

# “You Are What You Eat: A Course in Food Chemistry”

First Year Seminar Syllabus –Fall 2021

**Room:** CMK 100

**Time:** Friday 10 am - 1:50 pm, short break for lunch

Dr. Michelle Knowles

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*Office Hours:* 7-8pm Tuesdays on zoom. Email to set up a different time.

## **Classroom policies:**

- Wear a mask that covers your nose and mouth at all times.
- Wash or sanitize your hands upon entering the class
- Do NOT eat anything. Even if we make food that appears edible. You can take it elsewhere.
- We will take a break for lunch (~30 minutes)

## **Introduction and Learning Outcomes:**

During this course we will be part of an intellectual community and learn through critical thought and scientific reasoning. One goal of this course is to *learn how to approach complex problems* – ones you do not know the answers to, where the answers may not be clear, and ones you will need to research. We will use writing to communicate our point of view and back up our conclusions with scientific evidence. In the process, you will also learn about the chemistry and molecules in our food. A second goal of our class is to build community. We will have two days devoted to activities beyond the classroom.

**Online Materials:** You are responsible for materials posted on Canvas. This includes links to videos, lectures, worksheets, rubrics, and this syllabus. Everything must be turned in online through Canvas. I recommend putting the Canvas app on your phone if possible.

## **Reading Materials:**

- ✓ On Food and Cooking by Harold McGee
- ✓ Additional online materials and journal articles will be provided for many topics and posted on Canvas.

## Grade Evaluation is based on:

**EVERYTHING is turned in on Canvas!**

- **Short Papers (20%):** Kitchen Chemistry “Lab” Reports. Due to COVID, the experiments will be performed as a demonstration rather than in groups. Before each lab, work with your group to: read the lab and background material, describe the chemistry, then an experiment and the predicted results. There’s a worksheet for each pre-lab, and one pre-lab is due per group of 2-3 students. Afterwards, an individual paper is due for labs 1-3 (See below for details), a group presentation is due for lab 4.

Lab #1: The Scientific Process: Spaghetti breaking and cooking

Lab #2: Emulsions

Lab #3: Cheese making and Protein Denaturation

Lab #4: Virtual: Researching a Kitchen Myth. If you want to use your dorm resources to test something, this is OK. Think: microwave, visual demos, etc. I can lend out thermometers and other items from class.

After each lab: a short paper will be written with the focus of explaining the science behind the experiments. We focus on concision, cohesion and references in these papers as well as understanding the science. These are a MAXIMUM of one page single spaced, size 12 font, Times New Roman, 1” margins. Small, appropriate figures you create are encouraged! References can be on a separate sheet of paper and do not count towards the one page. The lowest grade is dropped.

- **Worksheets and Prelabs (25%):** They will be posted on Canvas. These cover writing, scientific concepts and experimental planning. Most worksheets I will explain and start in class, then you can finish them and submit them by midnight on the day of class. This is done to reduce our face time during the pandemic and to use our face time in a more valuable way. I will be available for questions.
- **Research Term Paper (30%):** Choose a topic of your interest on food/nutrition/farming that can be addressed from researching the science. 10 pages double spaced, Times New Roman, size 12 font, 1” margins. References do not count as part of the 10 pages. You need at least 10 scientific references. **A 5 page draft with 5 scientific references is due. This will be graded!** There are additional worksheets that pertain to the research paper that are part of this overall grade. See Canvas > Assignments.
- **Presentations (25%):** There are two presentations to be recorded as a Kaltura videos and posted on Canvas. These do not have to be a power point, lecture-style talk. Please discuss ideas with me and clear any external videos with me in advance.
  - **Presentation #1:** The kitchen myth *group* presentation. This is an 8 minute video on the myth your group researched, the science behind it and whether or not the myth is true (conclude based on scientific logical reasoning)
  - **Presentation #2:** The presentation will cover the same topic as your research paper and it is an individual presentation. You need to convey the science and ideas that your paper discusses, but you do not need to cover your entire paper. 6-8 minutes.

**Class time:** You need your laptop each week to complete in-class worksheets.

**Lectures:** Lectures will be varied from in class to short online video lectures.

**Absence/Late Policy:** Do not come to class sick; contact me if you will miss class for any reason. If work is turned in late, 10% will be deducted for each day the work is late unless you have emailed me in advance. If you miss class you can get notes from other students.

<i>Letter</i>	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	F
<i>Percent</i>	93.0-100	90.0-92.9	88.0-89.9	83.0-87.9	80.0-82.9	77.0-79.9	70.0-76.9	65.0-69.9	62.0-64.9	57.0-61.9	55.0-56.9	Below 55

**Academic Integrity:** In this course and all other courses at DU, you are expected to abide by the Honor Code. Any form of dishonesty will be taken seriously and there will be no tolerance for plagiarism.

*Students agree that by taking this course all required papers may be subject to submission for textual similarity review to Turnitin.com for the detection of plagiarism. All submitted papers will be included as source documents in the Turnitin.com reference database solely for the purpose of detecting plagiarism of such papers.*

**FSEM Assessment Activities:**

1. Explanation: Students will demonstrate their ability to explain the issue/hypothesis and the science with 3 short papers on demonstrations performed. (Weeks 1-6)
2. Evidence: Students will complete one worksheet on references and also use scientific evidence in their research paper and the presentation on their research paper (Week 8, 10)
3. Influence of context and assumptions: Students will research a controversial topic in food science or health. Conclusions will be made based on a review of scientific literature (Week 7-10)
4. Communication: Students will present two talks that include research and presentation of complex, scientific evidence (Weeks 6 and 10).

**Course Outline:** *Tentative Schedule of Activities and Topics*

<i>Date</i>	<i>Topics/Experiments</i>	<i>BEFORE class</i>	<i>Due</i>
9/17 Carbohydrates	Syllabus Lab #1: Example of the Scientific Process	<ul style="list-style-type: none"><li>• Read the How to cook pasta article on canvas</li><li>• Read Chapter 15 pp 803-805 (chemistry of carbs)</li><li>• Review lab report writing guidelines and example</li></ul>	<ul style="list-style-type: none"><li>• Prelab #1 – do together (in class)</li><li>• Writing worksheet: Plagiarism (in class)</li></ul>
9/24 Fats and water	Lab #2: Emulsions	<ul style="list-style-type: none"><li>• ACS video links</li><li>• Read Chapter 15 pp 797-802 (chemistry of emulsions)</li><li>• Read Chapter 11 pp 625-637 (uses of emulsion)</li><li>• See Canvas for posted videos</li></ul>	<ul style="list-style-type: none"><li>• Lab #1 Paper</li><li>• Prelab #2</li><li>• Writing Worksheet: Concision (in class)</li></ul>
10/1 Proteins	Lab #3: Protein denaturation Research ideas for Lab #4 Plan the lab and send me a list	<ul style="list-style-type: none"><li>• Read procedure for Lab #3</li><li>• Read Chapter 15 pp 805-809 (protein basics)</li><li>• Read pp 51-66 (cheese)</li></ul>	<ul style="list-style-type: none"><li>• Lab #2 Paper</li><li>• Prelab #3</li><li>• Writing Worksheet: Cohesion</li></ul>
10/8 Hypothesis and measurement	Lab #4: Kitchen Myths Group Presentation Guidelines	<ul style="list-style-type: none"><li>• Read sections of book that may inspire</li><li>• Bring any supplies not provided</li></ul>	<ul style="list-style-type: none"><li>• Lab #3 Paper</li><li>• Prelab #4</li><li>• Presentation Worksheet #1</li></ul>
10/15	In-class Group Presentations Intro to Advising	<ul style="list-style-type: none"><li>• Practice your presentations</li></ul>	<ul style="list-style-type: none"><li>• Schedule an advising meeting (in class)</li></ul>
10/22 Advising	One on one advising meetings	<ul style="list-style-type: none"><li>• Meet with major advising</li><li>• Look at your Degree Audit</li><li>• Find your degree in the Undergrad Bulletin (See Canvas)</li></ul>	<ul style="list-style-type: none"><li>• 2-3 plans of classes</li></ul>
10/29 DU resources: Library	Present a topic for a term paper to the class Research Activities: finding references	<ul style="list-style-type: none"><li>• Research topics in mainstream media, social media, etc.</li><li>• Have a clear idea of your topic(s)</li><li>• Think through key words</li></ul>	<ul style="list-style-type: none"><li>• Worksheet: Library Resources</li></ul>

<b>10/29</b>	<b>Athletes and DSP students Register</b>		
<b>11/1</b>	<b>Honors Students Register</b>		
<b>11/1-11/5</b>	<b>Registration in order of credit hours obtained</b>		
11/5 DU resources: Career Center	Research activities: formatting references Reading journal articles Identifying main points Drafting a paper	<ul style="list-style-type: none"> <li>Skim or read two of the articles.</li> </ul>	<ul style="list-style-type: none"> <li>Worksheet #4: References</li> <li>Paper Draft #1: One paragraph that summarizes a paper (or several), is well-written and representative of your writing.</li> </ul>
11/12 Writing: Peer review	Example of Peer review in class Kaltura/Canvas tutorial	<ul style="list-style-type: none"> <li>Bring some portion of your paper (at least two pages, preferably with an intro paragraph)</li> </ul>	<ul style="list-style-type: none"> <li>Peer Review Worksheet:</li> <li>Paper Draft #2: 4-5 page rough draft due at midnight</li> </ul>
11/19 Presentations <b>ONLINE</b> <b>Asynchronous</b>	Presentation – Research topics	<ul style="list-style-type: none"> <li>Record and post online by 10am</li> </ul>	<ul style="list-style-type: none"> <li>Presentation Worksheet #2: Peer review of Presentations</li> </ul>
11/22			<ul style="list-style-type: none"> <li>Presentation Worksheet #3: Summary of Presentations</li> <li>Final Research Paper Due</li> </ul>


## COVID19 Contingencies:

If a student or the professor is absent during Weeks 1-5, the lowest grade will be dropped and the short paper writing assignment is not due. An absent student is welcome to turn in the paper if they wish by working with their “lab partners”, groups of ~3 students. However, all worksheets are still due (individually) and Prelabs should be done with their partners over Zoom. Email me if you cannot attend class.

## Resources:

**The Writing Center** provides writing support for students at all levels of study--first-year to graduate. To make an appointment, call 303-871-7456, or go to MyWeb / Student / Writing Center. In free, 45-minute consultations, graduate and advanced undergraduate consultants work with writers on any piece of writing, for any purpose, at any stage of the process. Consultants take a collaborative and non-evaluative approach: they work *with* you to help you develop strategies for improving your writing in light of your specific assignments, goals, and needs.

Consultations are available at the Writing Center (located in Anderson Academic Commons 280), Sunday through Monday, including evening hours on many days, from the first day of classes through the second day of. Please visit our website at [www.du.edu/writing/writingcenter/](http://www.du.edu/writing/writingcenter/) for hours and additional information. PLEASE SCHEDULE AN APPOINTMENT!

**Science and Engineering Center:** The Science and Engineering Center is a collaborative space staffed by undergraduate and graduate learning assistants (LAs) trained to assist students with some first and second year biology, chemistry, physics, computer science and engineering courses. We offer support for both lecture and laboratory courses for chemistry, physics, and engineering courses and lecture only for computer science and biology. Our goal is to help students grow as problem solvers by assisting with homework sets, lab reports, and preparing for exams. The Science and Engineering Center is **not** a one-on-one tutoring center, but is rather a support system where students can get guidance from LAs as well as their peers. This center is open to all DU students. All services are free. See <http://portfolio.du.edu/sec> for a complete schedule. Please also follow on Twitter for the most up-to-date announcements:  [@SELCatDU](https://twitter.com/SELCatDU)

**Library Resources:** The University Libraries Research Center answers research questions seven days a week by phone, email, in-person, chat/IM or text. One-on-one research consultations in the Anderson Academic Commons are also available on a drop-in basis or by appointment. Consultations help students at any stage of the research process, from refining a topic, to finding books and articles, to creating a bibliography with RefWorks. Ask a question or make an appointment at 303-871-2905 or [research-help@du.edu](mailto:research-help@du.edu).

**Disability Services:** Any student who feels they may need an accommodation based on the impact of a disability or medical condition should contact the Disability Services Program to coordinate reasonable accommodations. Information is on line at <http://www.du.edu/disability/dsp>

**Religious Accommodations Policy:** University policy grants students excused absences from class or other organized activities or observance of religious holy days, unless the accommodation would create an undue hardship. Faculty are asked to be responsive to requests when students contact them IN ADVANCE to request such an excused absence. Students are responsible for completing assignments given during their absence, but should be given an opportunity to make up work missed because of religious observance.

**Career and Professional Development:** As you go through this course, it's common for questions to arise about how you will use these concepts in a potential career. Feel free to ask faculty members about their career paths and research areas, and also know the University of Denver offers a number of resources to help you on your career development journey. Career & Professional Development can help you explore your interests, develop your job and internship search skills, and connect you with individuals in the field of your choice. Learn more, schedule an appointment, and see upcoming events at [du.edu/career](http://du.edu/career).

**Health and Counseling Center:** As part of the University's Culture of Care & Support we provide campus resources to create access for you to maintain your safety, health, and well-being. We understand that as a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug concerns depression, difficulty concentrating and/or lack of motivation.

These stressful moments can impact academic performance or reduce your ability to engage. The University offers services to assist you with addressing these or ANY other concerns you may be experiencing. If you or someone you know are suffering from any challenges, you should reach out for support. You can seek confidential mental health services available on campus in the Health & Counseling Center (HCC). Another helpful resource is Student Outreach & Support (SOS), where staff work with you to connect to all the appropriate campus resources (there are many!), develop a plan of action, and guide you in navigating challenging situations. If you are concerned about one of your peers you can submit a report through our Pioneers Care System. More information about HCC, SOS, and Pioneers CARE can be found at:

- Health & Counseling Services (<http://www.du.edu/health-and-counseling-center/> )
- Student Outreach & Support and Pioneers Care reporting <http://www.du.edu/studentlife/studentsupport/>