

CHEM 1330: CULINARY CHEMISTRY - Mr. Lewis

Syllabus
Fall
2024

University of Texas at Tyler

Online: Asynchronous (August 29 - December 13)

Instructor Contact	Office	Drop By Hours	Email	Phone
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Welcome to Culinary Chemistry

Course Description

This course will introduce and provide you with an understanding of the underlying principles of chemistry including the composition, structure, properties, and reactivity of matter. This course will describe the chemistry and chemical reaction surrounding food and cooking. While it blends fundamental chemistry with the more applied aspects of food chemistry, the understanding of the chemical concepts associated with food and food preparation will be the main focus. Topics include predicting and explaining the chemical components of food and their interactions, classifying the different components of food. All of the course content will be presented using online lectures, quizzes and other online practice tools that will be available through the Canvas course. Students in this course are responsible for all of the content and material included in and required by this course.



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Important Dates

The semester begins August 29th and ends December 13th. This course meets asynchronously online, but assignments are due on a week-to-week basis unless specified by the instructor.

August 26th - December 13th.

- Census date - last day to file for grade replacement: [September 9th](#)
- [Thanksgiving Holiday: Nov 25 - 29th](#)
- Last day to drop or withdraw from courses with a W: [Nov 4th](#)
- [December 6th](#) - Final Project (Each student's final video for the project will be due 11:59 pm on Fri, December 6th.)

MARK YOUR
CALENDAR!

Student Learning Outcomes

Throughout the semester you will be required to demonstrate a working knowledge of culinary chemistry using Critical Thinking skills (CT), and Empirical and Quantitative skills (EQs). By the end of the course, successful students should be able to:

1. Demonstrate critical thinking and reasoning skills by predicting and explaining the chemical components of food and their interactions using the scientific method (CTS, EQS),
2. Explore and clarify the reasons behind why certain ingredients and reagents are used in particular foods and culinary reactions (EQs),
3. Classify the different components of food (e.g. proteins, carbohydrates, fats & oils, gels, colloids) and the importance of their chemical properties and behavior (EQS),
4. Demonstrate the ability to work in a group with others and communicate effectively (COM, TW)

Additional Learning Outcomes

- 1) Define the different classes of macromolecules that make up food.
- 2) Able to understand what an atom is and how it makes up matter.
- 3) Classifying solutions, colloids, and suspensions.
- 4) Applying chemical reactions to determine flavor profiles.
- 5) Using and explaining how scientific method is incorporated in cooking.



Required Materials

Textbook:

Textbooks for this class are FREE. They will be provided in the course.

Primary Text: The Science of Cooking by Joseph Provost, et. al

Secondary Text: On Food and Cooking by Harold McGee



Calculator
Periodic Table: access on
Canvas, digitally or printed

Kitchen & Ingredients:

Access to a kitchen is required to take this course. You will need an available oven, stove top, and basic kitchen accessories. You will also be required to purchase certain food items from a list provided by the instructor. There will be a Budget Options to help with costs. Ingredients are considered part of your textbook fees. **If you are ever in a position that you cannot afford specific ingredients or equipment, please contact the instructor. And if you need help, please ask!**

Technology

Computer access with reliable high-speed internet connection is required. A mobile device or tablet may not be sufficient. If you chose to use one of those devices as your primary method for accessing the course page, do not be surprised if you have a lot of trouble. **However, extensions or exceptions will not be made due to unpreparedness.** Video recording capability is also necessary and basic editing skills are highly recommended.

Video Editing & Submitting Cooking Lab Recordings

Though not covered within the course, some basic competency with video editing will likely be needed for your sanity and the graders for the course. **Typically, Cooking Lab videos should be kept to less than 3 minutes long. Thus, it is recommended that students familiarize themselves with making “quick cut” videos of the cooking procedure.** See the video below or do some searching for user-friendly editing software. All videos must be uploaded to Canvas.

- iPhone: [\(257\) How to Trim Clips in iMovie - FAST & EASY - YouTube](#)
- VN Editor: <https://www.youtube.com/watch?v=yb7-ab-6M08>
- TikTok and CapCut are great video editing apps; HOWEVER, they cannot be used on university wifi. Also both are FREE. Do not pay for video editing software.

To receive a passing grade for the course, you must complete the Final Project; otherwise, you will fail the course regardless of your other exam and assignment scores

- **Final Project Due Date: Friday, December 9th at 11:59 pm.**

The last day to withdraw from the course with a “W” is Monday, Nov 5. IT is your responsibility to withdraw from the course..



Issues Uploading videos to Canvas

Due to large class size of CHEM 1330, the canvas page can sometimes get overwhelmed with the amount of data that gets uploaded. Students have experienced issues when attempting to submit cooking labs (especially if their file size is particularly large of if they are one of the last ones to upload).

In this case it is recommended to compress the file or upload the video to the “Comments” section of the assignment. Another great alternative is uploading to Youtube and submitting the URL to the assignment.

Tiktok is great as a video editor; however, due to Texas regulations, YOU MAY NOT SUBMIT A URL THAT LINKS TO TIKTOK. The instructor cannot access any recording that are directly uploaded to Tiktok.



What NOT to do if you have trouble uploading at 11:59 pm



Online Content/Modules

This course uses module-based learning. There are 12 modules that need to be completed throughout the semester. I will primarily communicate with you through Canvas. I will post:

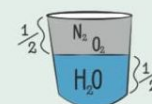
- Supplemental Lecture Videos
- Checking for understanding quizzes, A learning activity
- A video lab prompt, Module assignment
- Due dates for all assignments
- Links to toolkit tutorial videos for selected topics



There is a checklist at the end of the syllabus that should be used to confirm completion of all required materials. If you have any technical, connection, or any other issues with Canvas, contact Canvas 24/7 Support.

Please make sure you are set to receive notifications to your email and/or your phone/tablet/etc. from Canvas at least daily.

Technically,



it's always full

Quizzes / Learning Activities (20% of Total Grade)

[Quizzes](#) will assess your understanding of the lecture material and/or readings. Most of the quizzes will be 5-10 questions and can be retaken until content mastery. Completion of the Syllabus Quiz and Introduction Quiz will be your first two quiz grades. You will want to make sure you are on Canvas daily to check for due dates because once a quiz closes you will be unable to take that quiz. These quizzes are designed to review the big topics from each chapter and to help you learn the material. There will be concepts that are pulled from previous chapters, so DO NOT brain dump.

[Learning Activities](#) will reinforce module content and may include: identifying structures and components of food, sorting topics, matching, etc. These can also be redone until content mastery.

Quizzes & Learning Activities account for 20% of the course.

Don't put off the quizzes and/or learning activities until the due date. Make sure that you are working on them as we go through the chapter.

These assignments are meant to help you learn the material.

The highest grade for the quiz will be kept. One quiz and one learning activity will be dropped.



Cooking Labs (20% of Total Grade)

Most weeks, students will be assigned an at-home cooking project, **where they will post a video of the food they have created and complete Cookbook Pages.** Each module will list specific requirements for that particular module (typically the content to be discussed by the student and a supporting video).

You do not need to be an expert on video editing, but you must keep the finished video to under 3 minutes (unless specified otherwise).. **Videos for Cooking Labs will have to be uploaded to Canvas by 11:59 pm.** At least one week's notice will be given prior to the due date changing for the cooking lab. Will never be moved up, only back.

I and/or the grader for the course do sometimes make mistakes. If you find a mistake, please see me as quickly as possible - within 1 week - after an assignment is returned; otherwise, that assignment score will be considered final. I highly recommend that you check out the FAQ page on Canvas.

Make sure you are paying attention to due dates on Canvas. Do not want an assignment to sneak up on you.

hollup...Let him cook



Module Assessments (20% of Total Grade)

Assessments at the end of modules(3 & 8) are used to evaluate learning and advanced analysis/application to the module content. You should complete all readings, videos, quizzes, and learning activities before completing the module assessment. **THE MODULE ASSESSMENT CAN ONLY BE TAKEN ONCE.**

- Be sure to review what you missed from the quizzes, learning activities, and cooking labs before you take the module assessment.
- Will be able to use resources (lecture notes, book, etc.) to assist you with the module assessment.

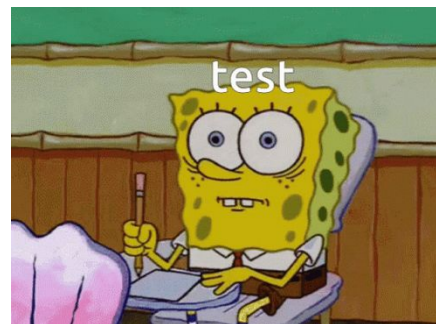
Do not brain dump after each module. The material builds on itself and gets used over and over again.

CAN ONLY BE TAKEN ONCE!

Exams - 2 (30% of Total Grade)

Exams will test information covered during lectures, assigned reading, quizzes, learning activities, at-home cooking projects, and assignments. There will be 2 exams in this course. The exams will be available over a window of time, BUT they must be completed in one sitting over one hour. You cannot pause the exam to retake it at a later time.

- You can use textbook, notes, calculator, and periodic table to assist you on the exam
- Exams will not be able to be made up if missed unless provided with reason (instructor's discretion)



Dinner Party Final Project (10% of Total Grade)

This final project will use your knowledge of culinary chemistry to create a plan for a theoretical dinner party. This will include the planning of a theme, menu, and collection of recipes with a group of your fellow classmates. If you have ever watched Top Chef and they do the Restaurant Wars for the challenge, this project will be along those lines. If you have not watched an episode where contestants do Restaurant Wars on Top Chef you should.

- Will work in groups of 5.
- You will have to get your Dinner Party Menu approved
- Will record a Dinner Party Group Video and submit it on Canvas
- This project is designed to utilize and apply what you have learned in the course.
- Have fun with this project. You get to plan a party!



Grading Scale

Grades will tentatively be assigned on a A: 100-90, B:89-80, C:79-70, D: 69-60 scale, but may be adjusted based upon my evaluation of the overall class performance. Attendance, class participation, and initiative will be considered for borderline grades. Grades will be posted on Canvas and weighted as follows:

Quizzes/Learning Activities	20%
Cooking Labs	20%
Module Assessments	20%
Exams (2)	30%
Group Project	10%
<hr/>	
Total	100%*



Email Policy (jeromelewis@uttyler.edu)

Contrary to popular thought, instructors do have lives outside. Saying that: I will try to respond to email regularly throughout normal business hours (8:30 am - 5:30 pm). After hours and weekends, I will respond as my life activities allow. Please do not expect responses to emails sent after 5:30 pm until the next day.

Student and Academic Conduct

Chemists come from all walks of life (varying ethnicities, different religious beliefs, gender, etc.) and it is important as scientists to be able to work professionally with others in different environments. Under no circumstances will any derogatory remarks or actions be permitted.

For this course students are encouraged to work together to study and prepare for exams. However, during exams students are to work alone. Cheating will not be tolerated and if discovered appropriate measures will be taken to address the issue.

Artificial Intelligence Statement

UT Tyler is committed to exploring and using artificial intelligence (AI) tools as appropriate for the discipline and task undertaken. We encourage discussing AI tools' ethical, societal, philosophical, and disciplinary implications. All uses of AI should be acknowledged as this aligns with our commitment to honor and integrity, as noted in UT Tyler's Honor Code. Faculty and students must not use protected information, data, or copyrighted materials when using any AI tool. Additionally, users should be aware that AI tools rely on predictive models to generate content that may appear correct but is sometimes shown to be incomplete, inaccurate, taken without attribution from other sources, and/or biased. Consequently, an AI tool should not be considered a substitute for traditional approaches to research. You are ultimately responsible for the quality and content of the information you submit. Misusing AI tools that violate the guidelines specified for this course is considered a breach of academic integrity. The student will be subject to disciplinary actions as outlined in UT Tyler's Academic Integrity Policy. Refer to the About This Course section of the UT Tyler Syllabus Module for specific information on appropriate use of AI in your course(s).

For this course, AI is permitted only for specific assignments or situations, and appropriate acknowledgement is required. This course has specific assignments, Dinner Party Menu & Dinner Party Project (Q 1-6), where artificial intelligence tools (such as ChatGPT or Copilot) are permitted and encouraged. When AI use is permissible, it will be clearly state in the assignment directions, and all use of AI must be appropriately acknowledged and cited. Otherwise, the default is that AI is not allowed during any stage of an assignment.

Course Topics

- Module 1 - Intro and Basic Chemistry (Week 1: Aug 26 - Sept 1)
- Module 2 - Flavor Biology (Week 2: Sept 2- Sept 8)
- Module 3 - Nutrition (Week 3: Sept 9 - Sept 15)
- Module 4 - Milk (Week 4: Sept 16 - Sept 22)
- Module 5 - Cheese, Yogurt, Sour Cream (Week 5 : Sept 23 - Sept 29)
- Module 6 - Non-enzymatic Browning (Week 6: Sept 30 - Oct 6)
- **Exam 1 - (Week 7: Oct 7 - Oct 13)**
- Module 7 - Fruits and Vegetables (Week 8: Oct 14 - Oct 20)
- Module 8 - Meat and Fish (Week 9: Oct 21 - Oct 27)
- Module 9 - Eggs, Custard, and Foams (Week 10: Oct 28 - Nov 3)
- Module 10 - Bread (Week 11: Nov 4 - Nov 10)
- Module 11 - Seasonings (Week 12: Nov 11 - Nov 17)
- Module 12 - Beer and Wine (Week 13: Nov 18 - Nov 24)
- **Group Project (Dinner Party Final Project) - December 6th** (Week 15: Dec 2 - Dec 8)
- **Exam 2(Comprehensive Final) (Week 16: Dec 9 - Dec 13)**

