



Independent Study | in Idaho

FCS 205 Concepts in Human Nutrition

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Course Guide

Independent
Study | in Idaho

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FCS 205 Concepts in Human Nutrition

University of Idaho
3 Semester-Hour Credits

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Welcome!

Whether you are a new or returning student, welcome to the Independent Study in Idaho (ISI) program. Before beginning this course, read the information provided below, including course description, prerequisites, required materials, course objectives, and information about lessons, exams, and grading.

Policies and Procedures

Important!

As you read this section, you will see the following icon:



Use this icon to direct yourself to essential ISI information. Students are responsible for following ISI's policies. Refer to ISI's website at www.uidaho.edu/isi, select *About ISI, Policies* for the most current policies and procedures. If you have any questions or concerns, please contact the ISI office for clarification before beginning your course.

Course Description

Nutrition principles with their application to nutrition in life cycle; nutrition problems and controversies such as weight control and nutrition for athletes; individual computerized study of student's dietary intake. There are no prerequisites for this course, but the student will be expected to apply a basic understanding of anatomy and nutrition science principles.

Required: Internet access is required for access to diet analysis websites.

*Recommended: Computer with a CD-ROM disk drive for the Diet Analysis Plus [CD-ROM]
8 graded lessons, 3 proctored exams*

Course Materials

Required Course Materials

- Whitney, Eleanor Noss and Sharon Rady Rolfes. *Understanding Nutrition*. 12th ed. Belmont: Thomson Wadsworth, 2011. ISBN-10: 978-0-538-73465-3 ISBN-13: 0-538-73465-5

Recommended Course Materials

- CD: *Diet Analysis Plus* [CD-ROM], Thomson Wadsworth, 2008. ISBN-10: 0-495-55715-3 ISBN-13: 978-0-4955-57159

NOTE: websites are available to complete the diet analysis if you choose not to purchase this diet analysis software.

Independent Study in Idaho course materials are available for purchase at the VandalStore (University of Idaho bookstore). Your *Registration Confirmation Email* contains the VandalStore's contact information.

Independent Study in Idaho courses are updated and revised periodically. Ordering course materials from the VandalStore at the time of registration allows you to purchase the correct edition(s) of textbooks, course guides, and supplemental materials. Contact the VandalStore directly for questions regarding course materials that you have ordered.

If purchasing textbooks from another source, refer to the ISBN(s) for the textbook(s) listed for this course to ensure that you obtain the correct edition(s).

Course Delivery

This course is available online. An electronic course guide is accessible through BbLearn at no additional cost. Refer to your *Registration Confirmation Email* for instructions on how to access BbLearn.

Course Introduction

Nutrition is a part of every stage of the life cycle. Today there is a growing interest in the subject of nutrition and health. An introductory course on the subject offers a basic understanding of how it applies to one's overall health.

This course will cover the science of nutrition, which may present a challenge. You will be responsible for learning about the metabolic structure of foods and the processes upon which the body uses them. The student will be expected to learn nutrition related terms, and to understand the importance of nutrition for growth and development throughout the life cycle.

The goal of this course is to offer similar content to the on-campus FCS 205 course. The campus course was used as a guide for the course content. In addition, the course was designed to maintain University of Idaho standards for the number of hours students commit to a course. The University of Idaho standards are: 15 contact hours and 30 non-contact hours per credit (such as study time). Since the ISI course does not have contact hours and it is a three-credit course, the potential time commitment for the course is 135 hours, which would include reading the text, completing the lessons, and studying for and completing the exams.

American Dietetic Association (ADA)

This course will address the knowledge and competencies for entry-level dietitian education programs.

Students will gain knowledge of:

1. Physical and biological sciences: nutrient metabolism and fluid and electrolyte requirements
2. Research: research methodologies and scientific method
3. Food: role of food in promotion of a healthy lifestyle
4. Nutrition: assessment and treatment of nutritional health risks

Course Objectives

- Evaluate sources of nutrition information
- Learn about important nutrients and their functions and deficiencies
- Demonstrate an understanding of digestion and absorption
- Demonstrate an understanding of metabolism and energy balance
- Gain knowledge of the influence of nutrition during physical activity and across the life cycle
- Develop an understanding of the influence of nutrition around the globe
- Develop a positive attitude toward nutrition and health for a lifetime

Lessons

Each lesson includes the following components:

- Lesson objectives
- Reading assignment
- Important terms
- Lecture
- Written assignment

This course consists of eight graded lessons. Lesson four is a diet analysis project. The other seven lessons involve short-answer essays and multiple-choice questions.

Accessing Journal Articles

Many of the written lessons offer students the opportunity to review a journal article pertaining to the topic of the lesson. All journal articles, magazines, and websites must be properly cited using the APA format style. Examples of journal articles cited using APA format are provided below:

Fletcher, J., & Branen, L. J. (1999). Feeding young children in group settings: Using scenarios for staff development. *Journal of Nutrition Education and Behavior*, 31(6), 360B.

Patrick, H., & Nicklas, T. A. (2005). A review of family and social determinants of children's eating patterns and diet quality. *Journal of the American College of Nutrition*, 24(2), 83-92.

Ziegler, P., Hanson, C., Ponza, M., Novak, T., & Hendricks, K. (2006). Feeding infants and toddlers study: Meal and snack intakes of Hispanic and non-Hispanic infants and toddlers. *Journal of the American Dietetic Association*, 106(1), s107-s123.

Here is an example of an APA web citation:

Fletcher, J. F., & Branen, L. J. Feeding young children in group settings. Retrieved February 28, 2008, from <http://www.ag.uidaho.edu/feeding/>.

Library Resources

See the ***Policies and Procedures*** for information about accessing the University of Idaho's library resources.

Study Hints:

- Keep a copy of every lesson submitted.
- Complete all reading assignments.
- Set a schedule allowing for course completion one month prior to your personal deadline. An *Assignment Submission Log* is provided for this purpose.
- Webpages and URL links in the World Wide Web are continuously changing. Contact your instructor if you find a broken webpage or URL.
- Add your own recommendations here.
- Introduce and explain any terms that are essential to understanding the course.

Exams

- You must wait for grades and comments on lessons prior to taking each subsequent exam.
- For your instructor's exam guidelines, refer to the letter sent to you upon registration and the *Exam Information* sections in this study guide.

See *Grading* for specific information on exams, points, and percentages.

Proctor Selection/Scheduling Exams

All exams require a proctor.



Refer to the *ISI Policies and Procedures* for guidelines on how to choose a proctor and schedule exams. Complete the *Proctor Information Form* and send it to the ISI office at least two weeks prior to scheduling your first exam.

Grading

The course grade will be based on the following considerations.

There are a total of 590 points possible for this course. Successful completion of all 8 lessons is worth 160 points, with each lesson worth 20 points. Exams 1 and 2 are worth 125 points each. The final exam covers lessons 6-8 and is worth 180 points.

Exams will include the following:

- The first two exams are worth 125 points **each**.
- The final exam is worth 180 points.
- The exams will consist of multiple choice, matching, and short-answer essay questions.
- Short-answer essay questions should be answered in full, complete sentences, and nutrient calculations should show all work.
- The time limit for exams 1 and 2 is two hours. The time limit for the final exam is three hours.

The grading criteria for the **Exam Short-Answer Responses** are as follows.

Responses should:

1. accurately present the material requested in the questions;
2. completely cover the breadth of issues posed in the questions;
3. refer to and integrate appropriate case examples from the textbook to illustrate concepts if necessary;
4. be written in a legible and well-organized style with concepts and illustrative examples clearly articulated.

The following grading point scale will be used:

8 Lessons (20 points each)	= 160 points	A = 531 – 590 = 90 – 100%
Exam 1	= 125 points	B = 472 – 530 = 80 – 89.9%
Exam 2	= 125 points	C = 413 – 471 = 70 – 79.9%
		D = 354 – 412 = 60 – 69.9%
Final Exam	= <u>180 points</u>	F = below 354 = below 59%
Total	= 590 points	

The final course grade is issued after all lessons and exams have been graded.



Refer to the *ISI Policies and Procedures* for information about confidentiality of student grades, course completion, time considerations, and requesting a transcript.

About the Course Developer

Hello and welcome to *Concepts in Human Nutrition*. Over this course I hope you will learn some very important concepts in nutrition and its significance and influence on your health. I have enjoyed many years of teaching in this field. I have earned a Bachelor of Science degree in Nutritional Sciences from the University of Arizona, I am a registered dietitian, and have obtained a Master of Science degree in Clinical Nutrition from the University of New Haven in Connecticut. I currently teach for the University of Idaho as an instructor in the Department of Family and Consumer Sciences and work with the dietetic interns. My expertise has given me opportunities as a consultant for a wellness website and providing services in my own private practice. Please contact your instructor if you have any questions. I hope you enjoy the course!

Sarah Brett, M.S., R.D., L.D.

Contacting Your Instructor



Instructor contact information is available in BbLearn.

Disability Support Services



Refer to the *ISI Policies and Procedures* for information on *Disability Support Services (DSS)*.

Assignment Submission Log

- **Send the completed Proctor Information Form to the ISI office at least 2 weeks prior to taking your first exam**
- **Reading:** Whitney, Eleanor Noss, and Sharon Rady Rolfes. *Understanding Nutrition*. 12th ed. Belmont: Thomson Wadsworth, 2011. ISBN-10: 978-0-538-73465-3 ISBN-13: 0-538-73465-5
 - *Diet Analysis Plus*, recommended for Lesson 6, or website www.cnpp.usda.gov/MyPyramidTracker.htm.

Lesson	Chapter(s)	Written Assignments	Date Submitted
1	1, 2	Short-Answer Essays / Multiple Choice	
2	3, 4, 5	Short-Answer Essays / Multiple Choice	
It is time to make arrangements with your proctor to take Exam 1.			
3	6, 8, 9	Short-Answer Essays / Multiple Choice	
4	<i>Diet Analysis Plus</i> or website	Diet Analysis Project	
5	10, 11	Short-Answer Essays / Multiple Choice	
It is time to make arrangements with your proctor to take Exam 2.			
6	12, 13 15, 16	Short-Answer Essays / Multiple Choice	
7	17, 18	Short-Answer Essays / Multiple Choice	
8	14, 20	Short-Answer Essays / Multiple Choice	
It is time to make arrangements with your proctor to take the Final Exam.			

Lesson 1

Overview of Nutrition / Planning a Healthy Diet

Lesson Objectives

After completing this lesson, you should understand/be able to:

- 1-1 Discuss the major reasons people make food choices
- 1-2 Define nutrient, nonessential nutrient, organic and inorganic nutrients, and list the six classes of nutrients found in foods
- 1-3 Describe the science of nutrition
- 1-4 Define the types of research studies used in acquiring nutrition information
- 1-5 Define the DRI and state who develops the DRI
- 1-6 Discuss to whom the DRI apply and how the DRI are used
- 1-7 Identify the four categories of DRI and indicate how they are related
- 1-8 List diet-planning principles and describe how each principle helps in diet planning
- 1-9 Describe the recommendations that appear in the *Dietary Guidelines for Americans*
- 1-10 Define “daily values” and describe how they can help you meet health recommendations

Reading Assignment

Understanding Nutrition, Chapter 1 and Chapter 2

Important Terms

anthropometrics	antioxidants	carbohydrate
daily values (EAR, AI, UL, RDA)	energy	fat
enriched	exchange lists	fortified
function food	nutrient density	organic
overnutrition	physical examination	placebo
processed foods	protein	refined
serving sizes	sodium	undernutrition
vitamin A	vitamin C	water

Lecture

Welcome to the first lesson of this introductory nutrition course. You may feel you already have a grasp on various nutrition concepts, but don't let the latest fad diet fool you. **You will need to read your text thoroughly!** Nutrition is a complex science. On one hand we are just talking about food, but on the other hand, your food choices have an impact on your long-term and short-term health. Chapter 1 discusses the factors influencing your food choices, nutrients and their role in the body, and the **science of nutrition**.

Become familiar with the composition of foods, of nutrients, and of the body. You will want to practice calculating the energy available from foods.

Perhaps one of the most important concepts to understand in the first chapter is the science of nutrition. The foundation of nutrition science is research; for example, information such as nutrient recommendations and disease prevention are based on research. In order for nutrition claims to be valid, sound research must be presented to back up those claims. Understanding the key components of

the scientific method is critical to distinguishing which claims are backed with sound research. You should be familiar with the research terms on page 13 in your textbook.

Scientific research was used to establish nutrient recommendations. You will need to understand the role of the **dietary reference intakes (DRI)**, **estimated average requirements (EAR)**, **recommended dietary allowances (RDA)**, **adequate intakes (AI)**, and the **tolerable upper intake levels (UL)**. Finally, become familiar with four methods of nutrition assessment.

The second chapter discusses planning a healthy diet. The food choices you make determine your health through your life cycle. After reading this chapter, you will realize that a healthy diet does not rely on consuming a single food or nutrient, but rather, it is the balance and variety of a number of different foods from varying food groups.

You should become familiar with diet-planning principles and the *Dietary Guidelines for Americans*. Be able to recognize food group plans and understand the role of serving sizes and nutrient density in food group plans. In addition, exchange lists are discussed as a tool for menu planning.

Be comfortable with putting the daily food guide plan into action, particularly in terms of how to purchase groceries. Food labels, ingredient lists, and the daily values can be very valuable tools in making your food choices.

Written Assignment

Helpful Hints

- You may find it easier to read the questions before and after you read the textbook.
- If this is your first time taking a self-paced course, you may find reading the textbook to be difficult at first. Don't give up. You'll find that learning to read a textbook is an invaluable skill.

Answer the following questions.

The lesson contains short-answer essays and multiple-choice questions, and is worth 20 points.

Short-Answer Questions (10 points: 1 point each)

(Length: Some responses may be 1-2 paragraphs while others may require 3-5 paragraphs for a complete response. The key is to make sure a response is provided for all parts of the question.)

1. Give several reasons (and examples) why people make the food choices they do. What is generally the primary reason people choose to eat the foods they do?
2. What is a nutrient? Name the six classes of nutrients found in foods. What is an essential nutrient? Which nutrients yield energy and how much energy do they yield?
3. What is the science of nutrition? What is a placebo? Describe three types of research studies used in acquiring nutrition information.
4. What are the DRI? Who develops the DRI? To whom do they apply and how are they used? In your description, identify the four categories of DRI and indicate how they are related.
5. Find a news clip or magazine article and evaluate the published nutrition information.
 - a. Summarize the basic idea of the article.
 - b. List the credentials of the author.

- c. Has their scientific research been stated?
 - d. Does the research support the claim that is made in the article?
 - e. State your opinion of the article.
6. Name diet-planning principles and briefly describe how each principle helps in diet planning.
 7. What recommendations appear in the 2005 *Dietary Guidelines for Americans*?
 8. What is meant by the term “nutrient dense food”? Give three examples of high density foods and three examples of low density foods.
 9. What are the daily values? Calculate a set of daily values for a person on a 3,000 kilocalorie (kcalorie) diet.
 10. Visit **www.choosemyplate.gov** and describe what information you find useful at this site. My plate will appear which is the latest information from the USDA. We will no longer use the pyramid.

Multiple Choice

Identify the letter of the choice that best completes the statement or answers the question.

- ____ 1. A person who eats a bowl of oatmeal for breakfast every day would be displaying a food choice most likely based on
 - a. habit
 - b. availability
 - c. body image
 - d. environmental concerns

- ____ 2. Which of the following is an example of a macronutrient?
 - a. protein
 - b. calcium
 - c. vitamin C
 - d. vitamin D

- ____ 3. By chemical analysis, what nutrient is present in highest amounts in most foods?
 - a. fats
 - b. water
 - c. proteins
 - d. carbohydrates

- ____ 4. Which of the following is an organic compound?
 - a. salt
 - b. water
 - c. calcium
 - d. vitamin C

- ____ 5. Which of the following nutrients does **NOT** yield energy during its metabolism?
 - a. fat
 - b. proteins

- c. vitamins
- d. carbohydrates

- _____ 6. What is the meaning of a double-blind experiment?
- a. both subjects take turns getting each treatment
 - b. neither the subjects nor researchers know which subjects are in the control or experimental group
 - c. neither group of subjects knows whether they are in the control or experimental group, but the researchers do know
 - d. both subject groups know whether they are in the control or experimental group, but the researchers do not know
- _____ 7. The Dietary Reference Intakes may be used to
- a. treat people with diet-related disorders
 - b. assess adequacy of all required nutrients
 - c. plan and evaluate diets for healthy people
 - d. assess adequacy of only vitamins and minerals
- _____ 8. Which of the following is **NOT** a feature of the Adequate Intake (AI) and the Recommended Dietary Allowance (RDA)?
- a. both values exceed the average requirements
 - b. AI values are more tentative than RDA values
 - c. the percentage of people covered is known for both values
 - d. both values may serve as nutrient intake goals for individuals
- _____ 9. All of the following are features of the process of nutrient enrichment of flours **EXCEPT** that
- a. it includes products such as pastas
 - b. fiber levels are similar to those in the whole grains
 - c. it is required of all refined grain products that cross state lines
 - d. thiamin and riboflavin are added in amounts exceeding their levels in the whole grain
- _____ 10. Information that must be lawfully provided on food labels includes all of the following **EXCEPT** for the
- a. amount recommended for ingestion each day
 - b. amounts of specified nutrients and food components
 - c. net contents expressed by weight, measure, or count
 - d. name and address of the manufacturer, packer, or distributor