

Nutritional Concepts and Research

INTRODUCTION

Your first lesson covers the basic concepts of nutrition and the means through which nutritional research is conducted. A foundation for your understanding of nutrition is laid through the introduction of biology, chemistry, and physiology, in addition to the process of digestion. This lesson introduces classifications of nutrients and the different ways of determining the recommended amounts that people may need. You'll learn about nutrient classes, nutritional research, how foods provide energy, and the impact of nutrition on health, as well as the concepts of nutrient requirements and interpreting food labels.

OBJECTIVES

When you complete this lesson, you'll be able to

- Define the term *nutrition*
- Identify the major nutritional classes
- Describe the methods through which nutritional scientists conduct their research
- Explain how foods provide energy
- Discuss the connection between nutrition and health
- Define the term *nutritional status* and describe how it's assessed
- Identify the steps you can take to plan and implement a healthy diet
- Explain the role of chemistry in the study of nutrition
- Describe the role of the digestive system in breaking down and absorbing nutritive elements



ASSIGNMENT 1: THE SCIENCE OF NUTRITION

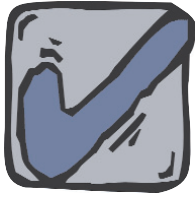
Read the following material. Then study pages 3–30 in your textbook, *Nutritional Sciences*.

You understand that people can't live very long without eating. While many individuals are vaguely aware that the types of foods they eat influence their overall health, most don't understand the extraordinary amount of scientific effort involved in determining the relationship between diet and optimal physical health. Assignment 1 begins by pointing out how scientific research, through controlled experiments, helps health professionals and ordinary consumers comprehend and explain the connection between food and overall health.

Make sure you read the “Everybody Has a Story” profiles that appear in your textbook. They humanize the science of nutrition by demonstrating the impact that the study of nutrition has on the lives of individuals.

One of the most important issues raised in Assignment 1 is the meaning of the word “nutrition.” In the scientific sense, *nutrition* refers to how foods support the various processes involved in maintaining the overall health and vigor of a living organism. Study the other ideas in your reading, too, such as nutrient classes, nutritional research, how foods provide energy, foods and organic nutrients, and how nutrition has been proven to have a significant impact on health.

The main part of your assignment involves understanding the steps involved in conducting nutritional research. Distinguishing between different types of nutritional claims often depends on the sound, practical, and verifiable steps involved in research, as well as the credibility of the researchers.



Self-Check 1

At the end of each section of *Fundamentals of Holistic Nutrition*, you'll be asked to pause and check your understanding of what you've just read by completing a "Self-Check" exercise. Answering these questions will help you review what you've studied so far. Please complete *Self-Check 1* now.

1. Answer Review Questions 1–10 on page 29 of your textbook. Write out the answers in your notebook or on a separate piece of paper.
2. Complete the Practice Calculations on page 30.

Check your answers with those on page A-15 of your textbook.

ASSIGNMENT 2: NUTRITIONAL ASSESSMENT AND DIET PLANNING

Read the following material. Then study pages 33–69 in your textbook, *Nutritional Sciences*.

By now, you've begun to develop a firm understanding of the important relationship between diet and health. Since diet plays such a significant role in physical health, it's vital to understand how the food choices we make contribute to the consumption of nutrients that can positively or negatively affect the body's health. The reading material in Assignment 2 will assist you in determining how to make positive choices.

Several important concepts are covered in your reading material. The first involves nutritional status, the degree to which a daily diet provides adequate amounts of nutrients to sustain the best possible physical function. The discussion of *nutritional status* necessarily introduces the issue of *nutritional adequacy*—whether a person's diet provides foods that can sustain or