NFS 53
Basic Concepts of Foods
Spring 2017

Professor:  Amy B. Trubek, PhD
Lecture Teaching Assistant: Jennifer Morley
Office:  251 Carrigan Wing, Marsh Life Science
Phone:  802-656-0833
Email:  atrubek@uvm.edu

Office Hours:  1-2:30pm Thursdays open hours Wednesday and Friday by appointment (please contact Serena Parnau to schedule: aparnau@uvm.edu)

Course Credits:  3 hours

Class Time and Location:  10:05-11:20 AM Tuesday and Thursday in 103 Rowell

Course Description: This course introduces students to the basic concepts of food central to the disciplines of nutrition, food science and food systems. Students are introduced to these basic concepts in the same way as everyday Americans – through the process of meal preparation. Thus, concepts and practices are always considered as interconnected. The complex variety of meal preparation practices among diverse populations in the United States is integrated throughout the course. Finally, a major goal of this course is to have the student be able to understand and use these concepts not just in the classroom but in her or his home and work settings.

This is a hybrid course. The design of the course involves 9 Tuesdays where students are not required to come to lecture in 103 Rowell but rather will be able to use this time either in 103 Rowell or in another venue to watch screencasts and videos, review readings, and take quizzes and/or write responses. You are expected to complete all online elements of this course. Failure to do so will result in a lower grade. Note that Blackboard has tracking features that allow me to know whether or not you have accessed videos. We will use these features to periodically check on every student’s participation.
The design of each week will follow the same pattern:

Tuesdays: Watch this (a lecture, a film, etc.), read this (McGee reading or other supplementary reading) and do this (take notes, write a response, take a quiz).

Thursdays: Apply this (answer questions, do small group work, annotate a recipe) and analyze this (learn about the implications and consequences, consider the differences between cultures, classifications, groups).

**Dietetics Program Standards met in Basic Concepts of Foods:**

KRDN 2.1 Demonstrate effective and professional oral and written communication and documentation.

KRDN 2.6 Demonstrate an understanding of cultural competence.

KRDN 3.6 Explain the processes involved in delivering quality food and nutrition services.

**Course Objectives:**

The students will be able do the following:

- Explain the efforts that cultures and societies make to manage the natural world to create food that is nutritious, pleasurable and palatable.
- Explain the importance of cultural and social influences in sensory preference, food pairing and meal preparation.
- Identify the names and principle characteristics of the major classes of foods.
- Identify and apply the scientific concepts involved in different stages of food preparation.
- Describe the effects that techniques and styles of food preparation have on the nutritional content of food.
- Demonstrate working knowledge of food safety and sanitation.
- Demonstrate a working knowledge of how to read, analyze and adapt recipes.

**Quizzes and Exams:** All quizzes and the final exam will be given during scheduled times. There will be no scheduled makeup quizzes and exams. If you are ill, or have another excused absence, makeup quizzes or exams will be scheduled on an individual basis. In any event, if you are unable to attend, you must notify me before the quiz or exam time that you will not be at the exam. If you would like to request ACCESS
accommodations for taking in-class quizzes or the final exam, please inform me by January 31, 2017.

Class Conduct:

Course Evaluation and Expectations:
I expect professional standards of behavior in the classroom.
- Cell phones should be turned off for the entire class period.
- Chronic tardiness is not acceptable.
- You are expected to commit to both the in-person and on-line lectures.
- In case of a campus emergency, the instructor will be notified via the classroom computer, and the instructor will notify students of the emergency.
- Do not disrupt other students and the class flow by getting up and leaving unless absolutely necessary.

All readings must be read completely before class. This includes the required text *On Food and Cooking* as well as any supplementary articles that posted under Course Materials on Blackboard. If you don’t understand a reading, bring in a list of questions - we can use them to begin our discussions.

I do not accept late assignments.

All writing prompts must be posted on Blackboard by Friday at midnight. Portfolio submissions must be submitted on Blackboard by the deadline date at midnight.

All writing assignments should be typed and submitted in 12 point Times New Roman font, double spaced, with 1” margins.

Class Code: All class participants are expected to adhere to the academic honesty policies of the University of Vermont. Additionally, the University prohibits discrimination and unlawful harassment. Please see the University of Vermont Code and Student Handbook available on the UVM website.

All assignments need to satisfy the standards of academic integrity. Plagiarism (not attributing other people’s ideas, arguments or phrases properly) and cheating will result in a failing grade. Offences against the Code of Academic Integrity are deemed serious and insult the integrity of the entire academic community. Any suspected deliberate violations of this code are taken very seriously and will be forwarded to the Center for Student Ethics & Standards for further investigation.

Religious Holidays: The official policy for excused absences is due to a religious holiday is as follows: Students have the right to practice the religion of their choice. Each semester students should submit in writing to their instructors by the end of the second full week of classes their documented religious holiday schedule for the
semester. Faculty must permit students who miss work for the purpose of religious observance to make up this work.

Textbook [Required]:
McGee, Harold *On Food and Cooking: The Science and Lore of the Kitchen* (revised edition)

Supplementary Readings [Required]:
Other short weekly readings will be posted on Blackboard under Weekly Supplementary Readings under Course Materials. Check for new postings, these will used for your reading analyses and will also be drawn from for the quizzes and exams.

Portfolio Readings:
Readings for portfolio submissions can be found on Blackboard under the Portfolio Readings folder under Course Materials.

Assessments:

McGee Quizzes: 9@10 points each – **90 points**

Reading Prompts: 6@15 points each – **90 points**

In Class Quizzes: 7@20 points each (drop the lowest score) – **120 points**

Final: **100 points** (cumulative with fill in the blank and multiple choice and then short answer focusing on the last 4 weeks of the semester)

Self-directed Assignments (see below): **Up to 100 points**

**TOTAL: 500 points**

The final exam will be in 103 Rowell. The date is May 9 and the time is 7:30am-10:15am.

**Self-Directed Portfolio: Basic Concepts of Foods is a survey course.** We will cover topics in food science, food systems, food and culture and food and health. This section of the course assessment allows you to concentrate on your particular interests within the broader concepts and practices that are covered. This is an exercise in self-designed learning and assessment. You get to choose your focus, your pace, and your acquisition of points.

- For each topical section of the course, you will be able to submit up to a **maximum of four submissions**. You can choose which topics and which times
for your submissions. The maximum amount of points you can obtain is 100 points.

- For each submission, you will be awarded 5 or 10 points.

A **5-point submission is considered “amateur.”** An amateur submission contains errors of grammar, spelling and or/punctuation and/or is a superficial response to the assignment.

A **10-point submission is considered “professional.”** A professional submission is clearly written, well-organized and demonstrates an in-depth consideration of the assignment.

- The total number of points accrued will be calculated through Blackboard column and will contribute to 20% of your final grade.
- The possible portfolio submissions are listed at the end of the syllabus, as well as the deadlines for each section of the course (no submissions after these listed dates).

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Assignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 17</td>
<td><strong>IN CLASS</strong> Introduction to Course Human Evolution and Meal Preparation: The Cooking Animal; Co-Evolution of Humans and the Natural Environment</td>
<td>McGee, pages 243-253 Article and Interview from Richard Wrangham [On Blackboard]</td>
</tr>
<tr>
<td>January 19</td>
<td><strong>IN CLASS</strong> American Cuisine and Meal Preparation <strong>Spotlight on Food and Culture: The Melting Pot: Migration and American Cuisine</strong></td>
<td>Reading Prompt 1: <em>On Humans as the Cooking Animal</em></td>
</tr>
<tr>
<td>January 24</td>
<td><strong>IN CLASS</strong> Reading a Recipe Recipes as Blueprints Recipes as Guides Recipes as Manuals for Living <strong>Spotlight on Food and Health: History of Dietetics and Nutrition Profession</strong></td>
<td>Chapter Four from Laura Shapiro, <em>Perfection Salad</em> [On Blackboard]</td>
</tr>
<tr>
<td>Date</td>
<td>Activity</td>
<td>Reading/Assignment</td>
</tr>
<tr>
<td>-----------</td>
<td>--------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>January 26</td>
<td><strong>IN CLASS</strong>&lt;br&gt;Sensory Evaluation of Food&lt;br&gt;Sensory Preference and Food Traditions&lt;br&gt;Sensory Preference: Continuity and Change</td>
<td>McGee, On Food and Cooking, pages 385-395&lt;br&gt;Reading Prompt 2: <em>On Domestic Science and Home Economics</em></td>
</tr>
<tr>
<td>January 31</td>
<td><strong>ON LINE</strong>&lt;br&gt;Introduction to On-line Section of NFS 053&lt;br&gt;Introduction to Food Chemistry with Dr. Laura Almstead&lt;br&gt;Atoms, Molecules, Bonds and Interactions&lt;br&gt;<em>Food Safety and Foodborne Illness: The American Home Kitchen</em></td>
<td>McGee, Chapter 15 and pages 811-815</td>
</tr>
<tr>
<td>February 2</td>
<td><strong>IN CLASS</strong>&lt;br&gt;Food Preparation Basics&lt;br&gt;Cooking Methods, Cooking Utensils&lt;br&gt;Heat and Heat Transfer&lt;br&gt;Vegetables&lt;br&gt; 1. Types&lt;br&gt; 2. Selection&lt;br&gt; 3. Preparation</td>
<td>McGee, Chapter 14</td>
</tr>
<tr>
<td>February 7</td>
<td><strong>ON LINE</strong>&lt;br&gt;Introduction to Food Chemistry with Dr. Laura Almstead&lt;br&gt;Waters and Proteins&lt;br&gt;Carbohydrates and Lipids&lt;br&gt;<em>Food Safety and Foodborne Illness: Fight Bac</em></td>
<td>McGee, Chapter 5 (253-261 and 273 to 281) and pages 301-315</td>
</tr>
<tr>
<td>February 9</td>
<td><strong>IN CLASS</strong>&lt;br&gt;Refrigerator Review&lt;br&gt;<em>Spotlight on Food and Culture: Traditional and Contemporary Uses of Herbs and Spices</em></td>
<td>McGee, Chapter 8, pages 385-400&lt;br&gt;Quiz 1</td>
</tr>
<tr>
<td>Date</td>
<td>Activity</td>
<td>Reading Material</td>
</tr>
<tr>
<td>-----------</td>
<td>--------------------------------------------------------------------------</td>
<td>--------------------------------</td>
</tr>
<tr>
<td>February 14</td>
<td>Food Chemistry: Focus on Potatoes, Starches and Gelatinization, Screencast with Dr. Almstead Videos</td>
<td>McGee, Chapter 9 This is a long chapter and will be used in lecture over two weeks. Chapter 11 (pages on gelatinization)</td>
</tr>
<tr>
<td>February 21</td>
<td>Grains, Legumes and Nuts Vegetables as Fats and Oils</td>
<td>McGee, Chapter 9</td>
</tr>
<tr>
<td>February 23</td>
<td>Spotlight on Food and Health/Culture: Beans Spotlight on Food and Health: Olive Oil, Coconut Oil and also Maple Syrup</td>
<td>McGee, Chapter 9 Quiz 2</td>
</tr>
<tr>
<td>February 28</td>
<td>Food Safety and a global, industrial food system: antibiotics and meat, CAFOS, sustainability in fish</td>
<td>McGee, Chapter 4</td>
</tr>
<tr>
<td>March 2</td>
<td>Meat 1. Types 2. Sourcing and Purchase 3. Composition Spotlight on Food and Health/Food Systems: Antibiotics and Meat;</td>
<td>McGee, Chapters 3 and 4 Quiz 3</td>
</tr>
<tr>
<td>Date</td>
<td>Time</td>
<td>Topic</td>
</tr>
<tr>
<td>------------</td>
<td>------------</td>
<td>----------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| March 9    | IN CLASS   | Pasture Grazed Meat                                                   | Poultry and Fish  
3. Types  
4. Composition  
5. Traditional and Contemporary Preparation  
**Spotlight on Food Systems: Chicken and Modern Processing** | McGee, Chapters 3 and Chapter 4  
Quiz 4 |
| March 21   | ON LINE    | Food Chemistry with Dr. Laura Almstead: Gluten                        | Review of Grains and Flours  
Baking Traditions and Gluten  
**McGee, On Food and Cooking, Chapter 10** |
|            |            | **Spotlight on Food and Culture: Dumplings**                           |                                                                                   |
| March 23   | IN CLASS   | 1. Traditional and Contemporary Preparation  
**Spotlight on Food and Culture: Dumplings** |                                                                                   |
| March 28   | ON LINE    | Eggs  
**Spotlight on Food Chemistry: Denaturing of Protein, Foams and Coagulations** |                                                                                   |
| March 30   | IN CLASS   | Egg Cookery  
Food Safety and Eggs                                                   |                                                                                   |
| April 4    | ON LINE    | Fruits: Seasonality  
Fruits: Raw and Cooked  
Fruits: Sourcing  
**McGee, Chapter 7** |                                                                                   |
<p>| April 6    | IN CLASS   | <strong>Spotlight on Food Systems: Bananas and Oranges</strong>                    |                                                                                   |</p>
<table>
<thead>
<tr>
<th>Date</th>
<th>Activity</th>
<th>Reading Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>April 11</td>
<td><strong>ON LINE</strong></td>
<td><strong>McGee, Chapter 1</strong></td>
</tr>
<tr>
<td></td>
<td>Preservation Spotlight on Food and Culture: Apples</td>
<td></td>
</tr>
<tr>
<td>April 13</td>
<td><strong>IN CLASS</strong></td>
<td><strong>Johns Hopkins Background:</strong> <em>Diet and Preference in Food Choice</em> [On Blackboard]</td>
</tr>
<tr>
<td></td>
<td>Meal Preparation: Theory and Practice USDA Guidelines Spotlight on Food and Health: Different Versions of the Dietary Guidelines</td>
<td><strong>Quiz 7</strong></td>
</tr>
<tr>
<td>April 18</td>
<td><strong>IN CLASS</strong></td>
<td>Excerpts from Trubek, <em>Making Modern Meals</em></td>
</tr>
<tr>
<td></td>
<td><strong>Spotlight on Food Systems:</strong> Sourcing Fruits, Vegetables and other Foods - What is the relevance of race, class and ethnicity? Analyzing and Adapting Recipes: Tradition versus Health Spotlight on Food and Health: Counseling on Dietary Change and Adaptation</td>
<td></td>
</tr>
<tr>
<td>April 20</td>
<td><strong>IN CLASS</strong></td>
<td><strong>Reading Prompt 4 for <em>Making Modern Meals</em>: On Gates, Channels and Making Healthy Choices</strong></td>
</tr>
<tr>
<td></td>
<td>Analyzing and Adapting Recipes: Home versus Institution From Cook to Cook</td>
<td><strong>Pope et. Al., <em>Our Fractured Food Safety System</em></strong></td>
</tr>
<tr>
<td>April 25</td>
<td><strong>IN CLASS</strong></td>
<td><strong>Excerpt from USDA ERS Report [On Blackboard]</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Spotlight on Food Science: HACCP Plans and a Safe Food Supply</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Spotlight on Nutrition: College Students, Cooking, Eating and Interventions</strong></td>
<td></td>
</tr>
<tr>
<td>April 27</td>
<td><strong>IN CLASS</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Consumption: Eating Out and Ordering In Blue Apron</td>
<td>Reading Prompt 5: On College Students, Meal Preparation and Eating Behaviors</td>
</tr>
<tr>
<td>----------</td>
<td>--------------------------------------------------</td>
<td>-------------------------------------------------------------------------</td>
</tr>
<tr>
<td>May 2 and 4 IN CLASS</td>
<td>Careers Related to Meal Preparation</td>
<td>Reading Prompt 6: Reflections on Writing, Meal Prep and Your Future</td>
</tr>
</tbody>
</table>

**Portfolio Assignment:**

Listed below, you will find **17 submission possibilities**. Each submission is worth 10 points with a maximum of **11 submissions**. So, for full points, you must submit 10 over the course of the semester and you can submit one more for 10 extra credit points. **All submissions must be submitted on Blackboard.**

**Number 1: Due by Friday, February 10**

You can submit from 1 to 4 of these four options. Every submission will be entered into Blackboard and you will see a running tally.

1, 2 and 3: Food Culture and Food Systems

- Submit a family recipe that has been passed on at least 2 generations (thus your grandparents or great-grandparents down to you). Write a 150-200-word explanation of why/how/when/where this dish is important to your family. If you can take a picture of the original recipe, even better!
- Interview someone at UVM who was not born in the United States. Find the answers to the following questions and submit a 150-200-word summary. A) Why did they come to the USA? B) What are similarities and differences between the food – ingredients, methods and/or meal customs where they come from and the food from here? C) What foods do they eat that most remind them of home?
- Watch the first episode of the Netflix series, *Cooked*. Write a 200-250-word response to this question: How does Pollan use theories of human evolution in order to explain the fundamental importance of fire to both the human diet and human social organization? What examples does he provide to show that ‘fire’ mean more to us than a means to an end when it comes to making food we consider palatable and pleasurable?

4: Food Science (Food Safety)
• Read the articles about the foodborne illness outbreak at Chipotle (on BB under Portfolio Readings in Course Materials). Submit a 150-200-word summary of the articles, focusing on where the critical control points for preventing such an outbreak might have occurred.

Number 2 – Plants, Health, Heat Transfer – Due by Friday, March 10
You can submit from 1 to 5 of these five options. Every submission will be entered into Blackboard and you will see a running tally.

1,2 or 3: Food Systems, Food and Health

• Read the Introduction and Chapter on Amaranth in *from Chilies to Chocolate*. In a 150-200-word response, provide at least one example of a ritual use for amaranth, at least one example of how amaranth is used in native cuisines, and one fact that surprised you about what amaranth means in those cuisines vs. how we use it today.

• Go to a late-night dining session at Harris-Millis. In a 150-200 word response, address the following: Try to put together a late-night meal that includes a lean protein, a whole grain and a fruit or vegetable. How feasible is it to put together such a meal in the late-night environment? What is one change in options or organization that could make this mission easier to accomplish?

• Go to a late-night dining session at Harris-Millis: In a 150-200 word response, address the following: Describe what you ate. Personally, what type of food are you seeking when you go to a late-night session? How does this meal relate to other meals you eat on any given day? Does a meal deemed ‘healthy’ interest you? If so, why? If not, why not?

4: Food Science (Food Chemistry):

• Go to the library reference section and look at Nathan Myhrvold’s multi-volume work, Modernist Cuisine. Pick one of these chapters to read closely: Volume 1: Microbiology, Heat and Energy, or Physics or Volume 2: Traditional Cooking, Modern Cooking or Sous-Vide. In a 150-200 word response, describe how images and texts are combined to teach and then explain if his approach helps you understand the material. If so, why. If not, why not.

BH Bailey/Howe Reference (1st Floor) (non-circulating) (QUARTO TX651 .M94 2011 )

5: Food and Culture

• Watch episode 2 of the Netflix Documentary Cooked. In a 200-word response, discuss the case of India as outlined in this episode. What are two ways that Indian cooking represents the best practices for ‘good food’ according to Pollan’s argument? What are the changes, in technology, in lifestyle, that are emerging in India that might compromise such best practices?
Number 3 – Meat, Fish, Poultry, Fruit – Due by Friday, April 14
You can submit from 1 to 4 of these four options. Every submission will be entered into Blackboard and you will see a running tally.

1. Food Systems:
   - Watch the movie Cowspiracy. Write a 200-word response detailing why watching this movement did or did not convince you to participate in a vegan or vegetarian diet. Provide at least 3 action sequences or conversations in the film that helped you come to that decision.

2. Food Science:
   - Do an experiment in enzymatic browning. 1) Develop a step by step explanation for either inhibiting or enhancing enzymatic browning on a piece of fruit, explaining what happens at the chemical level to the fruit; 2) Run the experiment; 3) Take 1-2 images of the results. Submit a one-page lab report explaining the experiment, describing the results and analyzing why you were/were not able to prevent/enhance enzymatic browning.

3 and 4: Food and Health
   - Read the articles (on BB under Portfolio supplementary readings) on the power of social stigma as a means of addressing obesity as a problem of public health. Write a 150-200 word response where one, you define how each author defines stigma and explains the consequences and two, you explain which argument you found more compelling and why.
   - Read the article (found on Blackboard under Portfolio Supplementary Readings) by Nelson et.al. on “A Call for Culinary Skills Education in Childhood Obesity Prevention Interventions” published in The Journal of the Academy of Nutrition and Dietetics. Write a 150-word response, where you either argue for or against the need to teach children culinary skills as an effective method for preventing childhood obesity, using our class lectures and discussion and this article, using at least one example from each.

Number 4 – Meal Preparation – Due by Friday, May 12
You can submit from 1 to 4 of these four options. Every submission will be entered into Blackboard and you will see a running tally.

1: Food Systems – Food Waste
   - Use your cell phone to document your food consumption and food waste during one day. Submit pictures of at least two of your meals, breakfast, lunch and dinner and snacks, both before and after you eat. Write up a 150-200-word explanation of what is wasted (food, drink, plastic wrappers, any other items). Do you think your day reflects a typical American? Why or why not?
2: Food and Health

- Write 150-200-word reflection on your personal goals as a future nutrition, food science, food systems or health professional, incorporating at least two ideas as to how you will address the realities of American meal preparation practices in your future career.

3: Food and Culture

- Watch Episode 3 of the documentary Cooked. In a 200-word response, discuss how Pollan argues that our notion of ‘health’ and ‘healthy’ food is both affirmed by consuming bread but also compromised by our values and processes. One case you can explore involves his understanding of gluten intolerance. Another case is the difference between slow rise and wild yeast fermentation in making bread versus using commercial yeasts and other means of accelerating the fermentation process. Make sure to provide specific cultural examples of bread made through craft processes vs. industrial ones.

4: Food Science

- You are sharing an apartment with 3 roommates. You want to make sure that the food you purchase does not become compromised in any way, so you create a storage plan to put on the outside of the refrigerator to remind you of 1) the proper temperatures for storage; 2) the appropriate packaging/protection once it is opened; 3) the maximum time it can be kept without concern for food safety. Create a table with the appropriate responses for the following ingredients: eggs, milk, raw hamburger, pickles, lettuce. Make sure to cite your sources somewhere in the table.