

FOS3042 Introductory Food Science

SYLLABUS

Fall 2024

SCHEDULE AND CLASS LOCATION/FORMAT

Lectures

Monday	Period 6	12:50 PM - 1:40 PM	Rinker Hall (RNK) 220
	Period 7	1:55 PM - 2:45 PM	
Wednesday	Period 7	1:55 PM - 2:45 PM	Turlington Hall (TUR) 2354

INSTRUCTOR

Dr. Boce Zhang

Office: AFPL 216

Email: boce.zhang@ufl.edu

Office Hours: Wednesday 9-11 am, or by appointment

TEACHING ASSISTANT

Sherry Bansal

Email: sherry.bansal@ufl.edu

Office Hours: By appointment

CREDITS & COURSE DESCRIPTION

3 Credits

Introductory Food Science is a comprehensive course providing introductory knowledge of food chemistry, food laws, food processing & preservation, food microbiology & fermentation, food safety, and food engineering. **This course confers General Education credit for Biology (B).**

COURSE OBJECTIVES

Provide a comprehensive overview of food science and technology; define and examine the differences between food constituents; identify reasons behind food deterioration and spoilage; introduce food laws and regulations; gain a basic understanding of methods used to preserve foods; and to explore basic food processing and preservation techniques.

Here is a link to the [General Education Objectives for Biological Sciences \(B\)](#).

At the end of this course, students will be expected to have achieved the following learning outcomes in content, communication and critical thinking:

1) Content

Students demonstrate competence in the terminology, concepts, theories and methodologies used within the subject area. Students will acquire a basic understanding of food science, the areas of study within the field such as food chemistry, food safety, and food processing. Achievement of this learning outcome will be assessed through a written assignment and several quizzes and exams.

2) Communication

Students communicate knowledge, ideas and reasoning clearly and effectively in written and oral forms appropriate to the subject area. Students will communicate food science information to a general audience in a basic and clear manner. Achievement of this learning outcome will be assessed through a recorded oral assignment. The students will create an oral presentation to teach the use of a Nutrition Facts label to a general audience. They will test the efficiency of their performance by quizzing their trainee following their presentation.

3) Critical Thinking

Students carefully and logically analyze information from multiple perspectives and develop reasoned solutions to problems within the subject area. Students will prepare a report that requires research and analysis of news articles discriminating food science topics from similar fields, e.g., nutrition. Achievement of this learning outcome will be assessed through a written assignment where they will discuss the credibility of their source and categorize the information in the news article into one of the modules of the course.

COURSE PREREQUISITES

FSHN majors and transfer students will have enrollment priority for the in-person course.

TEXTBOOK AND COURSE MATERIALS (REQUIRED)

1) Textbook

Brown, Amy; Understanding Food Principles and Preparation, Cengage Learning; *5th Edition*, 2014 (ISBN-10: 1133607152 | ISBN-13: 9781133607151)

2) Other materials (optional)

Lab Manual for Brown's Understanding Food: Principles and Preparation (ISBN-10: 1133607160 | ISBN-13: 9781133607168)

Hartel, R. W., & Hartel, A. K. (2008). Food Bites: The science of the foods we eat. Springer.

Hartel, R. W., & Hartel, A. K. (2014). Candy Bites: The science of sweets. Springer.

COURSE FORMAT

Students will acquire knowledge of food science through the use of lecture, discussion, group activities, and audiovisuals.

COURSE ANNOUNCEMENTS

All lecture slides will be posted on Canvas prior to the class. All announcements will be made through email. It is the student's responsibility to check the announcement. Students can reach out to the instructor and TAs via email.

COURSE EVALUATIONS

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at <https://gatorevals.aa.ufl.edu/students/>. Students will be notified when the evaluation period opens

and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://ufl.bluer.com/ufl/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.

ASSESSMENTS

- **Class Assignments:** The 2 class assignments represent a significant part of the course grade, and their successful completion is critical.
- **Midterms:** There will be 3 midterms. Midterms 1,2, & 3 will each cover approximately 1/3 of the course material and be equally weighted. However, later course material will draw on foundation material presented in the first section of the course; students should therefore be prepared to apply principles from the entire course as they develop their answers to assignments and exams.
- **Final:** There final exam will be a comprehensive but with focus on the last module (contents not covered in previous midterms), closed book exam that will allow the student to demonstrate an understanding and synthesis of the concepts of food safety and sanitation from the entire course.
- **Presentation:** Students will work in groups (no more than 5 per group) to present on a hot topic in food science.

Topics:

Each group will be required to select ONE of topics listed below. Please check on Canvas or in the course schedule for topic and group selection due date (See “Course Outline & Class Schedule” for the exact date). Examples of topics include:

- a) Contemporary issues and regulations in food safety*
- b) Role of chemistry in flavor discovery and innovation*
- c) Prospects and challenges of emerging non-thermal processing technologies*
- d) Regulation of genetically modified foods, functional foods, nutraceuticals, or organic foods.*

Complete the sign-up sheet on Canvas, which will be live from week 01 to mid-term 1.

Sign-up Rules:

- a) Up to 5 people per topic/group. No duplication of topics.
- b) First come first serve. Be nice to your classmates and do NOT delete their names from the sign-up sheet. FCFS will be determined by sign-up sheet history recorded on Blackboard.
- c) You can come up with your own group, but you all need to sign up for a topic together and quickly! Otherwise, other people may sign up for your group, and you could lose a member or two. Again, FCFS.
- d) Complete your selection by the deadline on Canvas. I will send out emails to connect group members after the deadline.

Length:

The presentation should be 35-40 minutes in total (excluding Q&A), which should be equally divided within the group.

Assessment and submission:

Presentations will be assessed by the instructor, TA(s), and peer students. Check “Grading Rubrics for Presentation” on how presentations are assessed.

GRADINGS

Semester Total

Assessments	Grade percentage
Class Assignments	10% (5% each)
Quizzes	5%
Mid-term exams (3)	45% (15% each)
Final Exam (cumulative)	25%
Presentations	15%

Grading Scale: A (93 to 100), A- (90 to <93), B+ (87 to <90), B (83 to <87), B- (80 to <83), C+ (77 to <80), C (73 to <77), C- (70 to <73), D+ (65 to <70), D (60 to <67), F (0 to <60).

COURSE POLICIES

- Attendance is required. Please refrain from checking or sending e-mails, texts, etc. Students are expected to participate in class discussions. Makeup exams will only be given with the permission of the instructor if adequate notice and documentation is provided in advance. A 10% pt penalty per day will be assigned for late assignments, reports, or extra credits, turned in within two days after the due date. No submission will be accepted after two days past the original due date.
- Requirements for make-up exams, assignments, and other work in this course are consistent with university policies that can be found at <https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/>

MINIMUM TECHNICAL SKILLS/REQUIREMENTS

To complete your tasks in this course, you will need a basic understanding of how to operate a computer, how to use Zoom, how to use iClicker, and how to use word processing software. The University of Florida expects students entering an online program to acquire computer hardware and software appropriate to his or her degree program. Most computers are capable of meeting the following general requirements. A student’s computer configuration should include:

- Webcam; Microphone; Speakers or headphones; Broadband connection to the Internet and related equipment (Cable/DSL modem).
- Your instructor might request that you obtain the iClicker Cloud (free for students) to respond to polls and in-class quizzes.
- Microsoft Office Suite installed (provided by the university).

Individual colleges may have additional requirements or recommendations, which students should review prior to the start of their program.

ACADEMIC HONESTY

As a student at the University of Florida, you have committed yourself to uphold the Honor Code, which includes the following pledge: *“We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity.”* You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit at the University of Florida, the following pledge is either required or implied: *"On my honor, I have neither given nor received unauthorized aid in doing this assignment."*

It is assumed that you will complete all work independently in each course unless the instructor provides explicit permission for you to collaborate on course tasks (e.g. assignments, papers, quizzes, exams). Furthermore, as part of your obligation to uphold the Honor Code, you should report any condition that facilitates academic misconduct to appropriate personnel. It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For more information regarding the Student Honor Code, please see: <http://www.dso.ufl.edu/scctr/process/student-conduct-honor-code>.

NETIQUETTE AND COMMUNICATION COURTESY

All members of the class are expected to follow rules of common courtesy during, before, and after class, in all email messages, threaded discussions, and chats.

SOFTWARE USE

All faculty, staff and students of the university are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against university policies and rules, disciplinary action will be taken as appropriate.

SERVICES FOR STUDENTS WITH DISABILITIES

Students with disabilities have an equal right to use and benefit from resources at the George A. Smathers Libraries, including (but not limited to) Course Reserves materials. To ensure this right, students with disabilities:

- Have the responsibility to identify themselves as needing appropriate, reasonable accommodations for their disabilities
 - Have the responsibility for making their needs known in a timely manner
 - Have the same obligation as any library user to comply with library policies and procedures
- The George A. Smathers Libraries Course Reserves Unit will work with patrons needing assistance or accommodations to access course reserves materials. Please contact the Course Reserves Unit at 352-273-2520, or email at eres@uflib.ufl.edu for information or assistance. We also encourage students to contact and register with the University of Florida Disability Resource Center at 352-392-8565 or at accessuf@dso.ufl.edu.

GETTING HELP

Technical Difficulties:

For issues with technical difficulties for Canvas, please contact the UF Help Desk at:

- <http://helpdesk.ufl.edu>
- (352) 392-HELP (4357)
- Walk-in: HUB 132

Any requests for make-ups due to technical issues should be accompanied by the ticket number received from the Help Desk when the problem was reported to them. The ticket number will document the time and date of the problem. You should e-mail your instructor within 24 hours of the technical difficulty if you wish to request a make-up.

CAMPUS HELPING RESOURCES

Students experiencing crises or personal problems that interfere with their general well-being are encouraged to utilize the university's counseling resources. The Counseling & Wellness Center provides confidential counseling services at no cost for currently enrolled students. Resources are available on campus for students having personal problems or lacking clear career or academic goals, which interfere with their academic performance.

- University Counseling & Wellness Center, 3190 Radio Road, 352-392-1575, www.counseling.ufl.edu/cwc/
- Student Mental Health. Student Health Care Center, 392-1171, personal counseling;
- Counseling Services, Groups and Workshops, Outreach and Consultation, Self-Help Library, Wellness Coaching
- U Matter We Care, www.umatter.ufl.edu/
- Career Resource Center, First Floor JWRU, 352-392-1601, <https://career.ufl.edu/>
- Student Success Initiative, <http://studentsuccess.ufl.edu>
- Complaints: https://www.dso.ufl.edu/documents/UF_Complaints_policy.pdf & <https://sccr.dso.ufl.edu/policies/student-honor-code-studentconduct-code/>
- Online Course: <http://www.distance.ufl.edu/student-complaint-process>
- Library Support: Various ways to receive assistance with respect to using the libraries or finding resources. cms.uflib.ufl.edu/ask
- Teaching Center: 352-392-2010 General study skills and tutoring: teachingcenter.ufl.edu/
- Writing Studio: 352-846-1138. Help brainstorming, formatting, and writing papers: writing.ufl.edu/writing-studio/

GRADING RUBRICS FOR PRESENTATIONS

Presenter(s) Name: _____

Topic: _____

Categories	3 pts. (A level)	2 pts. (B level)	1-0 pt. (C-D level)
Identifies and summarizes problem at issue	Identifies not only the basics of the issue, but recognizes nuances of the issue	Identifies the main problem and subsidiary, embedded, or implicit aspect of the problem	Does not identify and summarize the problem, is confused or identifies a different or in appropriate problem
Personal perspective and position	Draws support from experience and information not available from assigned sources	Identifies, appropriately, one's own position on the issue	Addresses a signal source or view of the argument and fails to clarify presented position relative to the one's own
Quality of evidence	Observes cause and effect and addresses existing or potential consequences. Clearly distinguishes between fact, opinion, and acknowledges value judgments	Examines the evidence and source of the evidence, questions its accuracy, precision, evidence, and completeness	Merely repeat information provided, taking it as truth or denies evidence without adequate justification
Completeness	A background of the topic and target audience is very clearly outlined and organized.	A background of the topic and target audience is somewhat outlined.	No, or minimal attempt made
Critical thinking & creativity	Identifies and questions the validity of the key assumptions and addresses the fundamental dimensions that underlie the issue	Identifies some of the key assumptions and issues	Does not surface the assumptions and fundamental questions that underlie the issue

Grade: ____ / 15

SEMESTER SCHEDULE FOR FOS3042

Weeks of	Monday, 12:50-2:45 pm (P6 & P7) RNK 220	Wednesday, 1:55-2:45 pm (P7) TUR 2354
W1, Week of 08/25	1. Syllabus & Course Overview 2. Food Selection 3. Food Evaluation	4. Food safety
W2, Week of 09/01		5. Chemistry of Food
W3, Week of 09/08	5. Chemistry of Food 6. Government Food Regulations 7. Food Preservation Presentation group & topics due	Reserve for group projects or Weather contingency days
W4, Week of 09/15	EXAM 1 (Lectures 2-6)	8. Fermentation
W5, Week of 09/22	8. Fermentation 9. Milk	Guest Lecture – Dr. Katherine Witrick
W6, Week of 09/29	10. Cheese 11. Fish & Shellfish 12. Meat	Guest Lecture – Dr. Razieh Farzad Assignment 1 Due
W7, Week of 10/06	12. Meat 13. Poultry 14. Egg	Reserve for group projects or Weather contingency days
W8, Week of 10/13	EXAM 2 (Lectures 7-11)	Guest Lecture – Dr. Naim Montazeri
W9, Week of 10/20	15. Cereal Grains & Pasta 16. Flours & Flour Mixture 17. Starches & Sauces	18. Bread
W10, Week of 10/27	19. Vegetables & Legume 20. Fruits 21. Sweeteners	Guest Lecture – Emma Holliday and Julia Tvedt
W11, Week of 11/03	EXAM 3 (Lectures 12-18)	22. Fats & Oil
W12, Week of 11/10		23. Cakes & Cookies 24. Frozen Desserts Assignment 2 Due
W13, Week of 11/17	Presentations	Presentations
W14, Week of 11/24		
W15, Week of 12/01	FINAL EXAM (Cumulative, but with focus on Lectures 19-24)	Presentations

Color Codes

Lectures	Presentations	Guest Lectures	Exams	Due Dates
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UF CLASS MEET TIMES SCHEDULE

<https://registrar.ufl.edu/courses/class-times>

Period	Time
1	7:25 - 8:15am
2	8:30 - 9:20am
3	9:35 - 10:25am
4	10:40 - 11:30am
5	11:45 - 12:35pm
6	12:50 - 1:40pm
7	1:55 - 2:45pm
8	3:00 - 3:50pm
9	4:05 - 4:55pm
10	5:10 - 6:00pm
11	6:15 - 7:05pm