**Chapter 10 – The Water-Soluble Vitamins: B Vitamins and Vitamin C**

1. Describe how vitamins differ from the energy nutrients and how fat-soluble vitamins differ from water-soluble vitamins.

2. Identify the main roles, deficiency symptoms, and food sources for each of the B vitamins.

a. List the B vitamins and identify the major functions of each vitamin in the body.

b. Identify the non-B vitamins.

c. Describe the role of B vitamins in metabolism.

d. List a major food source of each of the B vitamins.

e. Identify the major deficiency disease associated with each B vitamin.

3. Identify the main roles, deficiency symptoms, and food sources for vitamin C.

a. List the major uses of vitamin C in the body.

b. Identify the vitamin C requirement of the body and factors that may increase this requirement.

c. Identify the signs and symptoms of vitamin C deficiency and toxicity.

d. Identify major food sources of vitamin C.

4. Present arguments for and against the use of dietary supplements.

**Chapter 11 – The Fat-Soluble Vitamins: A, D, E, and K**

1. Identify the main roles, deficiency symptoms, and food sources for vitamin A.

2. Identify the main roles, deficiency symptoms, and sources for vitamin D.

3. Identify the main roles, deficiency symptoms, and food sources for vitamin E.

4. Identify the main roles, deficiency symptoms, and sources for vitamin K.

5. Define the term *free radical* and explain its role in the development of disease.

a. Describe the role of an antioxidant and identify dietary antioxidants.

b. Discuss the roles of food and supplements as sources of dietary antioxidants.

**Chapter 12 – Water and the Major Minerals**

1. Explain how the body regulates fluid balance.

a. List the uses of water in the body.

b. Describe water balance and the sources of water for the body.

c. Describe the effects of inadequate and excessive intakes of water.

d. Identify the daily Adequate Intake for total water.

e. Explain the hormonal regulation of body water to maintain blood volume and blood pressure.

f. Explain the role of electrolytes in maintaining water and acid-base balance.

g. Describe the role of the kidneys in maintaining homeostasis.

2. Identify the main roles, deficiency symptoms, and food sources for each of the major minerals (sodium, chloride, potassium, calcium, phosphorus, magnesium, and sulfate).

3. Describe factors that contribute to the development of osteoporosis and strategies to prevent it.

a. Discuss osteoporosis, including bone development and disintegration.

b. Identify the risk factors for the development of osteoporosis and the roles of physical activity and calcium and other nutrient intakes.

c. Discuss the selection of a calcium supplement.

d. Research on the internet and see if dairy consumption promotes bone loss or prevents bone loss. Let me know your results.

**Chapter 13 – The Trace Minerals**

1. Identify the main roles, deficiency symptoms, and food sources for each of the trace minerals (iron, zinc, iodine, selenium, copper, manganese, fluoride, chromium, and molybdenum).

a. Discuss factors that affect the absorption of trace minerals from foods.

2. Define *phytochemicals* and explain how they might defend against chronic diseases.

b. List major phytochemicals that might protect the body from cancer and heart disease.

c. Describe functional foods and their role in disease prevention.

d. Identify methods to help the consumer evaluate the safety and effectiveness of functional foods.

**Read, print the materials and visit each website and watch the following videos:**

1. Textbook: Chapter 10 - 13

2. Chapter resources listed in the module

3. Videos: Watch the videos listed in the canvas module

**Class Assignments Due:**

1. Module Discussion
2. Test your Knowledge Assignments in Cengage
3. Notes Assignment: Using Chapter 10-13 of our nutrition textbook, read and work your way through each chapter and record a response to each of the questions listed above. Submit the question and answer under the Notes Assignment.
4. Supplementary Module and Media Exercises
5. Review and submit any upcoming assignments