C)
36. summarize some of the ways society benefits from biodiversity. (C)
37. characterize the threats to biodiversity. (D)
38. evaluate endangered species management. (C)
39. scrutinize captive breeding and species survival plans. (D)
40. describe the air around man. (A,B)
41. identify natural sources of air pollution. (A,B)
42. discuss human-caused air pollution. (A,B)
43. evaluate air pollution control. (A,B)
44. summarize why water is a precious resource and why shortages occur. (A,B)
45. summarize water availability and use. (A,B)
46. illustrate the benefits and problems of dams and diversions. (A,B)
47. define water pollution. (A,B)
48. describe the types and effects of water pollutants. (A,B)
49. investigate water quality today. (A,B)

50. identify the components of solid waste. (A,B)
51. identify how people might shrink the waste stream. (D)
52. investigate hazardous and toxic wastes. (A,B)
53. define urbanization. (A,B)
54. describe urban challenges in the developing world. (D)
55. explain smart growth. (A,B)
56. explain how people can make a difference. (D)
57. summarize environmental education. (D)
58. describe the challenge of sustainability. (D)

Course Requirements: To earn a grade of “C” or higher the student must earn 70% of the total points for the course and meet all of the following course requirements.

- minimum average score of 60% on major tests
- minimum of 60% on biome presentation
- minimum score of 50% on the comprehensive final exam
- satisfactory participation in discussion/debate of environmental issues

Course Grading Scale:

A- 90% or more of the total points possible for the semester and meet all minimum course requirements

B- 80% or more of the total points possible for the semester and meet all minimum course requirements

C- 70% or more of the total points possible for the semester and meet all minimum course requirements

D- 60% or more of the total points possible for the semester and meet all minimum course requirements.

F- less than 60% of the total points possible for the semester and/or failure to meet one or more of the minimum course requirements

Attendance Policy: The college attendance policy is available at <http://www.bpcc.edu/catalog/current/academicpolicies.html>

Nondiscrimination Statement

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them, in treatment of individuals, or in any aspect of its operations. Bossier Parish Community College does not discriminate in its hiring or employment practices.

COORDINATOR FOR SECTION 504 AND ADA

Angie Cao, Student and Disability Services Specialist

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Equity/Compliance Coordinator

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Phone: 318-678-6056

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Reviewed by R. Johnson/ March 2019