

Should I Eat That? The Science of Food Safety

Summer 2016

Purchase College

Course Meeting

This is an accelerated online course, so you should plan to spend approximately 8 hours working on this course every weekday from July 11-29. There are no specific times for course meetings, but there are deadlines throughout the course for completing activities and submitting assignments.

Professor Elizabeth Middleton

elizabeth.middleton@purchase.edu

Office: NS 3040

Office phone: 914-251-6692 (however due to limited hours I will be in the office, email is the more reliable way to reach me during this course)

Office hours: Make an appointment to chat via Skype or Google Hangouts!

Course Website

This course will be run through its [Moodle website](#). All materials for the course will be provided on Moodle, communication will take place through Moodle or email, and assignments will be submitted on Moodle.

Course Texts

The required textbook for this course is listed below, as are several options for purchasing or renting the book for the duration of our course. All other readings, articles, videos, and other learning materials will be provided to you through the course website.

- Shewfelt, Orta-Ramirez, and Clarke, *Introducing Food Science, 2nd ed.*, 2016
- Purchase or rent hard copy or digital copy through [Amazon](#)
- Purchase or rent digital copy through [VitalSource](#)
- Purchase or rent hard copy through [Purchase Bookstore](#)

Course Description

We all interact with food on a daily basis, but how much do we understand about what's in our food and what happens before it reaches our tables? This course will explore the chemistry and biology underlying food safety and answer the following questions. What nutrients are found in foods? How do our bodies make use of these nutrients? How can we define "healthy" food? What happens to food when it is cooked? What processes are responsible for fermentation to make yogurt, cheese, beer, and wine? How can food be prepared in safe ways? What are some diseases that are related to food consumption? Why are some microbes safe to eat, but not others?

Scientific Concepts

Structure and function of biological macromolecules; major vitamins and minerals in foods; how different nutrients are processed by the body; reading and understanding food labels; chemical changes that occur when food cooks; chemical reactions in baking; biochemistry of fermentation; microbial agents in food; non-microbial food hazards; the human immune system; biology of celiac disease and prion diseases.

Societal Issues

Challenges in identifying and stopping an ongoing food outbreak; roles and limits of government intervention in food labeling and food safety; governmental agencies and policies regarding nutritional recommendations; safety of and controversy around genetically modified food.

Purchase College Academic Integrity Policy

The purchase college academic integrity policy (www.purchase.edu/policies/academicintegrity.aspx) explicitly forbids cheating, plagiarism, and other forms of academic dishonesty. Plagiarism is the appropriation or imitation of the language, ideas, and/or thoughts of another person and the representation of them as one's own original work. Students are responsible for familiarizing themselves with the definition of plagiarism and acceptable methods of attribution. Please note that the recommended minimum sanction for plagiarism is a failing grade on the assignment.

STUDENTS WHO HAVE ANY QUESTIONS OR DOUBTS ABOUT WHETHER AN ACTIVITY IS ACADEMICALLY PERMISSIBLE SHOULD CHECK WITH THE INSTRUCTOR!

For written assignments, you may want to use the [TurnItIn Self Checker](#) to identify potential issues before submitting your work to the course.

Student Disabilities

Students with documented physical, learning, psychological, and other disabilities are entitled to receive reasonable accommodations. To receive accommodations, students must first register with the Office of Access and Accommodations at (914) 251-6035 or COU.accommodations@purchase.edu. Students must also inform the professor at the beginning of the course so arrangements can be made. Accommodations cannot be made retroactively.

Communication

The best ways to get in touch with me are by email (elizabeth.middleton@purchase.edu), by sending messages through Moodle (these get forwarded to my email account), by setting up an appointment for a live chat, or through the general course discussions forum (useful if you're interested in getting feedback from other students as well).

I expect you to check your Purchase email and the class Moodle site daily for course updates. I also ask that you treat emails with me as professional communication. Please address me in the email, write in complete sentences, use capitalization, and use correct grammar.

Response Time and Feedback

I will respond to communication promptly during regular business hours (9am-5pm) on weekdays, and when possible I will also respond during evenings and weekends. Please make an effort to alert me to any issues or bring up any questions well in advance of due dates so that we can address them! I also understand that prompt feedback and grading are important in an accelerated course, so I will grade assignments as soon as possible after their due date. Most quizzes are graded automatically and you will receive your grade immediately after completing the assignment. Longer written assignments may take longer to grade.

Collaboration

Many activities in this course will require online discussion between students. These activities will generally take place in online discussion forums, where you will first work independently to prepare a post, and then discuss posts by other students. However, assignments will be completed individually and without collaboration, even if they will be shared with other students. All work should therefore represent the unique and distinct work of each student. I will specify what type of collaboration (if any) is allowed for an assignment. If you have any questions regarding this policy in general or for a specific assignment, please speak to me!

Technical Requirements

This online course is offered through Moodle, the college's learning management system. Students should have reliable access to a computer and the Internet, and should be able to easily view standard media files (i.e., PDFs, images, audio, and video) using up-to-date versions of programs. Students are required to log-in with the user name and password for their [Purchase email account](#) to access the course.

This course requires basic computer skills, including basic PC/Mac usage, Microsoft Office (including Word, Excel, PowerPoint), saving files, cutting, copying, saving, sending/receiving, and uploading/downloading files.

For more information about online courses at Purchase College, please see the [online course FAQ's](#).

Late Work

Since this is an accelerated course, on-time submission of all assignments is essential for successful completion of the course. Therefore, all deadlines (times and days) will be strictly enforced. All assignments are due by the end of the day (11:59pm EST) unless otherwise stated. Please note that I will not be available to answer questions late at night, so please take that into account when completing assignments. Late assignments will be penalized 10% per day (including weekends) that they are late. Late work submitted more than one week (7 days) after the deadline will not be accepted, since the course is only three weeks long. All deadlines are in EST regardless of the timezone the student resides in.

If you have a specific conflict that will affect your ability to submit an assignment on time, you must discuss it with me in advance to make other arrangements. However, it is preferable that you work ahead if you have an anticipated conflict and turn in assignments early. Students who have work or childcare responsibilities often find it useful to work ahead when they have extra time so that they don't fall behind. In the event of an emergency, you must contact me at the first opportunity to discuss arrangements for missed assignments.

Please note that final grades for the course must be submitted shortly after the course ends, so there is no opportunity for extensions beyond the last day of the course.

Course Assignments

1) Quizzes (25%)

- Quizzes will test students' knowledge and application of the material covered in the assigned readings and other course materials.
- Quizzes will take roughly 30 minutes to complete (though you are allowed 60 minutes) and will be given 1-2 times per week.
- Students will have the opportunity to retake each quiz once (with new questions) to raise their grade on the quiz. The final grade on the quiz will be the higher of the two attempts.

2) Forum posts (25%)

- Once students have mastered the material as demonstrated by the quizzes, they will engage with the professor and other students through discussion forums.
- These assignments will often involve small amounts of online research or exploration to complete.
- Students will respond to posts from other students in order to learn from each other through the interactive nature of forums.

3) Projects (30%)

- Food claims presentation: Students will research one or more health claims found on food labels and present their findings to the class in a multimedia format.
- Food safety essay: Students will write a paper on a topic of their choice related to food safety and/or nutrition.

4) Other assignments (20%)

- Students will complete several other assignments throughout the course. Examples include:
 - Case studies regarding nutrition or food safety
 - Foodborne outbreak investigation exercise

Final Grades

Highest	Lowest	Letter Grade
100	93	A
92.99	90	A-
89.99	87	B+
86.99	83	B
82.99	80	B-
79.99	77	C+
76.99	73	C
72.99	70	C-
69.99	60	D
59.99	0	F

Notes:

- A grade of A+ will be given at the discretion of the professor for exceptional work in the course
- Purchase College does not award grades of D+ or D-

Course Outline

Please see course Moodle site for specific dates for each topic and assignment.

Unit 1: Nutrition

- Introduction to food safety
- Dietary biomolecules
- Nutrient requirements
- Food labels and nutrition claims

Unit 2: Food Hazards

- Food microbiology and our immune system
- Procedures and policies that improve food safety
- Outbreak investigations

Unit 3: Food Preparation

- Food science research
- Practical considerations when preparing or selecting foods
- Chemical changes during cooking and processing
- Fermentation in the production of dairy and alcohol products