ADVANCED FOOD CHEMISTRY
FOS 6315C
Fall 2025

Instructor:	Juan E. Andrade Laborde, Ph.D. (aka, Dr.A.) 208 FSHN Bldg. E-mail: jandrade2@ufl.edu (best method of contact)
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Laboratory Support	Sharyn Passeretti Email: sharyn@ufl.edu (best method of contact)
Office hours:	By appointment (send me an email)
Class Time/Place:	Lectures: M, W, F | Period 8 (3:00 PM - 3:50 PM) MCCB 3124 Lab: R | Period 7 – 9 (1:55 PM - 4:55 PM) FSN 310
Credits	4 credit hours
Pre-requisites	Undergraduate courses in Organic Chemistry, Biochemistry (BCH 4024), and preferentially Food Chemistry (FOS 4311) or permission of the instructor.
Course Readings:	There is no current text that is a perfect fit for a graduate-level food chemistry course. However, Fennema's Food Chemistry, 5th Edition (Damodoran, Parkin and Fennema, eds.) is the current best choice that exists at this time and will be our primary text and reference book. We will use this text as the major source of information for the lectures, and I will also assign readings from this textbook. The UF library currently owns a print and eBook version. The eBook version can be found at the following link Fennema's food chemistry - Univ. of Florida (exlibrisgroup.com) This is an important book for any Food Scientist. I recommend that you have a copy of either the print or eBook (pdf) version for your personal library. The lecture notes will be posted on Canvas. You are expected to read the notes ahead of class time.
CANVAS Site	There is a CANVAS site for our course. All communication with Dr. Andrade will go through Canvas and all class assignments and quizzes will be uploaded through this site.
Course Etiquette:	• Attendance and an active/non-disruptive participation is expected • Cellular phones should be turned to silent or off when entering the classroom. No texting during class. Students will be asked to leave the classroom, if caught texting. • Computers are allowed during class for the sole purpose of taking notes. Both noisy typing skills and keyboards are not welcome in class. All other electronic devices should be turned off. • Please don't check or send e-mail, texts, etc., during class or lab. • Class sessions begin at the time specified. If you come in late, please take your seat quietly. Most class sessions will run the allocated time. Please, do not disrupt the class by arriving late or leaving early.

- Talking in class is disruptive. Please be respectful of the instructors and your fellow classmates and refrain from side conversations during class.

E-mailing

- All correspondence should be via E-mail.
- When you send an email to your instructor, you should start the subject line using FOS6315 [your subject].
- Please be brief and avoid attachments unless you are sure your recipients can open them.
- Sign your message with your name and return e-mail address.
- Be sure you REALLY want everyone to receive your response when you click, "Reply All." Be sure that the message author intended for the information to be passed along before you click the "FORWARD" button.

I. COURSE DESCRIPTION, OBJECTIVES, ACTIVITIES, AND GRADING

The course deals with the chemistry of the principal components of foods, their properties and interactions, and the changes that occur during processing, storage, and utilization. Emphasis will be on evidence derived from research literature, interpretation of research findings, and problem-solving based on scientific principles.

At the end of this course, the students will:

- Expand their declarative knowledge of the chemical function and properties of major food components, including carbohydrates, lipids, proteins, water, and micronutrients.
- Evaluate the chemical interactions of food components and their effects on sensory and nutritional quality, functional properties, and safety of foods.
- Examine the chemical basis of food preservation and the effects of processing and storage on food quality.
- Familiarize the student with common analytical and experimental methods used in the study of the major food components.
- Examine the basis of food chemistry-related issues in food safety, regulation, and current events.

Description of Course Activities

The course comprises lectures, student-led paper discussions and presentations, and examinations.

1. Lectures. Dr. Andrade will present information that will serve as a starting point for class discussions and student-led presentations. The objective is to bring current knowledge on specific aspects of food chemistry to build upon for later discussion.
2. Student-led article discussion. Students will present a chosen research article associated with the theme under discussion. Student-led article discussions will be guided by the instructor highlighting ongoing research, debated, and relevant articles.
3. Pop quizzes. Several pop quizzes will be offered in class instead of extra credit. There will not be extra credit given on this course. If you miss a pop quiz, you cannot retake it.

4. Exams. Exams will be taken in class and will consist of a series of Essay, True/False, and Multiple-answer questions. The topics covered on exams will relate to the material discussed in class (lectures), assigned readings, and research articles reviewed. Exams will take place on Thursdays during laboratory time.
5. Laboratory Practice. There will be 5 laboratory experiences. Each will focus on an aspect of water, lipids, carbohydrates, proteins, and fortification. Students will submit a report on the findings from laboratory exercises. Note on safety: If you have not done so, you must take the following training provided through UF EHS: Chemical Hygiene Plan (EHS869) and Hazardous Waste Management (EHS809). Both are available online at: https://mytraining.hr.ufl.edu/. Use your GATORLINK to enter. You will be asked to submit your training certificate in PDF format.
6. Reflection essay: Each student will submit a 1-page reflection essay (TNR 12 font, 1-inch margins; first person) and include 1) your thoughts about your class activities, 2) information collected through the course; and 3) answers/view changes/paradigm shifts from instructor/peer comments/questions collected on the day of your presentations. Students should include these three aspects to receive full points.

Information for all individual activities and their evaluation will be posted on Canvas. VISIT OUR COURSE PAGE FREQUENTLY.

Student Assessment

Your final grade will be computed from your performance on the following activities (out of 400 pts):

Activity	Output / points	Delivery	% Grade	Points
In-class pop-quizzes	Up to 5 x 5 pts	In-class	Extra	Extra
Syllabus assignment	1 x 10 pts	Online	2.0	10
Student-led article ppt	1 x 30 pts	In-class	6.0	30
Reflection essay	1 x 10 pts	Online	2.0	10
Lab reports	6 x 25 pts	Online	30.0	150
Exams	5 x 60 pts	In-class	60.0	300
		TOTAL	**100**	**500**

Grade conversion

You will receive a letter grade for this course, and pluses (+) and minuses (–) will be part of the grade. There will not be any extra points in this class. If your grade is 89.45 this will be rounded to 90. If it is 89.44, it will be rounded to 89 (No exemptions).

Grade Letter and Number Scale

Percent	Grade	Grade Points	Percent	Grade	Grade Points
91.5 - 100.0	A	4.00	72.0 – 74.4	C	2.00
87.0 - 91.4	A-	3.67	69.0 - 71.4	C-	1.67
84.0 - 86.4	B+	3.33	66.0 - 68.4	D+	1.33
81.0 – 83.4	B	3.00	63.0 - 65.4	D	1.00
78.0 - 80.4	B-	2.67	60.0 - 62.4	D-	0.67
75.0 - 79.4	C+	2.33	0 - 59.4	E	0.00

More information on UF grading policy may be found at: UF Graduate Catalog ; Grades and Grading Policies

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II. COURSE POLICIES

Absences and Make-Up Work

Requirements for class attendance and make-up exams, assignments, and other work are consistent with university policies that can be found at: https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/

Late Policy

Students are expected to submit all assignments on time. Assignments will be collected via Canvas or in class. Assignments not turned on or before the deadline will be subject to a "late" penalty corresponding to a 10% deduction of the maximum number of points of the assignment for every day it is late.

Grading

Information on current UF grading policies for assigning grade points can be found here: https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/.

Email

Throughout the semester, your instructor may communicate important information to the class members via e-mail. Importantly, the e-mail address on file with UF (@ufl.edu) will be used for all communications. Forward any other e-mail accounts (Gmail, etc.) to your UF account. When in doubt, use the email system on Canvas to communicate with the instructor.

Academic Integrity

UF students are bound by The Honor Pledge which states "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students 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." The Conduct Code specifies a number of behaviors that are in violation of this code and the possible sanctions. See the UF Conduct Code website for more information. https://sccr.dso.ufl.edu/process/student-conduct-code/ If you have any questions or concerns, please consult with the instructor or TAs in this class.

It is assumed that you will complete all work independently in each course task unless the instructor provides explicit permission for you to collaborate on course tasks (e.g., assignments, papers, quizzes, exams). The use of artificial intelligence (AI, e.g., ChatGPT) to complete quizzes and reports is not allowed. AI-generated writing will be evaluated using online tools such as (GPTZero, GPT-2 Detector, or AI content detector | GPT-3 | ChatGPT – Writer). 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: https://sccr.dso.ufl.edu/process/student-conduct-code.

Recording in class

Students are allowed to record video or audio of class lectures. However, the purposes for which these recordings may be used are strictly controlled. Th only allowable purposes are (1) for personal education use, (2) in connection with a complaint to the university, or (3) as evidence in, or in preparation for, a criminal or civil proceeding. All other purposes are prohibited. Specifically, students may not publish recorded lectures without the written consent of the instructor. A "class lecture" is an educational presentation intended to inform or teach enrolled students about a particular subject, including any instructor-led discussions that form part of the presentation, and deliver by an instructor hired or appointed by the University, or by a guest instructor, as part of a University of Florida course.

A class lecture does not include lab sessions, student presentations, clinical presentation such as patient history, academic exercises involving solely student participation, assessments (quizzes, tests, exams), field trips, private conversations between students in the class or between a student and the faculty or guest lecturer during a class session.

Publication without permission of the instructor is prohibited. To "publish" means to share, transmit, circulate, distribute, or provide access to a recording, regardless, of format or medium, to another person (or persons), including but not limited to another student within the same class section. Additionally, a recording, or transcript of a recording, is considered published if it is posted on or uploaded to, in whole or in part, any media platform, including but not limited to social media, book, magazine, newspaper, leaflet, or third-party note/tutoring services. A student who publishes a recording without written consent may be subject to a civil cause of action instituted by a person injured by the publication and/or discipline under UF Regulation 4.040 Student Honor Code and Student Conduct Code.

Online Course Evaluation Process

Student assessment of instruction is an important part of efforts to improve teaching and learning. At the end of the semester, students are expected to provide feedback on the quality of instruction in this course using a standard set of university and college criteria. 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.bluera.com/ufl/. Summaries of course evaluation results are available to students at: https://gatorevals.aa.ufl.edu/public-results/.

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

The Disability Resource Center coordinates the needed accommodations of students with disabilities. This includes registering disabilities, recommending academic accommodations within the classroom, accessing special adaptive computer equipment, providing interpretation services, and mediating faculty-student disability-related issues. Students requesting classroom accommodation must first register with the Dean

of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation, contact:

DRC: 0001 Reid Hall, 352-392-8565.

Student Privacy

There are federal laws protecting your privacy with regards to grades earned in courses and on individual assignments. For more information, please see the Notification to Students of FERPA Rights.

Campus Helping Resources

UF is dedicated to supporting students in their academic success and overall well-being. Life can get difficult at times, especially while in college. Many students are faced with stressors and challenges that begin to impact their success as a student. These stressors have many shapes and forms (e.g., financial, family issues, etc.) and arrive at different stages of our lives. The U Matter, We Care Initiative aims at assisting the community with: i) care-related resources and programs focused on health, safety, and holistic well-being; ii) finding an appropriate network of support education and training; iii) access to tools for helping faculty staff and family members help students; and iv) several pathways to get involved with the initiative. Students experiencing crises or personal problems that interfere with their general well-being are encouraged to utilize any of the many University's counseling resources.

Academic Resources:

- E-learning technical support: Contact the UF Computing Help Desk at 352-392-4357 or via e-mail at helpdesk@ufl.edu.
- Career Connections Center: Reitz Union Suite 1300, 352-392-1601. Career assistance and counseling services.
- Library Support: Various ways to receive assistance with respect to using the libraries or finding resources. Call 866-281-6309 or email ask@ufl.libanswers.com for more information.
- Academic Resources: 1317 Turlington Hall, Call 352-392-2010, or to make a private appointment: 352- 392-6420. Email contact: teaching-center@ufl.edu. General study skills and tutoring.
- Writing Studio: Daytime (9:30am-3:30pm): 2215 Turlington Hall, 352-846-1138 | Evening (5:00pm-7:00pm): 1545 W University Avenue (Library West, Rm. 339). Help brainstorming, formatting, and writing papers.
- Academic Complaints: Office of the Ombuds; Visit the Complaint Portal webpage for more information.
- Enrollment Management Complaints (Registrar, Financial Aid, Admissions): View the Student Complaint Procedure webpage for more information.
- UF Student Success Initiative: Visit https://studentsuccess.ufl.edu/ for resources that support your success as a UF student.

Campus Health and Wellness Resources:

- UF Whole Gator Resources: Visit https://one.uf.edu/whole-gator/discover for resources that are designed to help you thrive physically, mentally, and emotionally at UF.

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III. TENTATIVE CLASS SCHEDULE

Week of	Monday	Wednesday	Thursday	Friday
August 18			Course introduction and student activities Pre-assessment	Water
August 25	Water	Water	**Lab: Intro+ Bias**	Water
September 1	Labor Day Holiday no class	Water	**Lab: Water**	Water
September 8	Carbs	Carbs	Exam 1: water	Carbs
September 15	Carbs	Carbs		Carbs
September 22	Carbs	Carbs	**Lab: Carbohydrates**	Carbs
September 29	Lipids	Lipids	Exam 2: Carbohydrates	Lipids
October 6	Lipids	Lipids	**Lab: Lipids**	Proteins
October 13	Lipids	Lipids	Exam 3: Lipids	Homecoming No Class
October 20	Proteins	Proteins	**Lab: Proteins (part I)**	Papers
October 27	Proteins	Proteins	**Lab: Proteins (part II)**	Papers
November 3	Proteins	Proteins	Enzyme kinetics	Papers
November 10	Proteins	Proteins	**Lab: Fortification (mineral analysis)**	Papers
November 17	Fortification	Fortification	Exam 4: Proteins	Fortification
November 24	Thanksgiving Week Holiday no class			
December 1	Fortification	Exam 5: Fortification	Reading days	Reading days
December 8	Finals week			