

SYLLABUS: FDSCTE 2200D, The Science of Food, Spring 2021

Instructor: Louise A. Campbell, Ph.D.

Email Address: please use the CarmenCanvas Conversations Inbox

Office Location: is currently in my basement MOST of the time, is 264C Howlett Hall when I am on campus, which will be very limited this semester

Office Hours: As needed and will be held via Zoom during Spring 2021

Prerequisite: Biology 1101 (101) or 1113 (113)

Course Description

Food science and nutrition in modern health; principles involved in digestion, metabolism, and the contribution of food to disease processes, including foodborne illness and the roles of science, biotechnology, and processing in meeting health and food needs.

Course Learning Outcomes

By the end of this course, students should successfully:

1. Know the names and functions of essential nutrients for humans as well as foods that are major contributors of these nutrients in their diets;
2. Know the factors important for microbial growth, the foodborne etiological agents that present public health hazard, and the positive role of microorganisms in food;
3. Be aware of their own nutritional health and options for improving it;
4. Be able to evaluate information/ media reports on food and nutrition critically and identify misinformation.

GEC Learning Objectives

This course also satisfies a **General Education (GE) natural science** requirement as a second course in the biological science sequence and, as such, has the following learning objectives:

1. Students understand basic facts, principles, theories, and methods of modern science.
2. Students understand key events in the development of science and recognize that science is an evolving body of knowledge.
3. Students describe the interdependence of scientific and technological developments.
4. Students recognize social and philosophical implications of scientific discoveries and understand the potential of science and technology to address problems of the contemporary world.

Safe and Healthy Buckeyes

Health and safety requirements: All students, faculty and staff are required to comply with and stay up to date on all university safety and health guidance (<https://safeandhealthy.osu.edu>), which includes wearing a face mask in any indoor space and maintaining a safe physical distance at all times. Non-compliance will result in a warning first, and disciplinary actions will be taken for repeated offenses.

Accommodations for Students with Disabilities

The University strives to make all learning experiences as accessible as possible. If you anticipate or experience academic barriers based on your disability (including mental health, chronic or temporary medical conditions), please let me know immediately so that we can privately discuss options. To establish reasonable accommodations, I may request that you register with Student Life Disability Services (SLDS). After registration, make arrangements with me as soon as possible to discuss your accommodations so that they may be implemented in a timely fashion. SLDS contact information: slids@osu.edu; 614-292-3307; 098 Baker Hall, 1213 W. 12th Avenue.

Additionally, in light of the current pandemic, students seeking to request COVID-related accommodations may do so through the university's request process, managed by Student Life Disability Services.

Please see the Course Guide for more details on Accommodations specific to this course.

Counseling and Consultation Services/Mental Health

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce a student's ability to participate in daily activities. The Ohio State University offers services to assist you with addressing these and other concerns you may be experiencing. If you or someone you know are suffering from any of the aforementioned conditions, you can learn more about the broad range of confidential mental health services available on campus via the Office of Student Life Counseling and Consultation Services (CCS) by visiting ccs.osu.edu or calling (614) 292- 5766. CCS is located on the 4th Floor of the Younkin Success Center and 10th Floor of Lincoln Tower. You can reach an on-call counselor when CCS is closed at (614) 292-5766 and 24 hour emergency help is also available through the 24/7 National Suicide Prevention Hotline at 1-(800)-273-TALK or at suicidepreventionlifeline.org.

David Wirt, wirt.9@osu.edu, is the CFAES embedded mental health counselor, and is available for new consultations and to establish routine care. To schedule with David, please call 614-292-5766. Students should mention their affiliation with CFAES when setting up a screening.

Creating an Environment Free from Harassment, Discrimination, and Sexual Misconduct

The Ohio State University is committed to building and maintaining a community to reflect diversity and to improve opportunities for all. All Buckeyes have the right to be free from harassment, discrimination, and sexual misconduct. Ohio State does not discriminate on the basis of age, ancestry, color, disability, ethnicity, gender, gender identity or expression, genetic information, HIV/AIDS status, military status, national origin, pregnancy (childbirth, false pregnancy, termination of pregnancy, or recovery therefrom), race, religion, sex, sexual orientation, or protected veteran status, or any other bases under the law, in its activities, academic programs, admission, and employment. Members of the university community also have the right to be free from all forms of sexual misconduct: sexual harassment, sexual assault, relationship violence, stalking, and sexual exploitation.

To report harassment, discrimination, sexual misconduct, or retaliation and/or to seek confidential and non-confidential resources and supportive measures, contact the Office of Institutional Equity:

- Online reporting form at equity.osu.edu
- Call 614-247-5838 or TTY 614-688-8605
- Or Email equity@osu.edu.

The university is committed to stopping sexual misconduct, preventing its recurrence, eliminating any hostile environment, and remedying its discriminatory effects. All university employees have reporting responsibilities to the Office of Institutional Equity to ensure the university can take appropriate action:

- All university employees, except those exempted by legal privilege of confidentiality or expressly identified as a confidential reporter, have an obligation to report incidents of sexual assault immediately.
- The following employees have an obligation to report all other forms of sexual misconduct as soon as practicable but at most within five workdays of becoming aware of such information: 1. Any human resource professional (HRP); 2. Anyone who supervises faculty, staff, students, or volunteers; 3. Chair/director; and 4. Faculty member.

This course adheres to The Principles of Community adopted by the College of Food, Agricultural, and Environmental Sciences. These principles are located on the Carmen site for this course; and can also be found at <https://go.osu.edu/principlesofcommunity>. For additional information on Diversity, Equity, and Inclusion in CFAES, contact the CFAES Office for Diversity, Equity, and Inclusion (<https://equityandinclusion.cfaes.ohio-state.edu/>). If you have been a victim of or a witness to a bias incident, you can report it online and anonymously (if you choose) at <https://studentlife.osu.edu/bias/report-a-bias-incident.aspx>.

Academic Integrity Policy

Academic integrity is essential to maintaining an environment that fosters excellence in teaching, research, and other educational and scholarly activities. Thus, The Ohio State University and the Committee on Academic Misconduct (COAM) expect that all students have read and understand the University's Code of Student Conduct, and that all students will complete all academic and scholarly assignments with fairness and honesty. Students must recognize that failure to follow the rules and guidelines established in the University's Code of Student Conduct and this syllabus may constitute Academic Misconduct.

The Ohio State University's Code of Student Conduct (Section 3335-24-04) defines academic misconduct as: Any activity that tends to compromise the academic integrity of the University, or subvert the educational process. Examples of academic misconduct include (but are not limited to) plagiarism, collusion (unauthorized collaboration), copying the work of another student, and possession of unauthorized materials during an examination. Ignorance of the University's Code of Student Conduct is never considered an excuse for academic misconduct, so I recommend that you review the Code of Student Conduct and specifically, the sections dealing with academic misconduct.

If I suspect that a student has committed academic misconduct in this course, I am obligated by University Rules to report my suspicions to the Committee on Academic Misconduct. It is the responsibility of the Committee on Academic Misconduct to investigate or establish procedures for the investigation of all reported cases of student academic misconduct. If COAM determines that you have violated the University's Code of Student Conduct (i.e., committed academic misconduct), the sanctions for the misconduct could include a failing grade in this course and suspension or dismissal from the University

For additional information, see the Code of Student Conduct <http://studentlife.osu.edu/csc/>.

Other sources of information on academic misconduct (integrity) to which you may refer include:

- The Committee on Academic Misconduct web pages ([COAM Home](#))
- *Ten Suggestions for Preserving Academic Integrity* ([Ten Suggestions](#))
- *Eight Cardinal Rules of Academic Integrity* (www.northwestern.edu/uacc/8cards.htm)

If you have any questions about the above policy or what constitutes academic misconduct in this course, please contact me.

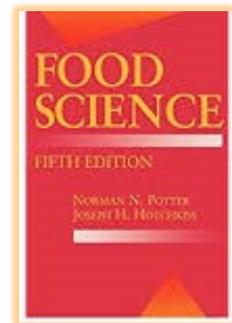
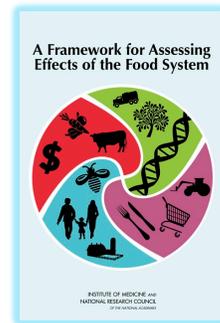
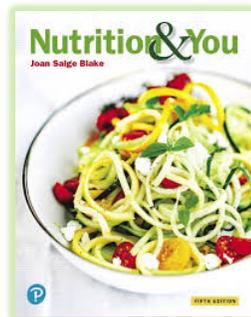
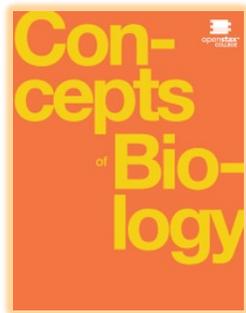
Credit Hours

FDSCTE 2200D is a 3 credit course. University policy states that “Every 1 credit hour assigned to the class equates to total of 3 hours of work per week for a “C” grade (1 hour of instruction and 2 additional study hours per week). Therefore a 3 credit hour course during a 14-week term should have 3 hours of instruction and 6 hours of homework/study time per week, for the student to earn a C grade.” (<https://aaas.osu.edu/faculty-resources/teaching-resources-and-policies/credit-hours-and-class-instruction-time>)



Office hours will be on an as-needed basis via Zoom from the comfort of your own room or home.
Please email me and we'll set up an appointment!

Textbooks



There is NO required textbook that must be purchased for this course, however, there are a number of books which will be used as references. Details on books are in the Course Guide.

Grading Scale

93–100: A	87-89.9: B+	77–79.9: C+	67–69.9: D+	Below 60: E
90–92.9: A-	83-86.8: B	73–76.9: C-	60–66.9: D	
	80-82.9: B-	70–72.9: C-		

Required Course Technology

- Basic computer and web-browsing skills
- Ability to smoothly navigate Carmen
- Familiarity with Microsoft Word, Microsoft Excel, Adobe Reader, and Zoom
- Computer: current Mac (OS X) or PC (Windows 7+) with high-speed internet connection, webcam, and microphone

Equipment: Digital camera or smartphone; Mac (OS X) or PC (Windows 7+) with high-speed internet connection, webcam, and microphone, capable of running the following: YouTube videos (Adobe Flash Player or an HTML5 compatible browser like Chrome or Internet Explorer) and .pdf files (Adobe Acrobat Reader). Google Chrome is required for Proctorio.

Communication

Please use the course inbox to be sure that your email receives priority. I will make every attempt to reply to e-mails within 36 hours on school days. If you do not receive a reply within 3 school days, please re-send your email – I'm human, and it is possible that an email will be overlooked. I am generally not online weekends/ holidays.

I teach more than one class. I will be able to reply more quickly if I know which of my classes you are in, so please indicate that in the SUBJECT line. When sending email, please be as clear and concise as possible. Here is a timesaving tip: Before emailing, please first check the Syllabus, the Course Guide, the Assignment instructions, and/or the appropriate Discussion Board.

Please see the Course Guide for detailed guidelines on communication.

Course Schedule

A schedule of the topics that will be covered in this course is included in this document. Detailed information on Assignments, Quizzes, the Project, and Activities can be found in the Course Guide.

Assignment Point Values

Point values for each assignment and their % of the grade are included in this document, and are posted on the course Syllabus page. Click "SYLLABUS" on the left side of the Home page, then click "Assignment Point Values FDSCTE 2200D Sp2120".

Revisions

This Syllabus and the Course Guide are subject to revision at any time. Revised versions will be posted on the CarmenCanvas Syllabus page, and titled "**Revised . . . mm/dd/yy**" with the date of the revision inserted.

TOPICS SCHEDULE

UNIT 0. BIOLOGY AND CHEMISTRY REVIEW (Optional)

- 0.1 Biology
- 0.2 Chemistry
- 0.3 Cell Structure and Function

Quiz 0

UNIT 1. SCIENCE; NUTRITION; SENSORY

- 1.1 Scientific Method, Sources of Information
- 1.2 What is Nutrition, Factors that Affect Food Choice
- 1.3 Nutrients and Non-nutrients
- 1.4 Sensory Modalities
 - Video, *The Tasty Truth About Your Tongue*
 - Video, *Supertasters*

Quiz 1 on Unit 1 is due during Week 2

UNIT 2. HEALTHFUL EATING

- 2.1 Alphabet Soup: Decoding Nutrient Reference Values
- 2.2 Dietary Guidelines for Americans
- 2.3 Food Package Labels: More than a Pretty Face
- 2.4 Food Product Dating

A1, A2, A3, A4 are due during Week 2

Quiz 2 on Unit 2 is due during Week 3

UNIT 3. DIGESTION; FOOD ALLERGIES, INTOLERANCES, SENSITIVITIES

- 3.1 What Happens to the Food We Eat: Digestion and Energy
- 3.2 Food Allergies, Intolerances, Sensitivities

A5 is due during Week 3

Quiz 3 on Unit 3 is due during Week 4

UNIT 4. MACRONUTRIENTS (This material is covered over a 2-week period)

- 4.1 Carbohydrates: Sugars, Starches, Fiber
- 4.2 Lipids: Fats and Oils
- 4.3 Proteins and Amino Acids

DAP Parts 1 (PJ) and 2 (CL) are due during Week 5

Quiz 4 on Unit 4 is due during Week 6

UNIT 5. WATER, MICRONUTRIENTS

- 5.1 Water, the most important nutrient
- 5.2 Vitamins
- 5.3 Minerals
- 5.4 Micronutrient Fortification
- 5.5 Dietary Supplements

Quiz 5, Activity 1 are due during Week 7

UNIT 6. ENERGY BALANCE AND WEIGHT MANAGEMENT; DISORDERS

- 6.1 Energy Balance and Weight Management
- 6.2 Eating Disorders

Quiz 6 on Unit 6 is due during Week 8

UNIT 7. FOOD MICROBIOLOGY

- 7.0 Introduction: Food Microbiology and Foodborne Illness
- 7.1 Basic Microbiology and Microbial Growth Factors
- 7.2 Etiologic Agents and Foodborne Illnesses
- 7.3 Susceptible Populations
- 7.4 Safe Food Handling

Quiz 7A on Units 7.0, 7.1, 7.2 and **Quiz 7B** on Units 7.3, 7.4 are due during Week 9
DAP Part 3 (R&R and MP) is due during Week 10

UNIT 8. FOOD SYSTEM (This material is covered over a 2-week period)

- 8.1 Food System in the U.S.
Videos, *Crunchy Carrots* and *Frozen Peas*
- 8.2 Farming
- 8.3 Sustainability
- 8.4 Biotechnology
Videos, *Rainbow Papaya*, *Unpopular Facts*, *Why Are GMOs Bad?*

Quiz 8 on Unit 8 is due during Week 11

UNIT 9. FOOD TECHNOLOGY (This material is covered over a 2-week period)

- 9.1 Introduction to the Food Industry
- 9.2 Food Technologies: Unit Operations
- 9.3 Food Technologies: Food Processing and Preservation
- 9.4 Food Technologies: Recent and Emerging Processing Technologies
- 9.5 Food Technologies: Packaging

Activity 2 is due during Week 12

Quiz 9 on Unit 9 is due during Week 13

UNIT 10. FOOD LAWS AND SAFETY TESTING

- 10.2 Food Laws
- 10.2 Food Safety Testing

Quiz 10 on Unit 10 is due during Week 14

UNIT 11. FOOD INGREDIENTS AND ADDITIVES

- 11.1 Food Ingredients and Food Additives
- 11.2 Organic and Natural

Activity 3 is due during Week 15

Quiz 11 on Unit 11 is due during Week 15

Bonus Units 12 and 13 (not required)

UNIT 13. CHOCOLATE SCIENCE

- 13.1 Chocolate History, Identity and Nutrition
- 13.2 Chocolate Ingredients
- 13.3 Chocolate Manufacturing

UNIT 14. SCIENCE OF ALCOHOL

- 14.1 Making Beer
- 14.2 Making Wine
- 14.3 Intoxication

Assignment Point Values, FDSCTE 2200, Spring 2021

Graded Items	Points	Total	% of Grade
Assignments (5)		80	16
A1: Who Are We? Survey	10		
A2: Discussion in Group: Introduce Yourself	30		
A3: Create Word Document	10		
A4: Getting Started in FDSCTE 2200D Quiz	15		
A5: Diet Analysis Project Introduction Review Quiz	15		
Unit Quizzes (12, keep 10 highest scores) Each quiz is worth 15 points; maximum 6 attempts per quiz	Each: 15	150	30
Diet Analysis Project		150	30
Part 1 Food Photo Journal (PJ)	30		
Part 2 Consumption Log and Analyses (CL)	40		
Part 3 Reflection and Report (R&R)	80		
Activities (3)		130	26
V1 and V2: choose from options	Each: 40		
V3: Current Events quiz	40		
Total Possible Points		500	100