COURSE: BIOLOGY 111: Human Anatomy & Physiology II

DESCRIPTION: Focuses on the structure and function of the endocrine, cardiovascular, respiratory, digestive, urinary and reproductive systems. Emphasizes the interrelationships among the systems and the maintenance of a stable internal environment. Correlates laboratory sessions with lecture content. *Prerequisite: Biology 110*

RECOMMENDED TEXT: Gerald Tortora and Sandra Reynolds Grabowski. Principles of Anatomy and Physiology, 7th edition. New York: Harper Collins.

RECOMMENDED LABORATORY MANUAL: Donnelly/Weistreich. Anatomy & Physiology with Cat Dissection, 4th edition. New York: Harper Collins.

FORMAT: The examination is comprised of 150 items, including 100 multiple choice and 9 drawings. Each multiple choice question is work 1/2 point and each question related to a drawing is worth 1 point.

GRADING: Students must receive a "C" (73-76) in order to receive credit for a course taken as a Challenge Exam.

TOPICS OF STUDY:

1. Compare the nervous system to the endocrine system.
2. Contrast steroid hormones to protein hormones.
3. Define Adenylate cyclase, FSH, somatotropin, Adenohypophysis, and thyroxine.
4. State the function and location the following hormones come from: FSH, somatotropin, estrogen, thyroxin, glucogen, ANP, aldosterone, calcitonin, melatonin, oxytocin, testosterone, HCG, prolactin, and LH.
5. Describe the components of plasma and their function.
6. Describe the erythrocyte.
7. Define hemocrit.
8. Describe blood typing.
9. Describe the leukocytes, including types and functions and the correct amounts.
10. Describe the thrombocytes.
11. Describe the recycling process of hemoglobin.
12. Describe the structure of the heart.
13. Describe the functions of circulation in the heart.
14. Describe the cardiac cycle and stroke volume.
15. Define the waves of the 6KG.
16. Describe the nodal system and the correct order of the electric signal.
17. Describe the histology of a blood vessel.
18. Put the following terms in correct order and define them: artery, capillary, vein, arteriole, venule, and precapillary sphincter.
19. Describe the mechanisms of blood pressure.
20. Describe circulation of the major blood vessels, especially vessels into the heart, portal system and fetus.
21. Define hydrostatic and osmotic pressure and explain their interaction.
22. Define venous return.

23. Define secondary immune response.
24. Define the functions and location of lymphnodes, right lymphatic, and thoracic duct.
25. Define cisterna chyli.
26. Describe antibody active and inactive states.
27. Describe the ways B & Killer T-cells kill an organism.
28. Compare Type I and I alveoli.
29. Describe the location and function of larynx cartilage.
30. Describe the location and function of tonsils, lobes and glottis.
31. Describe the flow of oxygen from bronchi to lung alveoli in proper order.
32. Describe the muscles used for both passive (quiet) and forced breathing.
33. Describe the control of respiration such as pneumotaxic center.
34. Describe surfactant, RV, VC, IRV, ERV and chloride shift.
35. Describe how carbon dioxide and oxygen are carried in the blood to and from tissues.
36. Describe the layers of the alimentary tract.
37. Describe the location, function and structures of stomach, gallbladder, salivary glands, liver, and small and large intestines.
38. Describe the cells of the stomach and their function.
39. Define lacteal, CCK, HDL, LDL, Plicae, villi, absorptive and postabsorptive states.
40. Describe the motility of the digestive tract.
41. Describe the digestive enzymes of the pancreas and stomach.
42. Distinguish the parts of the digestive tract.
43. State the yield, end product, starting product and byproducts in glycolysis, Krebs, and electron transport system.
44. Describe protein catabolism such as yield and byproduct.
45. Describe the organs of the urinary tract.
46. Describe the structure of the kidneys.
47. Describe the circulation through the kidneys.
48. Describe filtration in the nephron.
49. Describe urine production and concentration.
50. Describe the hormonal influences over renal function.
51. State which body fluids are extracellular.
52. Describe the importance of buffer systems in the body.
53. Describe the structures and functions of the male reproductive tract.
54. Describe the structures and functions of the female reproductive tract.
55. Describe early embryonic development.
56. Describe the cause of lactation, menstruation and ovulation.
57. Define endometrium, vulva, morula, blastula and placenta.
58. Be able to identify the following through drawings: site of all endocrine glands, parts of the heart, the veins and arteries (cartoids, brachiocephalic, subclaviari, aorta, brachial, iliac, femoral, and popliteal), cartilage of larynx, organs of digestive system, parts of the kidney, parts of the male and female sexual reproductive system.