Department of Nutrition
University of North Carolina at Chapel Hill

NUTRITION 650/650L
Food Science and Culinary Arts
Spring 2017

I Lecture: Wednesdays, 10:10 AM-12:05 PM
241 Rosenau Hall, Nutrition Conference Room
Gillings School of Global Public Health

Lab: Wednesdays, 1:25-4:25 PM
241 Rosenau Hall, Kitchen/Nutrition Conference Room
Gillings School of Global Public Health

II Professor: Beth Jenks, MS, RDN, LDN, beth_jenks@unc.edu
Scheduled appointments: Wednesday 12:15 to 1:00

Lab Assistant: Anna Vanderleest, aev@live.unc.edu
Charlotte Zuber, czuber@email.unc.edu

III Course Description
This graduate course is a core requirement for the combined dietetics program. It introduces the principles of food science and food safety in the public marketplace, in healthcare institutions and in the home kitchen. It describes government regulations and regulatory agencies. Students will learn the physiology and psychology of taste, the physical and nutrient composition of foods and the chemical changes that occur during food production, storage, and meal preparation, with emphasis on how these factors influence the quality, taste and nutrient content of the final product.

The labs will teach culinary techniques and introduce a variety of recipes, emphasizing information learned in lecture. Students will learn general principles of choosing, storing and preparing different categories of food in appropriate and appetizing ways, always with an eye to nutrition whether in a clinical healthcare, public health, or home setting. The goal is to offer some idea of the tremendous possibilities we have in the dietetics profession for using food to promote health and healing as well as to provide comfort and pleasure.

At the same time, students will perform comparative physical and sensory tests that illustrate the principles of product development and quality evaluation. Nutrient composition and cost/benefit analysis will be considered.
IV Course Objectives

The Accreditation Council for Education in Nutrition and Dietetics (ACEND) has identified foundation knowledge and skills that all entry-level dietitians should know no matter which didactic program they complete. The Foundation Knowledge and Skills incorporated into this course are:

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

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

1. learn general principles of food selection and storage
2. learn the physical and chemical changes occurring in food during preparation and the effects of these changes on the quality of the food.
3. perform laboratory experiments that illustrate the traditional methods of food preparation and what happens with modifications
4. prepare basic foods and present them appropriately
5. work effectively as a team member
6. use nutrient analysis tools to calculate and interpret the composition of foods
7. modify a recipe for nutritional or dietary purposes
8. apply appropriate techniques to conduct sensory evaluation of foods
9. understand basic culinary terms and techniques
10. provide a cost analysis of a menu

V Course Guidelines and Classroom Behavior

Attendance is mandatory for both lectures and labs; absences requested in advance and excused by instructor or due to illness are exempt. Students will be expected to have read required material for lecture ahead of time and to have prepared for labs where appropriate. The lab book, Lab Manual for Understanding Food Principles and Preparation, 5th Edition is required and should be brought to each lab. Cell phones must be silent during class.

In lab, students are expected to work quietly and congenially in their assigned groups, showing respect for each other in an attempt to excel at the assigned
tasks and complete the lab assignments on time. Long hair should be pulled back or secured with a scarf or cap. Aprons, lab coats or chef jackets are required as are closed-toe shoes. I look forward to this class allowing us to share many flavors and hope that everyone will keep an open mind to tasting. If you have any food restrictions, or you don’t feel able or comfortable in tasting certain foods, please discuss the flavor with a lab partner that has tasted the food.

Sharp knives and hot surfaces will be used, so it is imperative that everyone pays attention and keeps focused on the work at hand.

Each station will work together to develop a nutritious and appetizing meal that complies with NDD1. Accompanying documentation will be required as outlined in assignment.

VI  Grading

Lectures (465 pts):
- **Attendance** – 5 points per class for 13 classes =**65 points**
- **3 Exams based on the lectures = 300**
  - Exam 1—February 8 = **100 points**
  - Exam 2 – March 8 = **100 points**
  - Exam 3 (final) –May 1 = **100 points**
- **SNAP Project – February 26 by 11:59 pm 100 points**

Food Labs (435 points):
- **Lab attendance** – 5 pts per class for 14 classes = **70 pts**
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.
- **Clean kitchen end of class (graded by TA) = 70 points** 5 pts per class, 14 classes
- **Pre-lab questions for each unit = 20 points** (due by 1:25 pm of each lab class)
- **2 lab reports (30 pts for report) = 60 points**
- **Food Modification Assignment (NDD1)= 215 points**
  - Menu for project due 3/29
  - Shopping list for NDD1 menu due 4/18 by midnight
  - Final project due and presented to class 4/26

Grading Scale:

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<tr>
<th>GRADUATE</th>
<th>UNDERGRADUATE</th>
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<tbody>
<tr>
<td>847 - 900</td>
<td>93-100% A</td>
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<tr>
<td>720 -846</td>
<td>90-92%  A-</td>
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<td>540 -719</td>
<td>87-89% B+</td>
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<td>Below 540</td>
<td>83-86%  B</td>
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<td>80-82%  B-</td>
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<td>&lt;69%  F</td>
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VII. **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, upon which they were founded more than 100 years ago. Academic dishonesty in any form is unacceptable, because it 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 as 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 or initials indicating you have complied with the requirements of the Honor Code in all aspects of the submitted work. All exams must be submitted with the following signed statement: On my honor, no unauthorized assistance has been received or given in the completion of this work.

Signature: ________________________________

VIII. **Online Course Evaluation:**

UNC uses an online evaluation system to assess the quality of instruction and learning of the courses offered. During the last few weeks of the course, an email will notify you that the system is open with a link to access the form. This evaluation system is anonymous. The instructor will only see the aggregate data with any comments at the end of the course after grades are turned in. You will be sent multiple e-mails until it is completed.

IX. **Required Books**


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<thead>
<tr>
<th>Date</th>
<th>Topic</th>
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<tbody>
<tr>
<td>1/11</td>
<td>Lecture #1 and 2 (prerecorded – required)</td>
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<tr>
<td></td>
<td>Course introduction</td>
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<td>Review of syllabus</td>
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<td>Food Selection</td>
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<td>Food Evaluation</td>
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<td>Non-Nutritive Food Components</td>
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<td>Food Safety</td>
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<td>Food Preparation Basics</td>
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<td>Meat</td>
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<td>Reading: Brown, Chapters 1, 2, 3, 4, 5, and 7</td>
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| 1/18  | Lab #1 and 2                                                          |
|       | Introduction to lab procedures, kitchen basics (measuring activities), |
|       | and Sensory Evaluation                                                |
|       | Knife skills 101                                                      |
|       | Overview of best measuring techniques – Anna and Charlotte            |
|       | Meats                                                                |
|       | Prelab questions for Unit 1, 2, and 3 due by 1:25 pm                  |

| 1/25  | Lecture #3 Poultry, Fish and Shellfish                                |
|       | Brown, Chapter 8 and 9                                                |

|       | Lab #3: Poultry, fish and shellfish                                    |
|       | Lab report due 2/10/17 by 12:00 pm                                    |

| 2/01  | Lecture #4: Milk and Cheese                                           |
|       | Brown, Chapter 10 and 11                                              |

|       | Lab #4: Milk and Cheese                                               |

| 2/08  | Exam #1 (material covered through milk and cheese)                     |

|       | Lab #5:                                                                |
|       | Guest Lecturer, Jill Brown, MS, DTR, Director of Nutrition Education, |
|       | Inter-Faith Food Shuttle (will discuss challenges and barriers to good|
|       | nutrition for low income families and helpful tips for planning a budg|
|       | meal for SNAP participants                                             |

|       | Eggs Lecture and Egg Lab                                              |
|       | Brown, Chapter 12                                                     |
2/10  Lab report (Poultry, fish and shellfish) due by 12:00 pm

2/15  Lecture: #6 Vegetables, Legumes and Fruits
      Brown, Chapter 13 and Chapter 14
      Lab #6: Vegetables, Legumes and Fruits

2/22  Lecture: #7 Cereals, Grains and Pasta
      Brown, Chapter 15 and Chapter 16
      Lab #7: Cereals and Flours

2/26  Assignment #2: SNAP menu and recipes due by midnight

3/01  Lecture #8 Flours and Flour Mixtures, Starches and Sauces
      Brown, Chapter 17 and Chapter 18
      Lab #8: Starches and Sauces

3/08  Exam #2 (Eggs through Starches and Sauces)
      Lecture #09: Quick Breads
      Brown, Chapter 19
      Lab #09: Quick Breads

3/15  Spring Break (No class or lab)

3/22  Lecture #10: Yeast Breads
      Brown, Chapter 20
      Guest Lecturer: NDD
      Lab: #10 Yeast Breads
      Lab write-up for Yeast Breads due 4/7/17 by 12:00 pm

3/28  NDD1 menu for final project due by midnight

3/29  Lecture #11: Fats and Oils
      Brown, Chapter 22
      Lab #11: Fats and Oils
4/05   Lecture  #12 Cakes, Cookies and Pastries, Pies
       Brown, Chapter 23 and Chapter 24

       Lab #12 Cakes and Pastry

4/07   Lab write-up for Yeast Breads due by 12:00 pm

4/12   Lecture #13 Candy and Frozen Desserts
       Brown, Chapter 25 and Chapter 26

       Lab #13: Candy & Frozen Desserts

4/18   Shopping list for NDD1 project due by midnight

4/19   Lecture  #14 Beverages, Food Preservation and Food Regulation, Careers
       Guest speakers – Michael Gueiss - Head Chef UNC (10:10 am)
       Guest speaker – Dr. Gharst
       Guest speakers - Food industry – Larry Chandler, Improved Nature and RDI Foods
       Guest speakers – Farm to Table Suzanne Nelson (Reverence Farms)11:40am

       Brown, Chapter 27, 28, 29, and 30

       Lab #14: Beverages

4/21   Abstract and shopping list for Food Lab Project recipe due by midnight.

4/26   Lecture #15 Prep for meal

       Lab #15: Lab Project- Meal presented to panel

5/1    FINAL EXAM #3 at 8:00 AM (Starches and Sauces through Beverages)