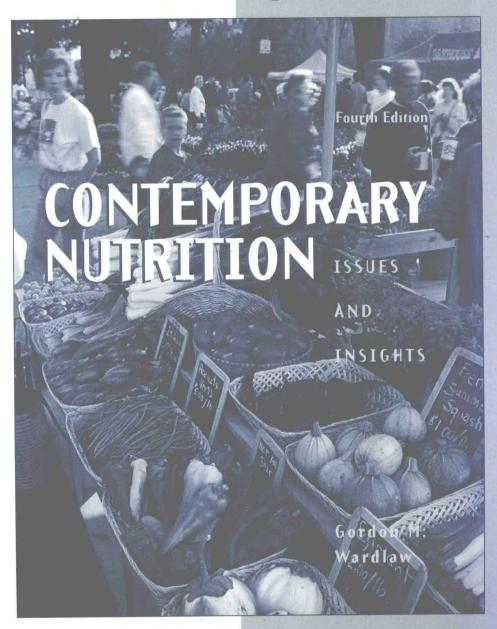
# Student Study Guide

to accompany



Prepared by

Gordon M. Wardlaw

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# Contemporary Nutrition Issues and Insights

**Fourth Edition** 

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Prepared by Gordon M. Wardlaw



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Student Study Guide to accompany CONTEMPORARY NUTRITION

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### **PREFACE**

## **Mastering Nutrition**

I found four important methods for learning course material and making good examination scores when I was a student. I advise you to do all four. This <u>Study Guide</u> to accompany <u>Contemporary Nutrition</u>: <u>Issues and Insights</u> is designed to help you with this task.

- 1. Attend every class period. Attendance is vital because no book or study guide can substitute for a clear explanation of a term or concept by a professor. In addition, although examinations are based on factual material, they also are greatly influenced by the professor's frame of mind. The student needs to both understand important concepts, and also categorize those concepts in terms of the relative importance the professor puts on them.
- 2. Read the textbook. You should spend at least one hour outside of class reading your textbook for every hour in class. Underline important points. Write in the margins. Use the book to help you understand the concepts developed in class. Follow along in the <a href="Study Guide">Study Guide</a> to practice using those concepts. Ideally, read the relevant sections in the textbook and <a href="Study Guide">Study Guide</a> before going to class. You will find that reading is a very helpful exercise.
- 3. Use flash cards. A flash card has a word or concept on one side and a corresponding definition or explanation of the concept on the other side. Using flash cards is a powerful method for learning material because you cannot fool yourself into thinking you know the material. Either you know what's on the other side of that flash card or you do not. Simply reading your notes or looking at the underlined sections of your book is not enough. In my 20 years of teaching I have seen students increase their grades significantly once they started using flash cards. I used this system throughout my undergraduate and graduate coursework. I even convinced many of my friends in graduate school to use this technique.
- **4. Take practice examinations.** I always found it helpful to take as many previous examinations from a class as I could. These helped me get into the rhythm of taking tests in that subject and challenged me to apply the terms and concepts I had learned. The practice setting allowed time to look up questions I could not answer. I strove eventually to score all answers correctly. This <u>Study Guide</u> includes about 30 practice examination questions per chapter. Consider making up more of your own. It is important not simply to memorize an answer but to understand why an answer is correct <u>and why the others are wrong.</u> In that way practice questions will challenge you to apply the concepts you have learned.

# **Using This Study Guide**

This <u>Study Guide</u> has four major sections for each chapter. First, objectives for the chapter are listed to help focus your attention while reading the chapter. Then important word parts are given to help you master the vocabulary. The review and synthesis activities then help reinforce the chapter concepts as you study chapter tables and figures, provide short answers to questions, perform calculations, and analyze aspects of your diet. Finally, examination questions test you over the terms and concepts in the chapter. Since classroom examinations usually cover four chapters, the textbook together with the <u>Study</u> Guide will provide you with about 120 sample test questions for each examination.

In all, I think that this <u>Study Guide</u> has a system that will help you learn the text material and do well on examinations. This guide is <u>not</u> a short cut for learning nutrition or a substitute for reading the textbook or attending class. It does, however, provide a logical means by which to study the material and in turn excel in the class.

Gordon Wardlaw

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# Chapter 1 What You Eat and Why

Begin each new chapter by reading it straight through, while striving to master the following points. Then start your <u>Study Guide</u> activities.

#### I. Points to consider

Chapter 1 is designed to allow you to:

- 1. Define the terms carbohydrate, protein, lipid (fat), alcohol, vitamin, mineral, kilocalorie (kcal), and dietary fiber.
- 2. Outline the basic units used in the metric system and interpret a percentage value.
- List the major characteristics of the American diet and the areas that often need improvement.
- Describe how various factors affect our food habits: hormones and related body substances, early experiences, customs, health concerns, advertising, social class, and economics.
- Understand the basis of the scientific method as it is used in developing hypotheses and theories in the field of nutrition.

### II. Word parts

Complete the following exercise using words in Chapter 1. This will help you master nutrition vocabulary.

Word part	Meaning	Examples
hydr	water	
bi(o)	life	-
anthrop	man	:
metr	measure	**************************************
kilo	1000 times	
centi	100 times	
milli	1/1000	:

III.	Review	and	svn	thes	is
	11011011	uiiu	3711		,

These exercises provide an opportunity for you to practice using the knowledge gained from lectures and the textbook. Use your textbook to check your answers. Page numbers are given for your reference. Some answers also will be listed near the end of each <u>Study Guide</u> chapter. This will be pointed out to you when that is the case.

A. "You have probably heard the terms carbohydrates, proteins, lipids (fats and oils), vitamins, and minerals. These, plus water, make up the six classes of nutrients found in food. Today we know that the minimum diet for human growth, development, and maintenance must contain about 45 essentials nutrients." (7)

List the essential nutrients in the human diet under the correct category and their approximate contribution to body weight.

	ENE	RGY NUTRIENTS				
	Fat	Protein				
Carbohydrate	(lipid)	(amino acids)	Water	Vitamins	Minerals	

Percentage of body Negligible weight amount

Check your answers using Table 1-3 and Figure 1-1.

1.	Briefly describe the chemical composition of the er the rest of the table.	nergy sources in a diet. Then complete
Energy source	Kcals per gram	Percentage of kcals in U.S. diet
Carbohydrate		
Protein		
Fat		
Alcohol		Too variable among individuals
2.	A pina colada drink has about 15 grams of alcohol 1 gram of fat, and 1 gram of protein. How many ko	
	h	
3.	Use the 4-9-4 relationship to determine what portion by the various energy-yielding nutrients. Assume the carbohydrate, 80 g of fat, and 60 g of protein. This kcal. The percentage of your total energy intake determine what portion is the carbohydrate.	that one day you consume 150 g of consumption yields a total of
	carbohydrate	
	fat	
	protein	
	Check your answer on page 12 in this Study Guide	<b>3.</b>

"We get the energy to perform body functions and do work from carbohydrates, fats, and

B.

proteins." (11)

C.		ge no matter what health practices you follow. To a nine how quickly you age throughout your adult following ill-health outcomes. (15)
Diseas	ase condition	Preventive nutrition and health practice
High b	blood pressure	
Liver o	disease	
Anemi	nia	
Birth d	defects	
Nutrie	ent toxicities	
Obesit	ity	
Bone I	loss	
Type 2	2 diabetes	
See T	Table 1-4 to check your answers.	
D.	"Foods generally provide more than one energomes from each of these groups and how do	gy source." On average, what percent of the diet ees this differ from other countries. (11)

E.	After that we consider the cost much about who we are – politi this from your life, while discuss	and ically sing	portant things that influence our actual food choices. convenience of food. What we eat ends up revealing , religiously, and socially." Provide two examples of the most important determinants of the foods you eat. 'our Plate section of Chapter 1.) (19)
F.		edur	that underpins nutrition has developed through the use for testing designed to detect and eliminate error." appropriate definition: (28)
2. E 3. D 4. C	Alypotheses Epidemiology Double-blind study Control group Case-control study  What are two qualifications for	B. C. D.	Bias is reduced because neither subject nor researcher know who is in the treatment or non-treatment groups.  Study of diseases in specific populations. Participants in an experiment who are not given the treatment being tested.  Suggested possible explanation to an observed phenomenon.  Comparison of subjects with a disease to similar subjects who do not have the disease.
See pa	nge 12 in this <u>Study Guide</u> for the	e ans	swers to the matching questions.

# IV. Applying nutrition to your life

"You will use a few mathematical concepts in studying nutrition. Besides performing addition, subtraction, multiplication, and division you need to know how to calculate percentages and convert English units of measure to metric units." The following exercise will allow you to practice math skills for nutrition. (6)

A. Jim typically has little time in the morning to prepare his favorite breakfast of an omelette, bacon, and biscuits. Instead, he usually relies on a few quick handfuls (1 ounce) of dry cereal to satisfy his hunger. Using the Table of Daily Values below (these are the nutrient standards used on food labels) and the cereal label provided, calculate the <u>missing amounts</u> of the specified nutrients he consumes.

Nutrient	Da	aily Value	
vitamin C	60	milligrams	
thiamin	1.5	milligrams	
niacin	20	milligrams	
calcium	1000	milligrams	
iron	. 18	milligrams	

-	Cereal Label		
Nutrients	milligrams in 1 oz. of cereal	% of Daily Value	Nutrient gap
vitamin C	15 milligrams		
thiamin		25%	75%
niacin	5 milligrams		
calcium	60 milligrams		
iron		25%	75%

B. Now p	ractice a few metric and	English conversions to fine-tune your nutrition math skills:
1 meter	=	inches
1 inch	=	centimeters
1 ounce	=	grams
1 kilogram	=	pounds
1 teaspoon	=	milliliters
1 cup	=	milliliters
1 cup	=	tablespoons
1 quart	=	cups
1 tablespoon	=	teaspoons
1.	A 6'2" man weighs 185	5 pounds. Change to centimeters and kilograms.
2.	If you eat a chicken bro	east that is 4½ ounces, how many grams did you eat?
3.	If you drank 360 millilit	ers of milk, how many cups did you drink?
4.	A tablespoon of puree	d infant food equals how many teaspoons?
5.	How many quarts of m	nilk did you drink in question 3?
Check	your answers on page '	12 of this Study Guide.

# V. Chapter 1 summary

alcohol

appetite

blood

This exercise will pull together the major concepts from the chapter. Fill in the blanks using the words or phrases listed below.

fluid

food

reproduction

satiety

skeptical

brain balance calcium carbohydrates certain B vitamins combine culture education energy experiments	function growth hunger hypothalamus internal image moderation nutrients (2X) physical activity proteins	sleep texture stress varied variety vitamin C vitamins water zinc 4
Nutrition is the stud	y of the vital for health an	d how the body uses these to promote and
support, mainten	ance, and of cells. The n	utrients in foods fall into six classes:;
lipids (fat and oils),	, vitamins, minerals, and	The first three, along with alcohol,
provide for the bo	ody to use.	
A basic plan for hea	alth promotion and disease preventi	on should include regular, a
diet, adequate _	, and, limiting	intake, and limiting or coping
with		
The body transform	s the energy in carbohydrate, prote	in, and fat into other forms of energy to
allow the body to	Fat provides about kcal p	er gram while protein and carbohydrate
provide about kcal p	er gram, minerals, ar	nd water do not supply any energy to the
body, but are essential for p	roper body function.	
Results from large r	nutrition surveys in the United State	s suggest that some of us need to
concentrate on consuming f	oods that supply more vitamin A, _	,, iron,,
, and dietary fib	er.	

Groups of cells in the and other regions in the affect hunger, the primarily
desire to find and eat food. These cells monitor and other substances in the and read these
amounts as a signal to control A variety of external (related) forces affect satiety
cues with appetite cues, such as easy availability of, to promote feeding. In America
the major determinants of food intake are probably appetite-driven forces because food is so readily available.
Our food choices are greatly affected by flavor and,, our upbringing, our
, and the we want to present to others.
Any recommendation in dietary habits should be evaluated by using that can either
support or refute the recommendation. The health of nutrition science is fostered by a mind that
does not accept a hypothesis as "fact" until manifest proof is available. Overall,,
and should be the watchwords on which to focus in nutrition.

Check your answers using the summary for Chapter 1 in your textbook and page 12 of this <u>Study Guide</u> for the final five answers.

## VI. Practice examination

Use this examination to test your knowledge, but only after finishing the chapter exercises. Otherwise, you are likely to have wrong answers come to mind in the future. Circle or use a line to connect to the best answer. Make sure to cover the answers on your initial attempt. The page of the textbook in which the answer appears is in parenthesis for your reference.

Match the chronic disease to the possible cause: (4)

E A D B	<ol> <li>stroke</li> <li>High</li> <li>Type</li> </ol>	disease e blood pressure 2 diabetes osis of the liver	B. C. D.	excess sodium intake long-standing excess alcohol intake poor blood flow in the heart poor insulin function typically caused by obesity disrupting blood flow in the brain
<u></u>	6.	Carbohydrates, lipids, and proteins all c nitrogen? (9)	ain carbon, hydrogen, and oxygen. Which one also contains	
		A. carbohydrates. B. lipids.		C. proteins. D. none of the above.
C 7. A function of carbohydrates in the diet is to: (8)				(8)
		A. absorb and transport vitamins.     B. promote growth and repair of tissues.	S.	C. supply energy. D. allow for enzyme action.
_ <u>C</u> _	8.	Good sources of carbohydrate are: (8)		
		<ul><li>A. fats, oils, butter, and margarine.</li><li>B. fish, eggs, beef, pork, and poultry.</li><li>C. cereals and grains.</li><li>D. seafood.</li></ul>		
_A_	9.	Functions of lipids in the diet are to: (9)		
		<ul><li>A. provide fats essential for body functi</li><li>B. transport water-soluble vitamins.</li><li>C. promote growth and repair of tissue.</li><li>D. maintain fluid balance.</li></ul>		
_A_	10.	diet by: (9)		
		<ul> <li>A. fats and oils.</li> <li>B. cereals, fruits, vegetables, and bread</li> <li>C. deep green and orange vegetables.</li> <li>D. green pepper, broccoli, cantaloupe,</li> </ul>		citrus fruits.
<u>B</u>	11.	A function of protein is to: (9)		
		A. provide essential fatty acids.     B. promote growth and repair of the box	dy.	C. make sex hormones. D. prevent cell damage.
_D_	12.	Good sources of protein in the diet are:	(9)	
		<ul> <li>A. fats, oils, butter, and margarine.</li> <li>B. green pepper, cantaloupe, citrus frui</li> <li>C. deep green and orange vegetables,</li> <li>D. meats, fish, legumes, nuts, milk prod</li> </ul>	and	citrus fruits.
_B_	13.	Essential nutrients: (6)		
		<ul><li>A. are made by the body.</li><li>B. generally must be supplied by food.</li><li>C. include alcohol.</li><li>D. are enzymes.</li></ul>		

<u>B</u>	14.	A kilocalorie (kcal) is a: (11)				
		<ul> <li>A. measure of fat weight.</li> <li>B. unit for expressing energy content in food.</li> <li>C. scientific instrument.</li> <li>D. term used to describe the amount of sugar an</li> </ul>	d fa	t in a food.		
D	15	Food likes and dislikes are affected by our sense not fit? (19)	s. I	n describing sensory responses to food, which term doe		
		A. flavor B. smell		sight nutritional value		
_A_	16.	The building blocks of proteins are: (9)				
		A. amino acids. B. fatty acids.		glucose units. coenzymes.		
<u> </u>	17.	The most concentrated source of calories of the f	ollo	wing is: (11)		
		A. starch. B. protein.		alcohol. sugar.		
<u>B</u>	18.	The average American diet may be lacking in all	of th	ne following except: (13)		
		A. certain B vitamins.     B. energy (calories).		iron. vitamin A.		
_C _ 19. Which of the following is the correct number of essential nutries				tial nutrients for humans? (7)		
		A. 5 - 10. B. 15 - 20.		40 - 50. 70 - 80.		
D	20.	To promote a nutritious diet, one should keep in mind: (23)				
		A. variety. B. moderation.		balance. all of the above.		
B 21. A slice of bread with 1 gram of fat, 10 grams of carbohydrate, and 2 grams of protein conta				hydrate, and 2 grams of protein contains about: (12)		
		A. 42 kcal. B. 57 kcal.		82 kcal. 102 kcal.		
D	22.	Nutrients that supply energy are: (11)				
		A. fats and vitamins.     B. minerals and water.		minerals and vitamins. fats and carbohydrates.		
_A_	23.	African-Americans often need to pay special attermuch greater chance of developing: (13)	ntior	n to the amount of salt in their diet because they have a		
		A. cancer. B. high blood pressure.		heart disease. diabetes.		
_A_	24.	The largest influence on food choice in the U.S. is	s: (1	9)		
		A. flavor and texture.     B. economics.		convenience. health.		
<u>D</u>	25.	The goals of Healthy People 2000 are: (14)				
		<ul> <li>A. stress and disease management.</li> <li>B. career and health training.</li> <li>C. disease prevention and positive self-outlook.</li> <li>D. health promotion and disease prevention.</li> </ul>				