By the completion of this unit, the student will be able to do the following:

1. Define: glycogenolysis, glycogen synthesis, gluconeogenesis

2. Discuss the relationship between the hormones glucagon and insulin in the glucose scheme.

3. Describe the major differences between Type 1 Diabetes and Type 2 Diabetes.

4. Identify the signs and symptoms of a diabetic.

5. Describe the pathophysiology of diabetes.

6. Discuss the drug therapy options in treating diabetes and include their mechanism of action.
   - A. Insulin
   - B. Sulfonylureas
   - C. Other oral hypoglycemic agents
   - D. Miscellaneous other options available

7. Define the major purpose of the Endocrine system.

8. Identify the hormones that are released from each lobe of the pituitary gland.

9. Identify tropic hormones.

10. Describe each endocrine’s hormones action and their target sites.

11. Discuss uses and side effects for each hormone drug therapy and the conditions in which they treat.
    Ex: A. Corticosteriods
        1. Glucocorticoids
        2. Mineralocorticoids
    B. Thyroid Hormones
        - hypothyroid disease
    C. Anti-thyroid Hormones
        - hyperthyroid disease
D. Growth Hormone
E. Sex Hormones
   1. Male – testosterone
   2. Female – estrogen and progesterone

12. Describe the details associated with the 28-day menstrual cycle.

13. Discuss the purposes for administering sex hormones.

14. Identify the hormone imbalance associated with the conditions below. Are the hormones increased or decreased? Based on the amount of hormones identify treatment options.
   Ex:
   A. Dwarfism
   B. Gigantism
   C. Acromegaly
   D. Syndrome or inappropriate ADH
   E. Diabetes insipidus
   F. Myxedema
   G. Grave’s Disease
   H. Menopause
   I. Hyperthyroidism
   J. Hypothyroidism
   K. Diabetes
   L. Addison’s Disease
   M. Cushing’s Disease

15. Describe the differences between Duodenal and Gastric ulcers.

16. Discuss the therapy available to treat peptic ulcer disease. Highlight the drug classes MOA.

17. Match the drug name to the class it belongs to.
   Matching: Match the different types of insulin to the correct class:
   - short acting insulin
   - intermediate acting
   - long acting insulin
   - rapid onset insulin: Humalog®

18. Describe the characteristics of Carafate®.
   - dosing
   - key characteristics
   - classification
   - use
   - MOA
19. Identify the side effects of insulin therapy.

20. Describe the MOA, uses, and side effects for each of the classification of drugs discussed in this unit.
   - steroids (both kinds)
   - sex hormones
   - sulfonylureas
   - oral anti-hypoglycemic agents
   - thyroid agents
   - anti-thyroid agents
   - gastroprokinetic
   - stool softener
   - etc.


22. Discuss the concept of the negative feedback mechanism and its role with the endocrine system. Apply the negative feedback mechanism in a scenario.

23. Recall alcohol metabolism and the concept of a disulfiram reaction. Identify the side effects of the disulfiram reaction. (May need to use outside source to find answer).

24. Discuss when you would use a proton-pump inhibitor over an H-2 antagonist.

25. Describe what causes insulin shock and a diabetic coma. What is the therapy to treat each?

26. Describe how clomiphene (Serophene® or Clomid®) works. What class does this drug belong to?

27. Identify common antacids that cause constipation and/or diarrhea as a side effect.

28. Identify the two parts of the pituitary gland.

29. Discuss the 3 medications in PrevPak® and what each of the drug’s purpose is in treating ulcers.

30. Describe the MOA for all the diabetic medications used in diabetes.