The student should be able to:

1. State the approximate volume of fluid the kidney filters in a 24 hour period.

2. State the groups of substances the kidney remove from the body.

3. State which substances the kidney regulates regarding volume concentration or chemical make up.

4. List the various organs of the urinary system.

5. Explain what is meant by the phrase “kidneys are retroperitoneal”.

6. Describe where the kidneys are found, their shape and size.

7. Explain what the hilum of the kidney is and describe which structures enter the kidney at the hilum.

8. State which glands are found immediately superior to the kidney.

9. Name the three layers of support tissue around the kidney and briefly describe the function of each.

10. Name the three layers of the kidney, superficial to deep.

11. In a diagram, be able to identify: renal cortex, renal medulla, renal pelvis, major calyx, papilla of pyramid, minor calyx, ureter, renal column and fibrous capsule.

12. State which arteries deliver blood to the kidneys and what percentage of cardiac output goes to the kidney while your at rest.

13. Explain which network of nerve fibers and ganglia supply the kidney.

14. State what the functional unit of the urinary system is and how many of these are found in each kidney.

15. Identify, from a diagram of a nephron, renal corpuscle proximal convoluted tubule, loop of henle, glomerular capsule, glomerulus, descending limb, ascending limb and collecting duct.

16. Describe the difference between afferent and efferent arterioles of the nephron.

17. Describe the difference between a cortical nephron and a juxtamedullary nephron.

18. Describe the difference between tubular capillaries and vasa recta capillari
19. Explain what occurs in both the peritubular capillaries as well as the vasta recta capillaries.

20. Describe the general location and the function of the ureters.

21. What are the three histological layers of the ureters.

22. Explain how renal calculi/kidney stones are formed and describe what substances they are formed from.

23. Explain what substances normal urine is composed of.

24. Explain what urea is formed from.

25. Explain what the trigone is and what its clinical significance.

26. Describe the location of the bladder and explain its function.

27. Explain what the detrusor muscle is.

28. Describe an empty bladder incorporating the term rugae.

29. Describe the volume of a moderate/normally full bladder and an extremely full bladder.

30. Describe the general location, structure and function of the urethra.

31. Describe the location and function of the internal and external urethral sphincter muscles.

32. Define micturition and describe its neural control.