

Biology 1400
Chapter 7 Study Guide
Proteins

1. What element is present in proteins but not found in the other macronutrients?
2. How many “estimated” different proteins are in the human body? List some of the different functions for proteins in the human body:
3. How many “building blocks” are used to make proteins? What are they called? How many are essential? What is an “R” group?
4. Are all foods sources of protein? Are some foods better sources than others? Explain:
5. Are proteins equally distributed within the different parts of a plant?
6. What is the significance of “limiting amino acids”?
7. What plant food is the exception and provides high-quality protein?
8. Study Figures 7.4 / 7.5 / 7.6. Be able to explain how proteins are made using the proper terms.
9. Proteins are large molecules consisting of hundreds of amino acids. If a single amino acid is inserted into a protein, can it cause a problem? Explain
10. What does it mean to “denature” a protein? How can you denature proteins?
11. What is the amino acid pool and is it created by endogenous or exogenous sources? Explain:
12. Where does deamination primarily occur? What other organ is important in this process?
13. After skeletal muscle cells remove the nitrogen from amino acids, what may the amino acid’s carbon skeleton used for?
14. Do cells store excess amino acids? Explain:
15. What is nitrogen balance? When is your body in a state of positive nitrogen balance? What hormones regulate positive nitrogen balance?
16. How much protein do you need?
17. Study Figure 7.13. Make sure you know where and how the proteins are digested, where they are absorbed, and where they go after being absorbed into the body.

18. What is a food allergy? What “goes wrong” with the normal digestive process to initiate a food allergy? Overly sensitive people can have a severe reaction to a food allergen. What is this called and how can you “reverse” the symptoms?
19. Allergic responses can also occur from non-protein molecules found in food, like sulfites. What are sulfites?
20. What is gliadin? What affect does this molecule have on products made from dough? What is the cause of celiac disease and what are the symptoms?
21. What is PKU? Which essential amino acid is not be metabolized and then builds up to toxic levels to damage nerve cells? Why is aspartame a danger to people who have PKU?
22. Animal protein supply about 70% of the protein that we eat. Some of these are the most expensive items in your grocery cart. How can you get all the protein you require for far less money? What is the rule-of-thumb for getting all the amino acids you need, both essential and non-essential , from plant food?
23. What is a vegetarian? What is an omnivore?
24. Is vegetarianism a healthy lifestyle? If you and your family decide to live a vegetarian lifestyle, what should you be concerned about?
25. Where would you expect to find protein-energy malnutrition (PEM)? What are two forms of PEM are how are they related?