

Before viewing the online Lectures, take a look at the **MYSTERY QUESTION** on page 22 of your packet.

LECTURE OUTLINE Chapter 1: Food Choices and Human Health

I The Science of Nutrition

- A. Definition of "Nutrient" for EXAMS- a chemical substance in food that is required by the body to provide energy, give the body structure and/or help it work.

Which of the following is a nutrient- carrots, vitamin A or both _____

The 6 categories of nutrients for humans:

Which of these do you think should be first?

List those of the six categories of nutrients that have energy that humans can use

- B. **MACRONUTRIENTS** (not defined this way in our text): Be certain to know ALL of these.)

1. carbohydrates (sugar, starch, fiber)
2. fat
3. protein
4. water

Which of these macronutrients can be broken apart to yield energy for the human body?

- C. **MICRONUTRIENTS**: vitamins; minerals

1. Vitamins. Examples:
2. Minerals. Examples

Which of these micronutrients can be broken apart to yield energy for the human body?

- D. Is a potato a carbohydrate? _____ Why or why not?

Why is it NOT appropriate to call a potato a carbohydrate?

- E. What is the definition of a nutrient?

- F. Definition of an **organic** nutrient-

A nutrient containing carbon to carbon bonds which can be broken apart (also called burned) to release energy. (A bond is a link between two elements.)

An *element* is a substance that can't be separated into smaller parts. Examples of elements include carbon, hydrogen, iron and calcium.)

According to this definition, is CO₂ an organic substance? _____ Why or why not? _____

Which of the 6 categories of nutrients are organic?

The vitamins in our food ARE organic and contain energy. Why can't our bodies release this energy that is in vitamins?

- G. Definition of an **in**organic nutrient- A nutrient without a carbon to carbon bond and it cannot be broken apart to release energy.

Which of the 6 categories of nutrients are inorganic? _____

Why is vitamin A considered organic while iron is considered inorganic?

Your Turkey Cheese Frank fell into the barbecue and is now nothing but ash. Which of the six categories of nutrients is this ash composed of? _____

What did the carbohydrates, proteins, fats & vitamins become?

1. _____ 2. _____ 3. _____

- H. Definition of a Calorie (kcal)- a measure of how much energy (or potential heat) in a food

1 gram carbohydrate OR protein has __ Calories (kcal) 1 gram fat has __ Calories (kcal)

(a gram is about the weight of a _____)

(FOOD RECORD due this week (p. _____ in packet)

II Placebo Effect

(Definition of placebo- NOT a real treatment but it might induce body's natural healing process.) Consider the following: 500 women were divided into 2 groups. One group took 1200 mg of calcium a day and the other took a placebo. After 3 menstrual cycles, the calcium group reported a nearly 50 percent drop in 4 major PMS symptoms: mood swings, pain, water retention and food cravings. The placebo group saw a 30% decrease (*Newsweek*, Special Issue)

Why is this an example of the placebo effect? _____

What can we learn from the placebo effect? _____

from "Tapping the Power of the Placebo", Howard Brody, MD, PhD, *Newsweek*, August 14, 2000,

The mind can heal the body when bolstered by _____ and _____

We can stimulate immune system & endorphins when we get one of 4 messages

1. someone is _____ to me
2. other people _____ about me
3. my symptoms are _____
4. my symptoms are _____

What is the definition of a "quack remedy"?

What is the difference between a quack remedy and the placebo effect?

(Have your textbook in front of you during lecture the second week of the term.)

III Identifying Valid Nutrition Info in the News: Scientific Research

Why do we want to know how to identify valid nutrition info in the news?

A. Has Characteristics of GOOD Scientific Research.

1. Researcher (who might not be the author) has good credentials Usually done by someone with a doctorate (PhD) or a master's (MS) in nutrition or another related field or an MD who has advanced training in nutrition. You can usually identify PhDs or MDs with nutrition training by their place of work (a major university with a strong nutrition program or a government agency for nutrition or health).

It's important to ask- Who paid for the research?

2. When possible, double blind with a placebo and a reasonable number of subjects were used for a long period.
Definition of placebo- NOT a real treatment but it might induce body's natural healing process.

Double blind: neither the receiver of the treatment or the _____ of the treatment know what the person is getting.

Reasonable number: _____

3. Study results reported so others can replicate (duplicate) and reported in respected, refereed (articles evaluated by persons with nutrition credentials) scientific journals.

Where in a publication can you find credentials for "referees"?

A journal usually is a *primary* source of information, while a magazine is a *secondary* source).

What does this mean? _____

4. Broad generalizations NOT made
5. If research on animals, findings not applied directly to humans
6. If research done on specific segments of population or people living in a clinical setting, it's not applied to ALL people.

A 1990 study published by an MD in *The New England Journal of Medicine* found that after 6 months of thrice-weekly injections of human growth hormone (HGH), compared with untreated controls,

participants had a significant 1. *increase in lean body mass* 2. *increase in bone density* and 3. *a decrease in body fat*. After the release of this study, sales of HGH skyrocketed.

What questions would you ask about this study?

| 5 QUESTIONS | BRIEF ANSWERS from the article |
|-------------|--------------------------------|
| | |
| | |
| | |
| | |
| | |

You can find this article (titled “Human Growth Hormone article”) in the Week 1 section of our Moodle class.

B. If research studies are discussed, they're usually one of the several types of Scientific Research Studies:

1. Case Study- studying ONE INDIVIDUAL.
What is the difference between a case study and a testimonial?
2. Observational Study- simply monitoring and/or collecting information. No treatment given so NO PLACEBO. COLLECTING INFO
3. Epidemiological Study (a type of Observational Study)- examines a particular large (maybe hundreds or thousands) population to determine what people's health patterns or risk factors have been OR are over time and then this is linked with incidence of disease or other health problems. These people were/are NOT given a treatment. (often ____spective).
4. Laboratory Study- study done under tightly controlled conditions. Since it's difficult to tightly control conditions for humans, these studies are usually done on _____ or in _____.
5. Intervention Study- (often called "clinical trials") people ARE given a treatment and the results are observed (____spective). Definition of treatment:

| | Epidemiological Study | Intervention Study | Observational Study |
|---------------|--|--|-----------------------------------|
| SIZE of group | _____ group | can be large group but not always | can be large group but not always |
| TREATMENT? | _____ relate results to _____ usually collect info over _____ / | a treatment (pill, advice, therapy) often with a control group who might be given a placebo | _____ |

What kinds of scientific research studies or results are each of these?

1. _____ . For 3 weeks, 11 healthy men and women were given oils from the equivalent of 4-8 cups of coffee. Their LDL (the "bad" lipoprotein with cholesterol) levels rose 12 percent and triglycerides rose 58 percent. (*J. Internal Med.* 237:543, 1995.

What does this study suggest? _____

2. _____ . A group of Thai women and a group of Swedish women ate a simple Thai dish of rice and vegetables spiced with chili paste, fish sauce, and coconut cream. The Thai women, who enjoyed the meal, absorbed significantly more iron from the food than a group of Swedish women, who considered the meal "very spicy," according to the investigators. (*Tufts University Health & Nutrition Letter*, October, 2000)

What does this study suggest? _____

3. _____ . 64 pregnant women completed 3-day diet records each month during their pregnancy. Intakes of iron and magnesium were suboptimal. (*Journal of the American Dietetic Association*, April, 2003)

What does this study suggest? _____

4. _____ Researchers tracked for 3 years the eating habits of a group of 459 healthy, largely middle-age people in Baltimore. Some preferred foods made with refined grains like white bread; others favored whole grains, fruits and vegetables. At the end, the white bread group had three times the fiber group's gain at the gut. (*The Register-Guard*, June 20, 2004. By Ira Dreyfus. *The Associated Press.*)

What does this study suggest? _____

IV Identifying Nutrition Info that is unreliable (not valid) & that should make you suspicious p. 23 in book)

"Earmarks" (markers) of unreliable nutrition info:

| | |
|--|--|
| <ol style="list-style-type: none"> 1. Too good to be true 2. Suspicious about food supply 3. Only Testimonials 4. Fake credentials 5. Unpublished studies 6. Persecution claims 7. Authority not cited (Nutrition training not defined) | <ol style="list-style-type: none"> 8. Motive: Personal gain 9. Advertisement 10. Unreliable publication (Unrefereed) OR unreliable Internet site 11. Half truths (logic without proof; in other words part is true & part is false, not known or misleading) |
|--|--|

EXAMPLE from http://www.wp.com/queen_bee (This site no longer exists)

What is Royal Jelly? According to this site, "Royal jelly is the exclusive food of the queen bee. The diet of royal jelly transforms a worker bee into a queen bee. For centuries royal jelly has been used for its extraordinary benefits to strengthen the defense system. "

Rochelle Harris, Nutritionist says "I have been a natural food enthusiast for more than 30 years during which time I have used royal jelly for energy, stamina, and strength. The Queen Bee royal jelly has made such a dramatic difference that I now recommend it to all my clients."
Why is the information about Royal Jelly an example of a half truth?

In other words, what half is true?

and what half is false, unproven or misleading?

Royal Jelly info: Give at least 3 reasons why it is unreliable nutrition information. (Use "Earmarks" previously listed.)

V 4 Guidelines for Evaluating Nutrition Info on the Web

(from the LCC library)

1. **AUTHORITY.** To help determine, look for _____ credentials.

What does "recognized" mean? An outside organizations with rigorous standards (especially for curriculum) recognize that credential is reliable.

Is this a recognized credential? NTP (Nutritional Therapy Practitioner) _____

Given by Nutritional Therapy Association

<http://www.nutritionaltherapy.com/>

Cost of tuition: _____

Cost of materials: _____

Hours of Instruction: _____

Credentials of Instructors: _____

Who evaluates their curriculum? _____

Any other info you found out: _____

2. **OBJECTIVITY.** Does there appear to be bias? Sometimes a web address that ends in .org is very biased, but not always.
3. **ACCURACY.** Are there misspelling? Does it appear to be hastily developed?
4. **CURRENCY.** When was the site created?

ORIENTATION QUIZ
(STUDY QUESTIONS for Chapter 1 will follow this.)



MAIL: Above is a screen shot of my moodle account. I have mail from a test student, "Joe Test". To see the mail, I would click on the icon of the envelope.

One way to send me a message is to click where it says "**Participants**", find my name and then click on it. Then you will have the option to send me a message.

EDITING PROFILE: Notice that beside Joe Test's name in the screen shot to the left is a photograph. If you haven't already done this for another class, you can upload one for yourself by clicking on "**Profile**" under the Administration block shown in the screen shot to the left. Then there will be an option to "**Edit Profile**".

NOTES FOR ORIENTATION QUIZ:
BEFORE you begin the Orientation Quiz, WRITE the answers to each of the following questions for the Orientation Quiz and all the quizzes to follow.

You can take this Orientation Quiz two times and your final score will be the highest of the 2 scores. **Chapter 1 Study Questions** can be submitted **only once**.

After the Orientation Quiz, future Quiz results (*with access to the correct answers*) will NOT be posted until the availability period has ended (and after the instructor has completed grading them). That way the correct answers won't be available until after everyone has taken it.

1. Do you have the correct packet?
 - A. Yes. I have the packet for this term with the instructor's name (Powell) on the cover.
 - B. Oops. I bought the wrong packet but I'll get the correct one right away.
 - C. No. I have not yet bought the packet, but when I do I'll be sure to buy the one with name Powell on the cover.

2. According to the information beside the screen shot just above, should you write down answers to these questions before going online to take this Orientation Quiz (as well as all future Study Questions, which are in the packet)?
 - A. Yes. The top of the document says to write down answers to these questions before going online.
 - B. No. The top of the document says you do not need to write down answers to these questions before going online.

3. According to the information beside the screen shot just above, how many times can you take this Orientation Quiz?
 - A. one time
 - B. two times
 - C. three times
 - D. unlimited times
4. According to the information beside the screen shot you've been looking at, how many times can you submit the Chapter 1 Study Questions?
 - A. one time
 - B. two times
 - C. three times
 - D. unlimited times
5. According to the information under the screen shot you've been looking at, where is the envelope icon saying you have mail?
 - A. It is below the word "People".
 - B. It is below the word "Mail".
 - C. It is below the word "Administration".
 - D. It is below the word "Messages".
6. According to the information below the screen shot you've been looking at, what do you click on to see that mail?
 - A. You click on the envelope icon.
 - B. You click on the number 1.
 - C. You click on the word "People".
 - D. The information beside the screen shot says that any of the above would work.
 - E. The information beside the screen shot says that none of the above would work.
7. According to the information below the screen shot you've been looking at, it says "One way to send me a message is to click where it says "Participants", find my name and then click in _____".
 - A. my name
 - B. the word "Messages"
 - C. the word "Mail"
8. According to the information beside the screen shot you've been looking at, when will future Study Question results (with access to the correct answers) be posted?
 - A. first thing Monday morning
 - B. after the availability period has ended
 - C. first thing Tuesday morning
9. According to the Note near the beginning of the Syllabus, what happens if you do NOT complete the Orientation Quiz by midnight Sunday of Week 1)?
 - A. You may be administratively dropped from the class.
 - B. You receive a deduction of 25% of the total possible points.
 - C. You receive a deduction of 50% of the total possible points.
10. According to the information on the first page of the Syllabus, which is the best way to reach me?
 - A. by leaving a Voice Mail message on my LCC telephone
 - B. using my LCC email address
 - C. using the mail system in our Moodle "class"

11. According to the syllabus, under FORMAT, what is the best way to get a question answered about the content of the class?
- A. Send me an e-mail
 - B. Post the questions in the forums
12. According to the "Late Homework" section of the Syllabus, with a deduction of points, until when can Study Questions be submitted late online?
- a. Monday at midnight (11:55 pm)
 - b. Tuesday at midnight (11:55 pm)
 - c. Wednesday at midnight (11:55 pm)
13. According to the "Late Homework" section of the Syllabus, if Study Questions are no longer available online, what should a student do?
- a. Paste them into a Moodle mail message to the instructor.
 - b. Send them as an attachment in Moodle mail.
 - c. Send the instructor a message and she will re-open them for you.
14. According to the "QUIZZES, STUDY QUESTIONS & EXAMS" listing at the end of the Syllabus, during what week is Exam 2?
- a. Week 4 (DUE **Thursday**)
 - b. Week 5 (DUE **Thursday**)
 - c. Week 6 (DUE **Thursday**)
15. According to the "ASSIGNMENTS, QUIZZES & EXAMS" listing at the end of the Syllabus, when are the Study Questions for Week 1 due?
- a. Sunday of week 1 at midnight (11:55 pm)
 - b. Monday of week 2 at midnight (11:55 pm)
 - c. Tuesday of week 2 at midnight (11:55 pm)
16. There are "availability dates" on Moodle for all of the Study Questions, Surveys and Exams. Sometimes I unintentionally make mistakes when I set those dates. If you notice a mistake (like if I set it to open on February 1, 2005 instead of the current year), please let me know as soon as you notice it so I can correct it. Also please let me know of any typos of mine you catch so I can correct them.
- a. I understand this.
 - b. I don't understand this, but I will send the instructor a message.
17. Most of the Study Questions are set to be scored by the computer. If you are marked as incorrect for a question because of a typo or an understandable misspelling (like you spelled it cholestrol when it's cholesterol), please let me know and I can adjust your score.
- a. I understand this.
 - b. I don't understand this, but I will send the instructor a message.

Go to next page.

STUDY QUESTIONS, Chapter 1

Food Choices & Human Health & Controversy 1: Who Speaks on Nutrition

NOTE: These study questions are designed to help prepare you for exams. Read the chapters for understanding and not just to look up these answers. Once you go online, you will not have time to look up the answers, so be certain you prepare the answers first.

1. According to the instructions on page 15 of your packet (before the Orientation Quiz questions), how many times can you submit these Study Questions in our Moodle class?
2. According to the instructions on page 15 of your packet, when will these scores be available (as well as correct answers and comments)?
 - a. Immediately
 - b. When the availability period has ended.
3. According to the Calendar on the cover of the packet for this class, when are these Study Questions for **Chapter 1** due to be submitted ONLINE?
 - a. Friday of Week 1 just before midnight.
 - b. Saturday of Week 1 just before midnight.
 - c. Sunday of Week 1 just before midnight.
4. According to **Lecture 1A**: Chapter 1, list one of the macronutrients.
5. According to **Lecture 1A**: Chapter 1, one of the micronutrients is minerals. Which is the other category of micronutrient?
6. According to **Lecture 1A**: Chapter 1, is CO₂ an organic substance?
7. According to **Lecture 1A**: Chapter 1, is a potato a carbohydrate?
8. **Lecture 1A**: Chapter 1 says "We can stimulate the immune system & endorphins when we get one of 4 messages. The first message listed is that "someone is _____ to me".
9. The second message listed in **Lecture 1A**: Chapter 1 is that "other people _____ about me".
10. The third message listed in **Lecture 1A**: Chapter 1 is that "my symptoms are _____".
11. The fourth message listed in **Lecture 1A**: Chapter 1 is that "my symptoms are _____".
12. Read in Chapter 1 the introductory paragraphs and the section at the beginning with the heading "**A Lifetime of Nourishment**" (about 3 pages). What 2 common lifestyle habits are more influential than diet on your long-term health prospects?
 - a. a stressful life
 - b. smoking and other tobacco use
 - c. choosing to live in a polluted city
 - d. excessive drinking of alcohol
 - e. drinking any alcohol at all

For the next few questions, read the section with the heading “**The Human Body and its Food**” (about 3 pages).

13. According to this section, which of the six classes of nutrients serve(s) double duty (provides energy as well as building materials and working parts of body tissues). _____
14. Also according to this section, calories are units of _____.
15. Also according to this section, grams are units of _____.

(With any of the multiple-choice questions, more than one answer can be correct and to receive full credit, you should SELECT ALL THAT APPLY.)

16. According to this section, this book uses the commonplace practice of using the lowercase calorie to mean the same thing as:
- kilocalorie
 - kcalorie
 - Calorie (capital "C")
17. Read in this section the subheading called "Can I Live on Just Supplements?". Of the points this section makes, which is most convincing to you regarding why real food supplies something to health that formula drinks (like Ensure or Slim Fast) don't provide?

For the next few questions, read “**The Challenge of Choosing Foods**” (about 5 pages).

18. Read the TABLE in this section called “Glossary of Food Types”. Which term is the following definition a part of- “foods, nutrients, or dietary supplements PROVEN to have medicinal effects”?
- Functional foods
 - Nutraceuticals
 - Neither of the above
19. OPINION QUESTION: Which of the characteristics of a nutritious diet mentioned in this section do you think is most important?
- Adequacy
 - Balance
 - Calorie control (I prefer to use the terms "portion control".)
 - Moderation
 - Variety

For the next few questions, read “**The Science of Nutrition**” (about 5 pages).

20. It contains near the beginning what I think is an interesting sentence. “In truth, though, it is a scientist’s business not to _____.”
21. The "Scientific Challenge" part of this section also says that "Only when a finding has stood up to rigorous, _____ testing in several kinds of experiments performed by several different researchers is it finally considered to be confirmed".

22. Of the research studies mentioned on page 12 of your packet, which one is NOT mentioned in this "Scientific Challenge" section of the text.
- Case study
 - Observational study
 - Epidemiological study
 - Laboratory study
 - Intervention study

For the following questions, read the *Controversy* at the end of chapter 1 called "Sorting the Imposters from the Real Nutrition Experts". A "*Controversy*" is always at the end of a chapter.

(Remember that with any of the multiple-choice questions, if more than one answer is correct, **SELECT ALL THAT APPLY.**)

23. On the TABLE called "Misinformation Terms" in this *Controversy* 1, how does the text define "urban legend"?
- a story that is always false
 - a story that is usually false
 - a story that is usually true
 - a story that may travel rapidly through the world via the Internet
24. (Fill in the blank) This section says an RD is usually a more reliable source of nutrition information than an MD. It says that only about _____ of all medical schools in the United States require students to take even one [comprehensive] nutrition course.
25. Chuck Chaplin works in the health food section of a Eugene store and his name tag says he is a nutritionist. What training and education can you be sure he has? (Keep in mind that Oregon is NOT a state with the legislation the book mentions.) _____
26. According to this *Controversy*, who is Ms Sassafra Herbert?
- a young woman with advanced training in nutrition
 - a young woman who is a professional member of a nutrition association
 - a poodle
 - a Siamese cat
27. Most of the Nutrition FN 225 instructors at LCC are RDs. What does RD stand for? _____
28. What are the 4 parts of the education and training an RD credential means an RD has, according to *Controversy* 1? (See the TABLE called "Terms Associated with Nutrition Advice"). When it talks about a "program of dietetics", they're talking about a 4-year undergraduate degree. Also, earning an approved license is NOT required in Oregon.

GO TO NEXT PAGE.

A few years ago, a company called Rose Creek Health Products took out several large ads in USA Today for a product it called Vitamin O. It said that's O for oxygen. Four ounces of Vitamin O cost \$40, plus shipping. The ad says that in a liquid form, Vitamin O delivers extra oxygen to the body, promotes sound sleep and stops infections. In the ad, an 84-year-old woman says she was really in poor shape before, but now, when she's taking 40 drops of Vitamin O in a glass of water, she says she feels completely renewed in body and mind and also uplifted in her spirit. The product is made by putting an electric current in salt water.

29. This Rose Creek Health Products information is an example of a "half truth"? The half that is true is: (select just ONE)
- There is proof that this product made her body healthier.
 - Vitamin O is on the list of vitamins at the beginning of Ch. 7 of our text.
 - You feel better when you take in oxygen.
 - Humans have gills like fish so we are very good at extracting oxygen from water.

Notice what it says about the **MYSTERY QUESTION** at the end of these Study Questions.

30. According to the Video Clip in **Lecture 1B** called "What Kind of Study Is This?", what kind of scientific research study is the coffee study that is mentioned in the Lecture Outline?

31. According to the Video Clip in **Lecture 1B** called "What Kind of Study Is This?", what kind of scientific research study is the Baltimore white bread study? _____

Review your lecture notes (**Lecture 1B**) about research studies (chapter 1 lecture outline in packet). Also read pages 11-14 in the text. Then answer the questions about each of the studies that follow:

32. 690 adults were divided into 2 groups. One group received no advice and the other got advice and encouragement to increase fruit and vegetable intake. This study found that increasing fruit and vegetable intake raised plasma antioxidant concentration and lowered blood pressure. (*Lancet*, 6-8-02, Effects of Fruit & Vegetable Consumption on Plasma Antioxidant Concentration & Blood Pressure".

According to the information in the Lecture Outline for chapter 1, what kind of study is this "fruit and vegetable intake /antioxidant"? _____

33. In human cells taken from tumors, polyunsaturated fats slowed tumor growth (in test tubes). (*Nutrition Reviews*, April, 1995) According to the information in the Lecture Outline for chapter 1, what kind of study is this "polyunsaturated fats/human cell" study?

34. A study looked at a 25-year-old soccer player with deterioration of kidney function whose symptoms disappeared when he voluntarily stopped taking the creatine supplement he'd been taking for 7 weeks. According to the information in the Lecture Outline for chapter 1, what kind of study is this "soccer player" study? _____

35. The end of **Lecture 1B**: Chapter 1 lists 4 Guidelines for Evaluating Nutrition Info on the Web. The first one, "Authority", says that in order to help determine the authority of a website, one should look for _____ credentials.

36. According to **Lecture 1B**: Chapter 1, what is the total tuition cost of the fall, winter and spring nutritional therapist program offered by the Nutritional Therapy Association?

37. According to **Lecture 1B**: Chapter 1, what outside organization evaluates the curriculum offered by the Nutritional Therapy Association? _____
38. According to **Lecture 1B**: Chapter 1, is NTP (Nutritional Therapy Practitioner) a recognized credential? _____
39. Continuing with that part **Lecture 1B**: Chapter 1, read what it says about OBJECTIVITY. It says that sometimes a web address that ends in .org is very _____, but not always.
40. You were asked to keep a record of the food you ate during one day.
What is the day of the week and date that you kept track. _____
List the *foods* you had, the *amounts* of each food and the approximate *time* of each meal or snack. (Your packet has a form you can use on page 3.)
41. **MYSTERY QUESTION or QUESTIONS**. For this one, have your Chapter 1 LECTURE OUTLINE in front of you. You will be asked 1 or more questions about something from one of the blanks in this LECTURE OUTLINE or one of the questions that are asked in this LECTURE OUTLINE and were answered in **Lecture 1A** or **1B**. An example might be the question on page 11 of your Lecture Outline for Chapter 1- “A double blind study means that neither the receiver of the treatment or the _____ of the treatment know what the person is getting. What goes in that blank?”
Another example of a MYSTERY QUESTION might be “What does it mean when it says that a journal usually is a *primary* source of information?” (also page 11 of packet)