CHEM&110 (3257) Chemical Concepts with Lab (6.0 cr)
(Chemistry of Cooking Theme)
Course Syllabus, Fall 2021

Faculty Contact Information:
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Virtual/Campus Office hours: Since the quarter is virtual, I can meet through zoom. Please send me an email to arrange a time and I can give you zoom details.

Course Description:

CHEM&110 is a six-credit online lab course intended for students looking for a fairly non-mathematical survey of chemistry with lab activities that can be performed at home. There will be an occasional use of basic arithmetic and ratios. Emphasis will be placed on the atomic and molecular level interpretation of matter and energy, and practical applications. This course will **not** require on-campus visits. *This section of CHEM&110 incorporates a Chemistry of Cooking theme to learn science through cooking.*

Work Involved:

There is reading, doing, thinking, and responding in this course! You should plan to spend an average of 1-2 hours a day on this class to keep up with readings, assignments, and your project. Taking an online course often requires more work than a traditional course. You should be taking this course because you need the flexibility it offers, not because you expect it to be easy or less demanding than an on-campus course!

Online Access is Required!

Access to reliable internet service is expected. All students have access to internet in N250 open lab on campus, and in some public places (coffee shops, public library, etc.) But with Covid times, make sure you have internet access at home (if possible). This course will be very challenging for students who don't have consistent and reliable access to the internet. Please email/call me if you have any issues with internet access during the course of the quarter. I understand that you may have connectivity issues from time to time and as long as assignments can be turned in within a reasonable time frame (within three days) it is no problem.

Required Materials:

- *Cooking for Geeks: Real Science, Great Cooks, and Good Food (2nd edition)* by Jeff Potter (available at the bookstore or can be purchased online - Amazon, Barnes and Noble, etc.)
- A digital camera or camera phone or other device to take photos and insert them into documents.
- Household/food items, to be purchased at a grocery store, for lab assignments.
  [Contact me ASAP if you have difficulty obtaining any of these materials for financial reasons or otherwise. Contact me if you need suggestions for substitutes of lab materials to accommodate food allergies or other restrictions.]
- There will be readings provided in Canvas as resources for learning some of the material

Optional Materials:

- For those who want to learn more, "On Food and Cooking: The Science and Lore of the Kitchen" by Harold McGee is a great resource.

Assignments and Grading

Intro assignments: Class Bio (10pt), Notifications (5pt)	15 pts
Information Literacy Assignments (Using the internet and the library) (10pt x 2)	20 pts
8 Class Activities (10pts each x 8)	80pts
8 Quizzes (10pts each x 8)	80 pts
4 Discussion Prompts (10 pts each x 4)	40 pts
Class Project: Writing Assignment and Peer Evaluation (80 pts for paper; 30 pts for reviews)	110 pts
Service learning food project	25 pts
Canvas online course evaluation (@ 5 pts)	5 pts
	Total = 375 pts

Grade Scale (%)

A 95-100% B+ 86-90% B- 78-80% C 70-74% D 60-65%

A- 91-94% B 81-85% C+ 75-77% C- 66-69% F 59% and below

Course Layout: The course is divided into weekly modules (you will access the modules for a list of assignments). Each module will include weekly reading, links to assignments (lab activities, quizzes, discussion postings), and resources (videos, text, etc).

Topics covered: The course will cover a wide range of chemistry through the food chemistry theme. These include: Scientific method, atomic structure, chemical bonding, lab safety, measurement, foams, emulsions, gels, oils and fats (intermolecular forces), carbohydrates, proteins (electrolytes, osmosis), and chemical reactions (acid base chemistry, browning reactions).

TYPES OF ASSIGNMENTS:

(a) Intro activities: A biography assignment and a notifications assignment will be provided to ensure I can communicate with you using your preferred method of communication.

(b) Information Literacy: A couple of assignments will walk you through using internet resources, how to cite sources properly, avoid plagiarism, and use the library resources for finding information. These skills will be needed throughout the quarter but especially for your project (see below).

(c) Class Activities: There are weekly assignments mostly involving "labs" which students can do at home. Lab activities will be done with materials in your home and a list of the grocery items to procure for each lab is usually included in each lab, though some assignments may allow flexibility (students can decide what they want to make) or need to be modified for food restrictions. Check the "Calendar" within Canvas for the due dates. **YOU MUST INSERT PHOTOS FOR THESE LABS!** Photos important for documenting your work and showing that you did it. If you have issues with obtaining photos, please let me know. **The absence of photos may result in point deductions.**

(d) Quizzes: There will be short quizzes on your readings about once a week. Readings will be posted in the Modules. These quizzes will be in Canvas and will typically be due by **Mondays 11:59pm**

(e) Discussion prompts: You will be required to post your own discussion about the readings in response to the week's discussion prompt and then reply to classmates. Your reply will be due by the following week.

General Requirements for discussion posts:

Not all of the prompts are the same. Read carefully and follow the specific directions for each post or reply! Please be respectful to others in your responses.

Use the prompt for each week to guide the topic of your discussion post. Type at least 250 words and remember to cite your sources. Include the citation from the text (including page numbers) and at least ONE other internet source.

(f) Writing Assignment (Project) and Peer Evaluation:

About half way through the course, we will have finished covering most of the concepts in this class and you will have a better grasp of the science behind preparing a dish.

You will put this in practice by choosing a dish to prepare. It can be a favorite food of yours, something you've heard of but never made, or something that catches your eye in your *Cooking for Geeks* text or in an online recipe. You don't have to use a recipe – you can be ambitious and create a recipe if you like.

Your project will be individual, but you will be put into support groups. These team mates will help review your draft and give you ideas or comment on your progress.

Directions for your class project

1) Prepare it as stated by the recipe, if you are following a recipe. (Or create the recipe)

2) Make it a second time but with a change to see its affect on the dish. The change can be to add a creative flair, or make a desirable change to appearance, texture, or flavor, or make it Vegan or without common allergens (gluten, dairy, soy, nuts). You will describe what you are aiming for (including a scientific basis for this prediction) and then report how it turned out.

3) Examine the cooking procedure you followed. What are some of the scientific aspects of making your dish? What are the scientific concepts needed to explain how it works? You will need to back up this portion with at least three references, one of which must be a book (our textbook is fine).

4) You will do a first draft and peer reviews for two other classmates through the assignment. Details on how to provide peer feedback will be specified in my announcements.

5) Final drafts will be presented to your classmates on a discussion board as a write up with photos, or a video, and view/respond to two other students' projects.

Grading criteria for the project (total 110 pts)

- Week 5_ Topic selection 10pt
- Week 6_Outline/Research 10pt
- Week 7_First draft 20pt
- Week 8_Two Peer reviews 10pt x 2 = 20pt
- Week 9_Final draft 40pt
- Week 10_Two final reviews 5pt x 2 = 10pt

(g) Service Learning Food Project: In the third week of the course you will be presented with a few options on how you can help your local community through food, either through volunteering at a food bank or creating educational materials for low-income populations about nutrition and food science. Each option will require a brief reflection. This project is very dependent on Covid and we may replace it with another assignment as we get to it depending on the situation.

(h) Course evaluation and exit survey: The evaluation is the official college course evaluation form and any questions I may ask for feedback about the course.

Course Policies

Deadlines: All activities/discussions/project-related assignments are due at **11:59PM** on the date listed on the calendar.

Late Policy: I know everyone has busy lives and sometimes hardships and challenges occur. I will accept assignments 3 days past the deadline - No penalty and no questions asked! After 3 days however, I will deduct up to 20% within a week past the due date, and up to 50% if more than a week has passed. There are exceptions to this if you have hardships - please contact me if you have a situation that prevents you from turning in multiple assignments on time.

Every quarter a few students stop logging in and can't keep up with assignments. As soon as you notice this happening, send me an email ASAP and let me know what's going on! Don't delay!!! Don't wait until it's too late.

COMMUNICATION:

Contact me by discussion board / Email / Phone

Due to the online course format, student-student interactions are encouraged by discussion boards. Please follow general "netiquette" guidelines – be polite, respectful and professional in your interactions with me and others.

Please try to post any general questions you have on the "Questions about this course" discussion board. It's really helpful when we share our questions and answers as a class. If you need individual attention or have issues of a personal nature, please contact me by email or phone or visit my office. Feel free to contact me anytime to set up time for a phone/online meeting.

Email expectations:

What you can expect from me: I will send out announcements frequently (at least once a week) to check in with the class and remind you of what you should be working on. I will try to get assignments graded within a week of the deadline. I will check email at least once a day Monday through Friday. If you do not receive a reply within 24 hours, please follow up with me! I will check email at least once during the weekend; non-urgent matters will be replied to the following week.

*If you have an urgent matter which requires attention, please try my voicemail and leave a call back number. If I'm not at my desk, it will forward to my email and cell phone. I will call you back!

What I expect of you: Set your notifications so you receive my announcements (enter your personal email account or phone number to receive texts if you prefer). Check your email once a day Monday through Friday and once or twice during the weekend in case I send an announcement about the course. If you want to

message me, please use Canvas and ***compose your emails using your name and proper email etiquette (use grammar and full sentences). Be professional!***

Need help with chemistry?

A list of places to go for help and other resources will be posted in our class site, but a few come to mind which you can find from the BellevueCollege.edu website (search): Academic Success Center, Science Study Center, Multicultural Services. Please let me know as soon as you encounter difficulties and we will arrange to meet.

Disability Resource Center

If you require accommodation based on a documented disability, emergency medical information to share, please let me know as soon as possible. If you would like to inquire about becoming a DRC student you may call 564-2498 or go in person to the DRC (Disability Resource Center) reception area in the Student Services Building.

Career Connections and Women's Center

This is a useful place for resources, not just for careers, but for financial assistance as well (and not just for women but also men). If you are having trouble obtaining food and groceries for this course, please contact this office for assistance:
https://www.bellevuecollege.edu/organizations/programs/center-for-career-connections-womens-center/

Science Division Policy on Cheating:

Students are expected to behave honestly. It's ok if you want to work with other people to discuss the ideas but the writing should be your own. One suggestion I have is that when you work with others, you do not write anything down. Just discuss ideas but do not write down the same thing or exchange/share documents. **If I find files which look very similar to each other (and I usually do at least once every quarter), I will be suspicious of the integrity of your work and will give you a warning. If the files are extremely similar, you may receive a zero the first time. Please do not use someone else's work as your own! I pay attention when I am grading and have unfortunately seen this happen many times.**

Cheating includes, but is not limited to, copying answers on exams or assignments, swapping papers, PLAGIARIZING, and illicitly giving or receiving help on assignments. PLAGIARIZING includes copying classmates' homework, from this quarter or previous quarters, or coordinating with anyone else to gain an unfair advantage in the course. Everyone is expected to his or her own work, both in class and on the homework.

Consequences of Cheating: 1) You will receive a 0 on the assignment where the cheating occurred. 2) I will send a report of the incident to the Dean of Students who may place it on your permanent record or may decide on suspension or expulsion from school.

"**COVID-19 Protocols:** Bellevue College is following state and local guidelines regarding COVID safety. All students need to attest that they have received their COVID-19 vaccinations or must receive a medical or religious exemption to attend Bellevue College. In addition, everyone is required to wear masks indoors and stay home if you are sick. Mask use outside and maintaining social distancing of at least 3 feet is strongly recommended. Detailed information can be found at https://www.bellevuecollege.edu/covid19/ ."