BSC 2086C
Anatomy and Physiology II

Catalog Description: BSC 2085C Anatomy and Physiology II (4) (A.A.). Three hours lecture, three hours laboratory per week. Prerequisite of 2085C with a grade of "C" or better. This course meets Area V requirement for the A.A./A.A.S./A.S. general education requirements. This course studies the anatomy and physiology of the human body beginning with basic definitions and including the integumentary, skeletal, muscular, nervous, respiratory, digestive, reproductive, endocrine, immune, urinary and circulatory systems.

Performance Standards:

At the successful completion of this course, the student should be able to:

1. Use basic anatomical and physiologic terminology correctly.
2. Define and give examples of homeostasis, feedback, negative feedback and positive feedback.
3. State the defining characteristics of epithelial tissue, connective tissue, muscle tissue, and nervous tissue.
4. Classify the different types of epithelial tissue, connective tissue, muscle tissue, and nervous tissue.
5. Describe the anatomy and physiology of thin and thick skin, and the skin derivatives.
6. Describe the functions of the integumentary system.
7. Describe the major functions of the skeletal system.
8. Describe the anatomy and histology of bone tissue.
9. Explain the physiology of osteogenesis and bone repair.
10. Identify the differences between intramembranous and endochondral bone formation.
11. Distinguish between bones of the axial skeleton and the appendicular skeleton.
12. Identify all bones on a skeleton or diagram of a skeleton.
13. Identify major markings (such as foramina, fossae, tubercles, etc.) on a skeleton or diagram of a skeleton.
14. Describe the major kinds of articulations, including various synarthroses, amphiarthroses and diarthroses.
15. Describe the anatomy and histology, including ultrastructure, of muscle tissue.
16. List the steps involved in the sliding filament of muscle contraction.
17. Describe the process required for signal transmission across a myoneural junction.
18. Explain the physiology of skeletal muscle.
19. Identify the major muscles of the human on a model or diagram.
20. Describe the anatomy, histology, and physiology of the central and peripheral nervous systems.
21. Name the major divisions of the nervous system.
22. Describe the physiology of nerve conduction, including the generator potential, action potential, and the synapse.
23. Identify the parts of a reflex arc.
24. Identify the general parts of a synapse.
25. Describe the physiology of signal transmission across a synapse.
26. Identify the major parts of a cross section through the spinal cord.
27. Identify the major parts of the brain on diagrams or models.
28. Identify the functions of the major parts of the brain, including the medulla, pons, midbrain, hypothalamus, thalamus, cerebellum and cerebrum.
29. Identify the major functions of the spinal cord.
30. Identify the meninges.
31. Identify the major functions associated with the sympathetic and parasympathetic nervous systems.
32. Explain the structure and function of the special senses.
33. Define the terms endocrine and exocrine.
34. Compare endocrine and neural controls of physiology.
35. Describe the physiology of hormones including the different types and the mechanisms of their actions.
36. Describe the anatomy and physiology of the endocrine system.
37. Describe the composition and physiology of blood including that of the plasma and the formed elements.
38. Describe the steps in hemostasis including the mechanism of coagulation.
39. Explain the basis for blood typing and transfusion reactions.
40. Describe the anatomy and physiology of the cardiovascular system including the flow of blood through it and the factors that control this flow.
41. Explain the components of an electrocardiogram.
42. Describe normal heart sounds and what they mean.
43. Describe the structure of the various types of blood vessels.
44. Describe hypertension and some of the factors that produce it.
45. Describe the anatomy and histology of the major arteries and veins of systemic, pulmonary, hepatic portal and coronary circulation.
46. Describe fetal circulation.
47. Describe the anatomy and the physiology of the lymph system.
48. Describe nonspecific cellular and chemical defenses.
49. Describe the physiology of immunity including cell mediated and humoral immunity.
50. Describe the anatomy and histology of the respiratory system.
51. Describe the physiology of the respiratory system including the mechanisms of ventilation, gas exchange, gas transport and the mechanisms that control the rate of ventilation.
52. Describe the anatomy and histology of the alimentary canal and its associated accessory organs.
53. Describe the physiology of the digestive system including mechanical digestion, chemical digestion, absorption and the neural and hormonal mechanisms of control.
54. Describe the functions of the liver.
55. Describe the anatomy and histology of the kidney.
56. Describe the circulation of the blood through the kidney.
57. Describe the physiology of urine formation by the kidney.
58. Describe the anatomy, histology, and physiology of the ureters, the urinary bladder and the urethra.
59. Describe the anatomy and histology of the male and female reproductive systems including the internal and external genitalia.
60. Describe the physiology of the male reproductive system including hormonal control, spermatogenesis, and the male sexual response.
61. Describe the physiology of the female reproductive system including the menstrual cycle, oogenesis and the female sexual response.