**STUDY GUIDE MEMBRANES AND RECEPTORS**

**VOCABULARY**

Structures/structural components:

Plasma membrane Lipid bilayer Phospholipid

Hydrophilic Hydrophobic Fluidity

Cholesterol Glycoprotein Glycocalyx

Transmembrane Peripheral Microvillus

Receptor Channel protein Organelle

Inclusion Glycogen Peroxisome

Basement membrane Acidophilic Basophilic

Techniques:

Immunofluorescence Autoradiography Freeze fracture

Scanning EM Transmission Osmium

SDS-PAGE Immunoblotting Immunoprecipitation

**OBJECTIVES AND QUESTIONS**

1. What is the basic structure of the plasma membrane? Know how to draw a schematic representation of the fluid mosaic model. How are the phospholipids oriented? What about proteins? Where are the glycoproteins? (Hint: carbohydrates in membranes are confined to the non-cytosolic side).
2. What are the functions of cell membranes? (Hint: compartmentalization, cell adhesion and recognition, transport, etc.,)
3. What organelles are membrane-bound? Which have double membrane systems? What cellular elements are non-membrane-bound?
4. What does an inclusion represent? (Hint: expendables – be able to name all three types and an example).
5. Be able, in general terms, to describe receptor mediated endocytosis. What is the significance of clatherin? What is a coated pit? Coated vesicle?
6. How are receptors recycled? (Hint: List the steps in the receptor recycling pathway).
7. What membrane components contribute to membrane fluidity? What are the effects of saturated vs. unsaturated fatty acids on fluidity?
8. Know what the three types of specialized modifications of the plasma membrane known as cell junctions are and give examples of each. We will discuss the structure, location, and function of these as we discuss tissues but you should become familiar with their names. (Hint: cell junctions are categorized as follows:
9. Occluding major type is tight junction (found in epithelial tissues)
10. Anchoring Adherens junctions (actin) and desmosomes (IF)
11. Communicating major type is gap junctions for movement of small molecules