The student will demonstrate:

1. a comprehension of structure and function of the digestive system and each of its component parts.
2. comprehension of the basic structural plan of the wall of the alimentary tube; each layer will be examined as to structure and function.
3. a knowledge of digestive tract movement, secretion and hormonal and neuronal control.
4. a knowledge of the action of digestive enzymes in terms of general and specific production site, method of activation, and substrate upon which they act.
5. a knowledge of the role of the liver and digestion, bile production, erythrocyte elimination, metabolic regulation, formation of clotting factors, and vitamin storage.
6. a knowledge of digestion end-product absorption in terms of anatomical site, chemical form and cellular mechanisms responsible for absorption.
7. a knowledge of the comparative metabolism of carbohydrates, lipids and proteins by contrasting the energy relationships of each.
8. a knowledge of the two basic classes of vitamins by listing names, sources, and functions of representative types.
9. an ability to list and describe the functions of the Circulatory system.
10. an ability to draw a flow diagram of the pulmonary and systemic components of the circulatory system.
11. an ability to list and/or identify all salient anatomical structures of the heart.
12. a knowledge of the electrocardiogram tracing and its component parts in terms of polarity changes of cardiac musculature.
13. a knowledge of the nervous and humoral control of cardiac rhythm.

07/11/02
14. an ability to define and list the variables of cardiac rhythm.
15. an understanding of the dynamics of blood pressure including contributing factors and regulatory mechanisms.
16. an ability to contrast the function and structure of the three basic blood vessel types.
17. an ability to list, describe and differentiate between the formed elements of the blood with particular emphasis on function.
18. a knowledge of the composition and function of blood plasma by listing plasma constituents and the function of all plasma proteins.
19. a knowledge of hematopoiesis by describing blood cell production and factors that effect the production of various blood cells.
20. a knowledge of the role blood performs in fluid and electrolyte balance.
21. a knowledge of the role blood plays in the transport of gases to and from the cells.
22. a knowledge of the role plasma proteins and extrinsic and intrinsic tissue factors play in the clotting process.
23. a knowledge of the lymphatic circulatory system by describing the anatomical make up of the system and its function in the return of body fluids to the blood.
24. a knowledge of the role played by the lymphatic circulatory system in response to infections and disease states.
25. a knowledge of the function and general protective importance of the organs of the lymphatic system.
26. an understanding of the respiratory system by listing anatomical structures and their function in external respiration.
27. a knowledge of breathing in terms of gas movements into and out of the lungs, pressure change attendant to stages of breathing and those mechanisms that permit breathing.
28. a knowledge of the composition and partial pressures of atmospheric gas and changes that occur as the gas is brought into the respiratory system and transported to and from tissues by the circulatory system.
29. a knowledge of the various air volumes related to the lung, e.g., residual volume, inspiratory reserve volume, etc.
30. a knowledge of neural control of respiration and those factors that influence this control.

07/11/02
31. a knowledge of the principles fundamental to artificial respiration and certain specific methods listed by the instructor.

32. a knowledge of the urinary system by listing and describing the anatomical structures and their function in the formation of urine.

33. a knowledge of the composition of urine by describing and comparing the composition of urine formed in normal and disease states.

34. a knowledge of the functions of diuretics by describing their effects on specific physiological functions of the kidney.

35. a knowledge of the process of dialysis by describing the methods used in hemodialysis.

36. a knowledge of the endocrine system by describing the structure and function of the specific glands comprising it and, when relevant, their control via the hypothalamus and pituitary gland.

37. a knowledge of the specific molecules known as hormones by listing the major hormones and specific functions of each.

38. a knowledge of the female reproductive system by listing and describing the anatomical structures including the mammary glands.

39. a knowledge of the function of the female gonads and the endocrine control of ovulation.

40. a knowledge of meiosis by describing and contrasting the processes of oogenesis and spermatogenesis.

41. a knowledge of the menstrual cycle by describing the hormonal control of the stages of the cycle.

42. a knowledge of menopause by defining and describing menopausal symptoms.

43. a knowledge of the male reproductive system by listing and describing the anatomical structures.

44. a knowledge of the normal control of spermatogenesis.

45. a knowledge of the production of the male hormone testosterone and its function in secondary sex characteristic development and maintenance.

46. a knowledge of the glandular production of semen.

47. a knowledge of the function of the specific tissues of the erectile portion of the penis.

07/11/02
48. a knowledge of zygote production via fertilization and consequent development and movement from area of occurrence to uterine implantation.

49. a knowledge of fetal development by naming and describing the function of the different layers of the placenta.

50. a knowledge of the various laboratory procedures employed in determination of the pregnant state.

51. a knowledge of the cyclic mechanism of uterine contraction in labor.

52. a knowledge of the contraception by listing and describing various contemporary methods of contraception and their physiological basis.