Note: below is a list that includes structures that you are responsible to know for Exam 2 (see both sides of the sheet). This list does not guarantee that you will be asked about the structures, nor does the exclusion of a structure mean you will not be asked about it. It is meant only to be a helpful guide.

In addition to knowing the structures listed below, it is expected that you have read the entirety of Chapters 6-8, Chapters 10 and 11, material on coenzymes, and the parts of Chapters 12 and 13 that were covered before Exam 2. It is expected that you understand all of the material in these chapters and in the class notes on this material. The emphasis of the exam will be on the material that was covered in the lectures and the supporting material from the textbook. See also Coenzyme study guide sheet and the structures listed below.

**STRUCTURES YOU SHOULD BE ABLE TO DRAW**

**Monosaccharides** (Structure, full and common names and structures)
Aldoses: linear & cyclic form (when applicable)
- Glyceraldehyde
- Erythrose
- Ribose
- Glc, Man, Gal

Ketoses: linear & cyclic form (when applicable)
- Dihydroyacetone
- Xylulose
- Ribulose
- Fructose

Modified sugars: sugar phosphates, deoxy sugars, sugar alcohols, uronic acids, aldonic acids
- Amino sugars (GlcNAc, GlcN, GalNAc, GalN)

**Disaccharides:** Cellobiose, lactose, maltose, sucrose

**Lipids:** (Structure, full and common names and structures)
Fatty acids: myristate, palmitate, stearate, oleate, linoleate, linolenate
Other Lipids:
- Phosphatidate, phosphatidylethanolamine, phosphatidylserine,
- Phosphatidylcholine
- Sphingomyelin
- Triacylglycerols
- Sphingosine
- Ceramide

(see next page also)
STRUCTURES YOU SHOULD BE ABLE TO RECOGNIZE

ATP
Vitamin C
Nucleotide-sugars
S-adenosylmethionine
NAD+(H), NADP+(H)
FAD, FMN, FADH2, FMNH2
Coenzyme A
Thiamine pyrophosphate
Pyridoxal phosphate
Biotin
Tetrahydrofolate
Adenosyl & methylcobalamin
Lipoamide
Ubiquinone
Soluble vitamins
Niacin
Riboflavin
Pantothenate
Thiamine
Pyridoxine
Biotin
Folate
Cobalamin
Cellulose
Chitin
Starch (glycogen)
Acetyl muramic Acid (MurNAc)
Sialic acid (neuraminic acid)
O-linked glycopeptides
N-linked glycopeptides
  High mannose type
  Hybrid type
  Complex type
cholesterol
phosphatidylinositol
diphosphatidylglycerol
cerebroside
ganglioside