

Food Chemistry

FOS4311 Section:

Class Periods: MWF – Period 4: 10:40 am – 11:30 am

Location: Mechanical & Aerospace 0211

Academic Term: Spring 2021

Instructor:

Name: Katherine Witrick

Email Address: Kthompsonwitrick@ufl.edu

Office Phone Number: (352) 294 3908

Office Hours: T/R: 10:00 – 12:00 or by appointment

Office Location: Rm 212 Aquatic Foods Production Building

Office hours will be offered via Zoom instead of in person. The link along with the password will be placed on the course website (canvas). If you need to meet with me at other times during the semester you are encouraged to make an appointment (email or call). I generally have an open-door policy, but I may not always be in my office or available to meet with you if you decide to stop by unannounced. Appointments can also be made to ensure that I am available during an appointed time. Appointments will be made with consideration to my schedule.

I will try to answer individual student emails promptly during my stated office hours, and generally within 24 – 48 hours at other times. In order for your email to not get accidentally lost or buried in my inbox denote the subject headline with FOS4311 in your email.

Teaching Assistants:

Please contact through the Canvas website

- TBD

Course Structure

This course is an upper level Food Science and Human Nutrition/Dietetics course. The purpose of this course is to help students understand, apply, and analyze (make connections) between the chemical reactions occurring within our food. This class is traditionally designed as an in-person class, however due to Covid-19 it will be delivered as a HyFlex (Hybrid-Flexible) course. A HyFlex course as defined by the university is a course design method and teaching approach that is designed to better accommodate students by coming online and classroom-base components. Class materials will be composed of lecture slides, handouts, reading materials, and videos. Any additional reading material will be included on the exams. Students will be expected to participate in class lectures and in-class assignments.

Covid-19 Safety Plan

- 1.) Safety is my number 1 priority for everyone in this class!!! Be prepared as well be flexible.
- 2.) Students are required to wear a face cover when participating in the in-person lecturer and during the in-person lab portion.
- 3.) Any student taking the in-person class who feels ill will be excused and encouraged to stay home.
- 4.) Any student who has health concerns will be excused from participating in the in-person labs.
- 5.) In-case of a university-wide shut down, any remaining labs will be replaced by virtual ones.

Online Lecture

Those participating in the online section of the course will join and participate via Zoom. Class lectures may be audio visually recorded for students in the class to refer to and for students who are unable to attend the live lecturer. Students who participate with their camera engaged or who use a profile image are agreeing to have their

video or image recorded. If you are unwilling to consent to have your profile or video image recorded, be sure to turn your camera off and do not use a profile image. Likewise, students who un-mute themselves and participate in the oral discuss, you are agreeing to have your voices recorded. If you are not willing to consent to having your voice recorded during class, you will need to keep your mute button activated and communicate only through the “chat” feature. This will allow you to type questions and communicate live. The chat will not be recorded or shared. As in all courses, unauthorized recording and unauthorized sharing of recorded materials is prohibited.

Course Description

Relationship of composition to the properties of foods and the changes which occur during processing, storage, and utilization.

Course Pre-Requisites

CHM 2200 or CHM 2210 (*Organic Chemistry 1*), CHM 2211 (*Organic Chemistry 2*) sequence (with labs) Biochemistry highly recommended but not required.

Course Co-requisites

FOS 4310L (Experimental Foods Lab) or FOS 4311L (Food Chemistry Lab)

Course Objectives

The core competency of this course is for students to differentiate chemical interactions and reactions of food components and their effect on sensory, nutritional, and functional properties of foods, and how processing influences these properties. Specific course goals are that you will be able to:

1. Classify components of food by chemical structure.
2. Students will be able to describe how the chemical components of a food impact the functionality of the overall food product.
3. Understand how the solvent system of the food affects overall food properties.
4. Will be able to predict the major reactions that occur in foods.
5. Students will be able to describe the fundamental structure/function relationships of foods and how they impact the overall food product quality, safety, and shelf life.

Recommended Text

The Introductory Food Chemistry textbook is strongly recommended for students pursuing a career in Food Science or needing additional explanation of chemical concepts.

- *Introductory Food Chemistry*,
Author: John W. Brady
Publication date and edition: *1st Edition*. 2013.
Publisher: Cornell University Press, Ithaca, NY.
ISBN 9780801450754
*Available for purchase from the UF bookstore, may or may not be available from off-campus bookstores, available on Amazon)

Other Useful Texts

- *Fennema's Food Chemistry*
Authors: S. Damordaran, K. Parkin, O. Fennema
Publication date and edition: 2007. 4th Edition
Publisher: CRC Press.
ISBN: 978-0849392726

- *Principles of Food Chemistry*
 Author: John deMan
 Publication date and edition: 1999. 3rd Edition
 Publisher: Aspen Publishers, New York
 ISBN: 9781461463894

Course Schedule

Week	Date	Topics	Notes
1	1/11 – 1/15	Introductions Chapter 2: Water	
2	1/18 – 1/22	MLK Day: No Class (1/18) Chapter 2: Water	
3	1/25 – 1/29	Chapter 2: Water	
4	2/1 – 2/2	Chapter 4: Carbohydrates and Simple Sugars	Quiz 1 (opens 2/1) Due 2/12
5	2/8 – 2/12	Chapter 4: Carbohydrates and Simple Sugars Chapter 4: Carbohydrates (Polysaccharides) Exam 1 (2/12)	
6	2/15 – 2/19	Chapter 4: Carbohydrates (Polysaccharides)	
7	2/22 - 26	Chapter 4: Carbohydrates (Polysaccharides)	
8	3/1 – 3/5	Chapter 7: Lipids	Quiz 2 (opens 3/1) Due 3/12
9	3/8 -3/12	Exam 2	
10	3/15 -3/19	Chapter 5: Proteins	
11	3/22 – 3/26	Chapter 5: Proteins Chapter 6: Enzymes	
12	3/29 – 4/2	Chapter 6: Enzymes	Quiz 3 (opens 3/29) Due 4/9
13	4/5 – 4/9	Chapter 6: Enzymes Exam 3 (4/9)	
14	4/12 – 4/16	Chapter 9: Food Colors	
15	4/19 – 4/21	Chapter 10: Additives*(If time permits) Review	Quiz 4 (opens 4/19) Due Day of Exam
16		Final Exam (Cumulative) – As Assigned	

Exam 1: Water and Simple Sugars and other Carbohydrates

Exam 2: Polysaccharides and Lipids

Exam 3: Proteins and Enzymes

Final Exam: Cumulative

Attendance Policy, Class Expectations, and Make-Up Policy

I do not have an attendance policy for the lecturer portion (in-person or Zoom) of this class, however in my experience it is best to try and attend every lecturer whenever possible. To encourage regular attendance to class I will assign pop quizzes periodically throughout the course of the semester. If you miss class for any reason and a pop quiz has been given on that day you must provide written documentation for an excused absence otherwise you will be given a zero for that quiz. Excused absences must be consistent with university policies in the Undergraduate Catalog and require appropriate documentation. Additional information can be found in Attendance Policies.

Evaluation of Grades

<i>Assignment</i>	<i>Total Points</i>	<i>Percentage of Final Grade</i>
Exams (3@100 pts)	300	50%
Final Exam (Cumulative)	100	16%
Quizzes (4*25 pts)	100	16%
Food Label Term Paper	50	8%
Daily Quizzes/Clicker Points	50	8%
Total	600	100%

Grading Policy

The following is given as an example only.

<i>Percent</i>	<i>Grade</i>	<i>Grade Points</i>
90.0 - 100.0	A	4.00
87.0 - 89.9	A-	3.67
84.0 - 86.9	B+	3.33
81.0 - 83.9	B	3.00
78.0 - 80.9	B-	2.67
75.0 - 79.9	C+	2.33
72.0 - 74.9	C	2.00
69.0 - 71.9	C-	1.67
66.0 - 68.9	D+	1.33
63.0 - 65.9	D	1.00
60.0 - 62.9	D-	0.67
0 - 59.9	F	0.00

More information on UF grading policy may be found at:

[UF Graduate Catalog
Grades and Grading Policies](#)

Course Assignments

Exams

Students will be examined on the course materials in a series of **four** exams each worth 100 points. The format of exam questions will be a combination of multiple choice, true/false, fill in the blank, and short answer. The content of the exams will be based on lecture material (i.e., notes uploaded to Canvas) and any assigned readings.

If a student has a conflict with the exam time, it is the student's responsibility to notify the instructor giving the exam, in writing, and schedule an alternative time to take the exam, **one week prior to the exam**. Rescheduling of an exam because of a medical emergency will require written documentation from a medical practitioner of the nature of the medical emergency and instructor will assess validity

Quizzes

Four quizzes will be assigned a week prior to an exam. The quiz will open up a week before the exam and close at the start of class on the day of the exam. The quiz will consist of material that will be on your exam. The purpose of

the quiz is to serve as a study aid for the exam. Quizzes will consist of similar type questions that you will see on your exam.

In Class Participation

Class participation is extremely important. In lieu of using the iClicker response (clickers) I will post pop-quizzes onto Canvas. Students will be given time in class to take the quiz. Pop-quizzes will consist of two – five questions max. Along with pop-quizzes, students will be asked to participate in group assignments. I will let everyone know the class period before the in-class group-assignment so that those who are participate in the in-class section can bring a computer, table, or cell-phone to login into Zoom. This way people in-class can work with the online students as well.

Food Label Term Paper

You will be required to produce a typewritten report with tables and the chemical composition of 3 food products found in local supermarkets. You are free to choose the products and can work as a group of up to 3 people to submit a joint report. (**Caution: Choose people you can depend on because you will all be receiving the same grade if you work as a group**). Details are under the Assignments tab, and more details will be addressed closer to the due date. Due on **4/16/18** by **5:00PM**. Late assignments will receive deductions at 2pts/day for each day late. **Reports will not be accepted beyond 7 days late, and thus will result in a 0 (zero) grade.**

Covid-19 Addendums:

We will have face-to-face instructional sessions to accomplish the student learning objectives of this course. In response to COVID-19, the following policies and requirements are in place to maintain your learning environment and to enhance the safety of our in-classroom interactions.

- You are required to wear approved face coverings at all times during class and within buildings. Following and enforcing these policies and requirements are all of our responsibility. Failure to do so will lead to a report to the Office of Student Conduct and Conflict Resolution.
- This course has been assigned a physical classroom with enough capacity to maintain physical distancing (6 feet between individuals) requirements. Please utilize designated seats and maintain appropriate spacing between students. Please do not move desks or stations.
- Sanitizing supplies are available in the classroom if you wish to wipe down your desks prior to sitting down and at the end of the class.
- Follow your instructor's guidance on how to enter and exit the classroom. Practice physical distancing to the extent possible when entering and exiting the classroom.
- If you are experiencing COVID-19 symptoms ([Click here for guidance from the CDC on symptoms of coronavirus](#)), please use the UF Health screening system and follow the instructions on whether you are able to attend class. Click here for [UF Health guidance on what to do if you have been exposed to or are experiencing Covid-19 symptoms](#).
- Course materials will be provided to you with an excused absence, and you will be given a reasonable amount of time to make up work. [Find more information in the university attendance policies](#).

Students Requiring Accommodations

Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the [Disability Resource Center](#). It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester.

Course Evaluation

Students are expected to provide feedback on the quality of instruction in this course by completing . Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students on the .

University Honesty Policy

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 Honor Code specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

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. We, the members of the University of Florida community, pledge to uphold ourselves and our peers to the highest standards of honesty and integrity.

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 Resources:

Health and Wellness

U Matter, We Care:

If you or a friend is in distress, please contact umatter@ufl.edu or 352 392-1575 so that a team member can reach out to the student.

Counseling and Wellness Center: , and 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies.

Sexual Assault Recovery Services (SARS)

Student Health Care Center, 392-1161.

University Police Department at 392-1111 (or 9-1-1 for emergencies), or .

Academic Resources

E-learning technical support, 352-392-4357 (select option 2) or e-mail to Learning-support@ufl.edu.

Career Resource Center, Reitz Union, 392-1601. Career assistance and counseling.

Library Support, Various ways to receive assistance with respect to using the libraries or finding resources.

Teaching Center, Broward Hall, 392-2010 or 392-6420. General study skills and tutoring.

Writing Studio, 302 Tigert Hall, 846-1138. Help brainstorming, formatting, and writing papers.

Student Complaints Campus

