

**Bossier Parish Community
Master Syllabus**

Course and Prefix Number: BLGY 102

Credit Hours: 3

Course Title: General Biology II

Course Prerequisites: BLGY 101 or equivalent

Textbook: Mader, S. and M. Windelspecht; Biology, 13th edition

Course Description:

A sequence course for science majors to Biology 101. The course topics include general concepts and principles of ecology, evolution and classification, biological diversity, and the anatomy and physiology of plants and animals. The Louisiana Statewide Common Course Catalog name and number for this course are CBIO 1043: General Biology II (Science Majors).

Learning Outcomes:

At the end of this course, the student will

- A. outline the three domain classification system, assign organisms to the correct classification group based on characteristics and use the system to predict evolutionary patterns;
- B. predict characteristics of organisms and their role in the biosphere based on knowledge of the major divisions of plants, animals, and fungi;
- C. apply biological concepts to understand the structure and function of the organs and systems of the human body;
- D. predict organisms of major biomes based on their characteristics and predict the effects on biomes by the activities of man; and
- E. demonstrate reading and writing competency of biological principles.

To achieve the learning outcomes, the student will

- 1. assign organisms to the 8 classification categories. (A)
- 2. distinguish between species based on structure and reproductive isolation. (A)
- 3. list the three main schools of evolutionary biology. (A)
- 4. list the three-domain system of classification and give examples of each. (A)
- 5. explain the contribution of Linnaeus to modern classification systems. (A)
- 6. describe viruses and their means of reproduction. (B)
- 7. describe the prokaryotic cells. (B)
- 8. describe the oxygen and food requirements for bacteria. (B)
- 9. list the common shapes of bacteria and their relationship to man. (B)

10. define the symbiotic relationships that exist among bacteria and other organisms. (B)
11. describe the general biology of protists. (B)
12. classify protists according to their modes of motion and nutrition. (B)
13. describe and give examples of algae. (B)
14. explain the economic importance of algae and protists. (B)
15. compare the spore-forming, non-motile parasites that cause human illness. (B)
16. describe the differences between slime molds and water molds. (B)
17. compare fungi according to aspects of their sexual life cycle. (B)
18. list the characteristics of fungi. (B)
19. list the symbiotic relationships of fungi. (B)
20. list the evolutionary history of plants. (B)
21. list the characteristics of nonvascular plants. (B)
22. list the characteristics of vascular plants. (B)
23. list the characteristics of seedless vascular plants. (B)
24. list the characteristic of seed plants. (B)
25. list the characteristics of gymnosperms. (B)
26. list the characteristics of angiosperms. (B)
27. state the function of a flower. (B)
28. identify the parts of a flower. (B)
29. list and explain the function of the major organs of a plant. (B)
30. compare monocot and eudicot plants. (B)
31. list and explain the function of plant tissues. (B)
32. describe the organization of roots, stems, and leaves. (B)
33. correlate plant nutrition to the types of soil. (B)
34. explain the water and mineral uptake of a plant. (B)
35. describe the transport mechanisms in plants. (B)
36. define four types of plant responses. (B)
37. list plant hormones and the effect each has on plant growth. (B)
38. explain photoperiodism. (B)
39. compare the reproductive strategies of plants. (B)
40. compare sexual and asexual reproduction in plants. (B)
41. explain seed development in plants. (B)
42. identify the different fruit types and mechanisms of seed dispersal. (B)
43. distinguish between invertebrates and vertebrates. (B)
44. describe the phylum Porifera. (B)
45. list and explain the different types of symmetry. (B)
46. explain the tube-within-a-tube body plan. (B)
47. list the major phyla of invertebrates and list examples of each. (B)
48. distinguish between protostomes and deuterostomes. (B)
49. list the advantages of coelom in protostomes and deuterostomes. (B)
50. list and describe different types of mollusks. (B)
51. identify and describe different types of annelids. (B)
52. list characteristics and give examples of the arthropods. (B)
53. describe the phylum Echinodermata. (B)
54. list and explain the characteristics of the vertebrates. (B)

55. compare the features seen in the jawless fish, fishes, amphibian, reptiles, birds, and mammals. (B)
56. list the characteristics of primates. (B)
57. define homeostasis. (C)
58. identify the types of animal tissues. (C)
59. explain how organs are grouped into organ systems. (C)
60. describe and identify the structures used in the circulation transport system in invertebrates and vertebrates with emphasis on humans. (C)
61. list the components of blood and describe the exchange of substances between blood and tissues. (C)
62. describe the structure and function of the human immune system. (C)
63. list and state the function of the organs of the lymphatic system. (C)
64. identify and state the function of the parts of the human digestive tract. (C)
65. discuss proper nutrition. (C)
66. describe gas exchange in gills and lungs. (C)
67. explain the process of respiration in humans. (C)
68. describe the body fluid regulation and excretion in humans. (C)
69. explain nerve impulses and transmission of impulses between neurons. (C)
70. describe the senses of taste, smell, vision, hearing and balance in humans. (C)
71. list and identify the major bones of the human skeleton. (C)
72. describe the two types of bone tissues. (C)
73. list and identify the major muscles of the human muscular system. (C)
74. list and explain the various methods of birth control. (C)
75. identify parts of the human male and female reproductive organs. (C)
76. describe the human embryonic and fetal development stages from conception to birth. (C)
77. list the characteristics of populations. (C)
78. differentiate between density-independent and density-dependent factors of a population. (D)
79. define ecology. (D)
80. explain the structure of communities. (D)
81. discuss the importance of biodiversity. (D)
82. list the characteristics of ecosystems. (D)
83. identify the trophic levels in ecosystems. (D)
84. trace the flow of energy through an ecosystem. (D)
85. define biosphere. (D)
86. list and describe earth's major terrestrial biomes. (D)
87. identify the earth's major aquatic biomes and how the ocean currents affect climate and weather. (D)
88. list some common conservation techniques. (D)
89. list and explain human influences on extinction. (D)
90. defend, through writing, your stance on the use of live animals in research. (E)
91. answer questions using information on a specific biological topic gained through reading. (E)

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 of 60% on each section exam or 60% on a comprehensive final exam

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>

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COORDINATOR FOR SECTION 504 AND ADA

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Reviewed by T. Bryan/ March 2019