

Department of Nutrition
University of North Carolina at Chapel Hill

NUTRITION 650 and NUTR 650L
Food Science, Production and Meal Preparation
Fall 2010

I. Course Description

This course will introduce the student to factors that influence the end quality of foods important to the American diet. Factors considered include the selection, storage, traditional preparation of foods and the effects of ingredient modifications on the outcome of the traditional product. Laboratory experiences will enhance the preparation principles discussed. Prerequisite: Nutrition 240, 400 or permission from the instructor.

Lecture: Monday, 3:00-4:45 P.M.
241 Rosenau Hall, School of Public Health

Laboratory: Monday from 5:00 – 8:00 PM
241 Rosenau Hall (Kitchen/Nutrition Conference Room)

II. Professor

Angelo Mojica MPH, RD, CEC
Phone: 966-2896 Email: Amojica@unch.unc.edu
Office Hours: by appointment

III. Course Objectives

1. To learn general principles of food selection and storage.
2. To identify the nutrient composition of foods and how this is affected by storage and preparation.
3. To learn the physical and chemical changes occurring in food during preparation and the effects of these changes on the quality of the food.
4. To perform laboratory experiments that illustrate the traditional methods of food preparation and what happens when traditional methods are altered.
5. To work in a small group to critically think through the development of a new product using your knowledge of the functions of ingredients in foods.
6. To design sensory and objective tests to measure the acceptability of a new food product.
7. To compare the cost and nutrient composition of the two products.
8. To prepare and present a poster session that describes the scientific method used in developing the new product.

The Commission on Accreditation for Dietetics Education (CADE) of the American Dietetic Association has identified foundation knowledge and skills that all entry level dietitians should know no matter which didactic program they completed. The **Foundation Knowledge and Skills** incorporated into this course are as follows:

By the end of this course, students will have knowledge of:

1. lay and technical writing,
2. media presentations,
3. interpersonal communication skills,
4. concepts of human and group dynamics,
5. the scientific method,
6. culinary techniques,
7. food and nonfood procurement,
8. food and nutrition laws/regulations/policies,
9. applied sensory evaluation of food techniques,
10. tools used to calculate and interpret nutrient composition of foods, and

11. the functions of ingredients in food.

By the end of this course, students will have demonstrated the ability to:

1. prepare basic foods and present them appropriately,
2. use current information technologies,
3. work effectively as a team member,
4. use nutrient analysis tools to calculate and interpret the composition of foods,
5. modify a recipe for individual or group dietary needs,
6. apply techniques of sensory evaluation of food, and
7. Have a basic understanding of culinary terms and techniques
8. use oral and written communication skills and lay and technical writing in preparing and presenting an educational session for a group.

IV. Required Books

-Brown, Amy; Understanding Food, Principles and Preparation, 3rd Edition, Thompson/Wadsworth, 2008.

-Beathard, Karen; Lab Manual Accompaniment to Brown Book, 3rd Edition, Thompson/Wadsworth, 2008.

References (in 2nd floor study room):

- Bennion, M. and Scheule, B, Introductory Foods, 11th Edition, Macmillan, New York, 2000.

V. Grading

Evaluation of student performance in this course will be made according to the following:

3 Exams @ 25% each	75%
Project	20%
Lab Participation	5%

(Collect Pre Lab Questions x 3 Labs)

Grading Scale:

Undergraduates:

97-100	A+
93-96	A
90-92	A-
87-89	B+
83-86	B
80-82	B-
77-79	C+
73-76	C
70-72	C-
Below 70	D
Below 60	F

Graduates:

93-100	H
75-92	P
70-74	L
Below 70	F

VI. The Honor Code

"The Campus Code requires students to conduct themselves so as not to impair significantly the welfares or the educational opportunities of others in the University Community. As a student at UNC-CH, you have accepted a commitment to the Honor Code and the Campus Code and the principles of academic integrity, personal honesty and responsible citizenship which they were founded more than 100 years ago. Academic dishonest in any form is unacceptable, because if circumvents the purpose of the University."

The Honor Code is in effect in this class and all others at the University. As a faculty member, I am committed to treating Honor Code violations seriously and urge all students to become familiar with its terms set out at <http://instrument.unc.edu>. If you have questions, it is your responsibility to ask me about the Code's application. All exams, written work and other projects must be submitted with a statement that you have complied with the requirements of the Honor Code in all aspects of the submitted work.

Classroom Behavior

Please note that conduct impairing the welfare and classroom learning experiences of fellow students is a violation of the Honor Code – disrespectful behaviors such as intrusive noise and conversation, rudeness and lack of conversational manners, criticism of people themselves rather than the ideas held by people, or leaving the room before the end of class. Please place cellular phones on non-audible signaling. I ask you to conduct yourself in a responsible manner, and to not violate the rights of your fellow students to uninterrupted instruction.

VII. Laboratory Sessions

Each student will be assigned to **one** 3-hour lab session per week. Once assigned to a session, the student will remain in that session for the rest of the semester. **Lab attendance is mandatory.** Your participation is needed for the timely completion of assigned lab exercises. The instructor must be notified prior to missing a lab if an excused absence is to be given. If you have an excused absence you must complete a written laboratory report. This report is due within 1 week of the missed lab. Directions for completion of this report are included in the lab manual.

VIII. Food Science Project

This project is designed to incorporate skills learned about food science. A separate detailed description of the project is included in this packet.

IX. Class Schedule

<u>DATE</u>	<u>TOPIC & READING</u>
8/30	Introduction to the course and Food Safety and Sensory Evaluation Brown, Chapter 1 and Chapter 3
8/30	Laboratory 1: Sensory Evaluation
9/6	LABOR DAY HOLIDAY
9/13	Meats Brown, Chapter 6
9/13	Laboratory 2: Meats
9/20	Poultry, Fish and Shellfish Brown, Chapter 7 and Chapter 8
9/20	Laboratory 3: Poultry, Fish and Shellfish
9/27	Milk and Cheese Brown, Chapter 9 and Chapter 10
9/27	Laboratory 4: Milk and Cheese
10/4	Exam #1 (including Food Safety through Milk and Cheese)
10/11	Fruits, Vegetables and Legumes Brown, Chapter 11 Chapter 12 and Chapter 13 Part 1 of Food Science Project Due
10/11	Laboratory 5: Fruits, Vegetables and Legumes, eggs
10/18	Grains, Pasta, and Starches Brown, Chapter 15
10/18	Laboratory 6: Grains and Starches
10/25	Flours and Leavening Systems Brown, Chapter 16
10/25	Laboratory 7: Part 4 of Food Science Project Preparation and Evaluation of Products

11/1	Quick Breads and Yeast Breads Brown, Chapter 18 and Chapter 19 Parts 2 and 3 of Food Science Project Due
11/1	Laboratory 8: Quick Breads and Yeast Breads
11/8	Exam #2 (from eggs to yeast breads)
11/15	Fats and Oils, and Cakes and Cookies Brown, Chapter 21 and Chapter 22
11/15	Laboratory 9: Fats and Oils
11/22	Pastries and Pies, Candy and Frozen Desserts Brown, Chapter 23, Chapter 24 and Chapter 25
11/22	Laboratory 10: Cakes and Pastries
11/29	Beverages, Food Preservation and Food Regulation Brown, Chapter 26, Chapter 27 and Chapter 28 Food Science project article due
11/29	Laboratory 11: Candy, Frozen Desserts and Beverages
12/8	Exam #3 (from fats and oils to food preservation)