

Tufts University, Friedman School of Nutrition Science and Policy

NUTR 219 Food Science Fundamentals

Fall 2019

Class Meetings: Required residency in Boston is September 30 and October 1. The remainder of the semester class is both synchronous and asynchronous online.

Instructor(s): Lynne M. Ausman,
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Skype: lynne.ausman

Office hours: Skype voice or Skype IM by appointment

Teaching Asst.: No TA.

Office hours: By prior arrangement.

Graduate Credits: 1.5 SHUs

Prerequisites: Introductory nutrition class

Course Description: The foundation of knowledge for any nutrition professional is a thorough understanding of the nutritional components of food and foodborne pathogens that are linked with disease and issues affecting food safety. Students will become adept with the basic groups of foods in the food supply and their nutrient profiles, their harvesting, processing and storage procedures and policies. This course will provide students a broad overview of certain aspects of the food supply both locally and worldwide and will examine issues affecting food safety including some of the mechanisms by which foodborne pathogens that cause disease in humans, as well as the human consequences of infection by major foodborne pathogens such as *E. coli* O157:H7, *Campylobacter* and *Listeria*.

Overall Course Objectives: By the end of this course, students will be able to:

- Discuss the nutritional contributions and deficits of the major groups of foods covered in this class, as well as the nutritional effects of storage, processing, and preparation on the nutritional value of the basic foods. Students will be able to track changing consumption trends, and provide information about new products in the marketplace.
- Use this knowledge to comprehend and critique published journal articles that represent both seminal and recent state of our knowledge for foods and their nutrient contents.
- Explain the role of nutrition components in causing or alleviating the major chronic diseases in selected regions in the world.

Texts or Materials: *Essentials of Food Science*, Fourth Edition, Vickie A. Vaclavik and Elizabeth W. Christian, Springer, New York, NY 2014.. ISBN: 978-1-4614-9137-8 (Print)

Academic Conduct: Each student is responsible for upholding the highest standards of academic integrity, as specified in the Friedman School's Policies and Procedures manual (<http://nutrition.tufts.edu/student/documents>) and Tufts University policies ([http://uss.tufts.edu/studentaffairs/judicialaffairs/Academic Integrity.pdf](http://uss.tufts.edu/studentaffairs/judicialaffairs/Academic%20Integrity.pdf)). It is the responsibility of each student to understand and comply with these standards, as violations will be sanctioned by penalties ranging from failure on an assignment and the course to dismissal from the school.

Classroom Conduct: Time extensions, make-up work, and a grade of Incomplete will only be given under extreme circumstances. Requests for these items must be made in advance, in

writing, to the instructor of the class. The instructor will indicate her approval and, if approved, what needs to be done to return to good standing in the course.

You should seek out information yourself and from your peers in the class. If you do not find your answer contact the instructor as soon as possible. Please do not wait. For all technical questions please contact Canvas Support through email (canvas@tufts.edu).

Assessment and Grading: The following guidelines are used in evaluating course performance:

- Class assignments will be evaluated on the basis of completeness, originality, scientific soundness and relevance to the assigned topic, as well as participation as deemed appropriate by the course instructors.
- Written work will be evaluated on the quality of thought, completeness, adherence to guidelines, scientific integrity, and ability to incorporate and communicate ideas and information effectively.
- Adherence to instructions and guidelines of the assignments.
- Attendance at all residency sessions. Please see the Attendance Policy. Missed time will affect your grade unless prior arrangements were requested and approved in writing by the instructor for make-up work.
- On-line discussions will be evaluated according to the matrix below:

Discussion Assignments Grading Criteria

	0 Does not meet requirements	1 Meets Requirements	2 Exceeds Requirements
Quality of posting	Postings are not relevant to the questions posed, or too simplistic/not thorough, or no posting at all.	Postings reflect the reading and some outside source material but outside source material not cited.	Postings reflect the readings and outside information with proper outside source material informal citation.
Quality of reply	Response not relevant to original posting, or no reply at all.	Response relevant to posting but fails to support position.	Response relevant to posting and supports position with factual information.
Understanding of reading and outside source material	Responds to the question posted but does not mention materials from the readings.	Responds to the question posted and makes reference to readings.	Responds to question posted and demonstrates understanding of material and outside source material and properly cites information.
Timeliness of Posting	Posting or response was not completed on time.	Posting and response were completed on time.	

Class Presentation: During this semester, you will lead the discussion on an assigned paper in the Carbohydrates, Sugar and Alcohols Lecture or the Fats and Oils Lecture. Please come prepared with 3-4 slides to support the group discussion. I am thinking that each paper should be no more than 10-20 minutes. Details on the papers and presentation are posted on Canvas at the residency period.

Food Lab

Only classes during the residency will have a food lab component.

Basis for Grading

First, timed essay style quiz	30%
Second, timed essay style quiz	30%
Online discussion (see grading matrix below)	20%
Class presentation	15%
Residency attendance and discussion	5%

A is excellent, and is defined as far and above the stated requirements for the given assignment. B is defined such that the student met the basic requirements. C is less than adequate. Grades less than B- are considered a failure. Grades will be posted throughout the semester in the course gradebook in Canvas, our Learning Management System.

Assignments and Submission Instructions: Assignments received after their deadline will not be accepted or graded unless extension is approved in advance. Students who are unable to complete an assignment exam on time for any reason should notify the instructor by email, text message or phone call prior to the deadline, with a brief explanation for why the extension is needed.

Accommodation of Disabilities: Tufts University is committed to providing equal access and support to all students through the provision of reasonable accommodations so that each student may access their curricula and achieve their person and academic potential. If you have a disability that required reasonable accommodations please contact the Friedman School Assistant Dean of Student Affairs at 617-636-6719 to make arrangements of determination of appropriate accommodations. Please be aware that accommodations cannot be enacted retroactively, making timeline4ss a critical aspect for their provision.

Course Schedule:

Lecture Schedule

Week	Inclusive Week	Topic	Instructor
1	September 9 - 15	Food safety	Ausman
2	September 16 - 22	Food processing	Ausman
	September 23 – October 2	MNSP Residency	
Residency (3 + 4)	September 30 (1 pm – 5 pm)	Grains, sugars, and alcohol; Fats and oils	Ausman
Residency (3 + 4)	October 1 (7 am – noon)	Field visit to Hans Kissle	Ausman
5	October 7 - 13	Fruits and vegetables	Ausman
	October 6-8	Timed 1.5 hour exam on Weeks 1 -4	
6	October 14 - 20	Meat, fish, poultry, legumes	Ausman
7	October 21 - 27	Dairy and Eggs	Ausman
	October 31 – Nov 3	Timed exam on Weeks 5 - 7	Ausman

* This schedule is subject to modification at the instructor's discretion.

Readings, Activities & Discussions

Specific information and directions on required text/book/pdf reading, assignments, and discussions for each week of the course are in the Module section of the class on Canvas.