

**BCMB3100, Fall 2010**  
**Hints for learning Coenzymes**

There is a considerable amount of information on coenzymes given in Chapter 7. As an aid to help you decipher what information is most important to concentrate on for this course, the following study guidelines are suggested.

1. Be sure to be able to recognize the structure of all the coenzymes you are responsible for:

S-adenosylmethionine  
NAD<sup>+</sup> (H), NADP<sup>+</sup> (H)  
FAD, FMN, FADH<sub>2</sub>, FMNH<sub>2</sub>  
Coenzyme A  
Thiamine pyrophosphate  
Pyridoxal phosphate  
Biotin  
Tetrahydrofolate  
Adenosyl & methylcobalamin  
Lipoamide  
Ubiquinone  
ATP

2. Know what group(s) are transferred by each of the coenzymes. Be able to recognize the active part of the coenzyme.
3. Know the general type(s) of reactions in which each of the coenzymes participate.
4. Know whether each coenzyme is vitamin-derived or metabolite-derived.
5. Know whether each coenzyme is a cosubstrate or a prosthetic group.
6. For the vitamin-derived coenzymes, be able to identify the vitamin portion within the coenzyme.
7. Be able to recognize the soluble vitamins

Ascorbate (vitamin C)  
Niacin  
Riboflavin  
Pantothenate  
Thiamine  
Pyridoxine  
Biotin  
Folate  
Cobalamin

8. Be familiar with the human diseases that result from deficiencies in the soluble vitamins.
9. Know the names of the lipid soluble vitamins.