

**SYLLABUS CHEM 1990**  
**Introduction to Chemistry and Biochemistry Professions**  
**1 credit, Pass/Fail**  
**Thursdays 11:30am – 12:20pm**  
**Nutrition and Food Sciences Building, Room 202**

**Course Description:**

This is a required course for chemistry and biochemistry majors. It is designed to provide incoming students with a sound foundation on how to get the most out of their chemistry/biochemistry education, expose students to exciting areas of chemistry and biochemistry, outline opportunities at USU that will help students reach their career goals, and help students master “employability skills” for success. The class includes presentations on topical issues presented by faculty and invited guests, discussions about career options, and activities to learn the best practices for resume writing and professionalism. These topics are essential to success in a chemistry/biochemistry related job, graduate work, or professional school.

**Instructor Contact Information:**

Dr. Kimberly Hageman  
Maeser Lab 281  
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435-797-0114

\*\*There are no set office hours, but if you would like to meet with Dr. Hageman via zoom, send her an email to set up an appointment.

\*\*Questions about assignments will be answered via email; however, do not expect a response within less than 24 hours.

**General Information:**

- This class will be held face-to-face (i.e. in person) in the Nutrition and Food Science Building, Room 202 on Thursdays from 11:30am-12:20pm.
- This is a pass/fail course. To pass, you must receive 80% of points and you must participate in three outside activities (see Assignment 1 for information about outside activities).
- All essential information about the course will be available on the CANVAS website, found at <https://canvas.usu.edu/>. Access is available with username = banner ID. Only students who are registered for the class will have access to the course Canvas pages.
- Assignments will be submitted on CANVAS unless otherwise indicated.
- There is no assigned textbook for this course.
- This course will adhere to the USU Academic Policies and Procedures Manual found at the web site <http://www.usu.edu/provost/faculty-life/syllabus.cfm>.

### Absentee and Covid Policy:

- Lecture attendance and participation is mandatory. Lectures 1-6 will include pop quizzes - if you do not attend one of these lectures, you will not be able to take the pop quiz and you will therefore lose points. Lecture attendance is required so that you receive critical information needed to complete assignments correctly. Please keep in mind that if you are registered for a class that meets in person, you are required to attend the class in person.
- See the following website for all current university covid protocols and information: <https://www.usu.edu/covid-19/communications/students>.
- Kindly wear a mask during class, even if you are vaccinated. Get vaccinated (it is free!) if you haven't already done so – vaccine clinics are being held on USU campus in Spring Semester. Register your vaccine status on the AggieHealth website.
- If you feel ill: do not come to class, get a covid test (available free on campus!), and fill out the USU covid questionnaire (<https://www.usu.edu/covid-19/questionnaire/index>). The covid CARES team will provide quarantine instructions and they will inform Dr. Hageman about your quarantine start and end dates. Covid-related absences will not be excused if you have not contacted the covid CARES team. If you are in quarantine, arrangements will be made for you to attend the lecture via zoom or view the recorded lecture on canvas, and take the pop quiz.
- If you have been in contact with someone with a confirmed case of covid, contact Dr. Hageman and complete the USU covid questionnaire (<https://www.usu.edu/covid-19/questionnaire/index>). Dr. Hageman will be contacted by the covid CARES team if you need to quarantine. The university policy is that if you are fully vaccinated, you do NOT need to quarantine after contact with someone who had covid unless you have symptoms. However, fully vaccinated people should get tested 5-7 days after exposure, even if you don't have symptoms, and wear a mask indoors in public for 14 days following exposure or until your test result is negative.
- We will use the Assigned Seating Tool in Canvas to facilitate case containment.
- We will switch to remote delivery if our class moves into the covid Red Status (i.e. if the USU covid team determines that our class has too many Covid exposures).
- If you are unable to attend a lecture due to a non-covid illness or for another reason, you must contact Dr. Hageman at the earliest date possible to make arrangements to take the pop quiz and/or to request an extension on an assignment deadline.

### Pop quizzes:

Each class during weeks 1-6 will include a pop quiz. The purpose of the pop quizzes is to ensure you are attending lectures and paying attention.

## Schedule:

Week	Date	Lecture Topic and Activities	Associated Assignment (see below for details)	Assignment Due Date (11:59pm)
1	Jan 13	<ul style="list-style-type: none"> <li>Course introduction and syllabus</li> <li>Discuss outside class activities assignment</li> <li>Noon – 12:20pm: Study skills – interview a panel of upper-level undergraduate students and graduate students</li> </ul>	<b>A1</b> Outside activities <b>A2</b> Study habits <b>A3</b> Your degree and current career ideas	<b>A1 – Apr 21</b> (14 weeks to complete) <b>A2 – Jan 20</b> <b>A3 – Jan 20</b>
2	Jan 20	<ul style="list-style-type: none"> <li>Being professionally ready</li> <li>Conduct &amp; correspondence</li> <li>Review of professions we will encounter later in the semester</li> </ul>	<b>A4</b> Get to know your Department and send a professional email <b>A5</b> Prepare for Career Interviews	<b>A4 – Jan 27</b> <b>A5 – Jan 27</b>
3	Jan 27	<ul style="list-style-type: none"> <li>Resume building</li> <li>Career Services Video</li> <li>Using Track Changes in a word document</li> </ul>	<b>A6</b> Career Services video quiz <b>A7</b> Draft resume <b>A8</b> Revised Resume 2.0 <b>A9</b> Meet with Career Services <b>A10</b> Final Resume 3.0	<b>A6 – Feb 3</b> <b>A7 – Feb 3</b> <b>A8 – Feb 17</b> <b>A9 – Mar 24</b> <b>A10 – Mar 24</b>
4	Feb 3	<ul style="list-style-type: none"> <li>11:30-11:55am: Chem &amp; Biochem advising with Jordan Truex</li> <li>11:55am-12:20pm: OPTIONAL - Learn about Preparing for Health Professions while at USU Q&amp;A</li> </ul>	<b>A11</b> Explore ACS or ASBSM & Prospects websites	<b>A11 – Feb 10</b>
5	Feb 10	<ul style="list-style-type: none"> <li>Video: Science publishing and citation: review of scientific literature, the peer review process, and how to cite scientific literature</li> <li>Introduction to using literature databases</li> </ul>	<b>A12</b> Attend a USU research seminar	<b>A12 – Apr 14</b> (8 weeks to complete)
6	Feb 17	<ul style="list-style-type: none"> <li>Video: Bibliographies</li> <li>Video: How to use Zotero</li> <li>Questions</li> </ul>	<b>A13</b> Literature databases and reference management	<b>A13 – Mar 3</b>
7	Feb 24	<ul style="list-style-type: none"> <li>11:30-11:55am: Panel with USU alumni who completed BS or MS degrees within the last several years</li> </ul>	<b>A14</b> Summary from panel discussions	<b>A14 – Mar 3</b>

		<ul style="list-style-type: none"> <li>11:55am-12:20pm: Panel with USU alumni currently in graduate or medical school</li> </ul>		
8	Mar 3	Career Explorations interviews	<b>A15:</b> Summaries from Career Explorations interviews	<b>A15 - Apr 7</b>
	<b>Mar 10</b>	<b>SPRING BREAK</b>		
9	Mar 17	Career Explorations interviews		
10	Mar 24	Career Explorations interviews		
11	Mar 31	Career Explorations interviews		
12	Apr 7	OPTIONAL: Learn about research internships and undergraduate research (Prof. Hevel)		
13	Apr 14	OPTIONAL - Learn about applying to grad school (Prof. Dickinson)	<b>A16:</b> Take the end of class survey	<b>A16 – Apr 21</b>
14	Apr 21	Feedback discussion		

### Assignment Details:

- All assignments should be submitted via the CANVAS website unless otherwise noted.
- See schedule above for due dates. The deadline is 11:59pm on each date shown above.
- Each assignment provides you a chance to practice your written communication skills, a critical element for your future success. All assignments will be graded with the following rubric:
  - 90% Assignment completion
  - 10% Correct grammar, spelling, punctuation, and use of professional formatting (in other words, your submission should ‘look nice’ – include your name, a title, the date, use the same font throughout, etc).

### **Assignment 1. Outside activities**

Being at a University offers amazing opportunities to learn and grow outside of the classroom. The purpose of this assignment is to encourage you to broaden your perspective and get into the habit of exploring the wide range of science-related activities and seminars on offer at USU. Over the course of the semester, you must attend, or participate in, three outside (science- or career-related) class activities of your choice. See CANVAS for a full list of suggestions, or come up with your own ideas (if your activity is not on my suggestion list, check with Dr. Hageman first). Example activities are shown below. Fill out the template on CANVAS to answer questions about each of your activities.

- Attend a research seminar (in addition to the one for Assignment 9)
- Attend a Health Professions event
- Interview a professional scientist working in a career you find interesting
- Attend the optional lecture session on Health Professions (March 4)
- Attend the optional lecture session on How to Apply for Graduate School (April 22)
- Explore the USUReady website (<https://www.usu.edu/academic-support>) and watch at least one of their videos
- Interview the USU Chemistry and Biochemistry Librarian, Steph Crowell, about how to make the most of library resources  
(see <https://library2.usu.edu/librarians/index.php?search=chemistry>)
- Listen to a science-related ‘Instead’ podcast (these are interviews with USU scientists that you can find on your podcast app) (<https://research.usu.edu/instead/>)

- Attend a research group meeting (contact a faculty member for permission to attend)
- Work or volunteer in a research group
- Interview a Chemistry or Biochemistry faculty about their research area
- Participate in a mock interview for an undergraduate research position or other job (contact Dr. Hageman if you are interested)

### **Assignment 2. Study habits**

During Week 1, the class will interview a panel of upper-level undergraduate and graduate students about the study habits and organizational tricks that have been the most useful to them while at USU.

- List and discuss three habits or tricks you learned about that may be useful for you in your college career.
- Discuss what you have learned about good and poor study habits from your first semester of college (or additional semesters if you are further along into your degree).

### **Assignment 3. Your degree and current career ideas**

Explain why you selected Chemistry or Biochemistry as your major. Then describe your current ideas or plans for your future career – if you have no ideas about what you want to do after completing your degree, explain.

### **Assignment 4. Get to know your Department and send a professional email**

- Go to the Department of Chemistry and Biochemistry webpage, click on the Faculty/Staff tab, and choose Faculty.
- Review the web pages for at least three faculty. Note that some faculty have an additional website containing more information about their research and research group (look for a ‘website’ link below the photo).
- Send a professional email to one of the faculty. In this email, you must introduce yourself briefly, use professional language, include a professional signature line, and ask a question related to the person’s decision to go into Chemistry or Biochemistry or about their career path. You must copy me (kim.hageman@usu.edu) on your email. If this leads to additional dialogue with the faculty member, you don’t have to copy me on continuing email correspondence. No submission on CANVAS is required for this assignment.

### **Assignment 5. Prepare for Career Interviews**

Look over the list of guests we will host during the four weeks of Career Interviews later in the semester (see list on CANVAS).

- Pick four guests that you will help interview (along with other students in the class). (Note that you are required to attend at least four of the Career Interviews, but you can certainly attend more (or all) of them).
- List three questions you would like to ask these guests.

### **Assignment 6. Career Services video quiz**

Answer the quiz questions about the video (you can watch the video again if you like).

### **Assignment 7. Draft resume**

Prepare a one-page draft resume for yourself, based on the advice you obtained from the video and our discussion during class.

**Assignment 8. Submit revised resume (Resume 2.0) following peer review**

Each student must gain a peer review of their resume from another student (you will receive the contact information of your peer review partner on CANVAS). After receiving feedback from your peer review partner, revise your original resume and name it Resume 2.0. During revision, use Track Changes to show what changes you have made. (Turn track changes ‘on’ in Microsoft Word in the ‘Review’ tab – if you have questions about how to do this, contact Dr. Hageman).

**Assignment 9. Meet with Career Services to review your Resume 2.0**

Once you receive a “pass” from Dr. Hageman in the comments section on CANVAS for Assignment 8, your Resume 2.0 is ready for review by Career Services. If your Resume 2.0 needs further revision before you meet with Career Services, I will let you know. (I will check that your resume follows the guidelines from Career Services so that they can help you polish your resume without wasting their time on the basics). For this assignment, you simply need to submit a print screen of your scheduled appointment on CANVAS. Note that Assignment 10 (Resume 3.0) is due on March 24 so your appointment must take place before then.

*\*\*Note that if you fail to attend your scheduled appointment, Career Services will let me know and you will lose the points for this assignment.*

**Assignment 10. Submit revised resume (Resume 3.0) following feedback from Career Services**

After obtaining feedback on your Resume 2.0 from Career Services, use the advice you obtained to develop a final version, name it Resume 3.0, and submit. During revision, use Track Changes to show what changes you have made. Note that Assignment 10 is due on March 24 so that Career Services has time to meet with all of you.

**Assignment 11. Explore ACS or ASBMB & Prospects websites**

- Decide if you want to explore careers in Chemistry or Biochemistry for this assignment.
- If you choose Chemistry:
  - Go to the American Chemical Society webpage: <https://www.acs.org/content/acs/en.html>.
  - Take some time to explore the webpage – it contains a wealth of interesting and useful information!
  - Click on the ‘Careers’ tab and go to ‘Explore Career Options’. Select ‘Careers & the Chemical Sciences’ in the Undergraduate section.
  - Choose either an area of chemistry or one of the job sectors (academia, government, industry, nonprofit) and read the information provided, including at least one of the profiles.
- If you choose Biochemistry:
  - First go to the American Society for Biochemistry and Molecular Biology (ASBMB) website (<https://www.asbmb.org/>) and explore the contents of the website. This is the premier biochemistry-related organization in the US and contains a wealth of interesting and useful information.
  - Next, go to the Prospects Biochemistry website (<https://www.prospects.ac.uk/careers-advice/what-can-i-do-with-my-degree/biochemistry>). This is a UK-based organization, but the information is very relevant to jobs in the US.
  - Select the career (or careers) listed here that you currently find most appealing and read the information provided.
- Everyone: For one of the careers you read about, prepare a short paragraph (4-7 sentences) describing why you are interested in the career and what you learned from either the ACS or Prospects website.

### **Assignment 12. Attend a USU research seminar**

- Select a science-related USU research seminar to attend via ZOOM or in person. The seminar does not have to be sponsored by the Chemistry & Biochemistry Department, but must be a science research seminar. Dr. Hageman will provide suggestions on CANVAS, but you are welcome to search the websites of USU Departments to find when their research seminars are given (most Departments have a weekly research seminar series). Non-USU seminars, career advice webinars, non-science, and other non-research seminars will not be accepted for this assignment – if you aren't sure if a particular seminar qualifies, contact Dr. Hageman for permission.
- Use the template on CANVAS to prepare a synopsis of the seminar. Don't stress if you don't understand everything discussed in the seminar – do your best to understand as much as you can and don't be shy about asking questions during the Q&A at the end of the seminar.

*\*\*Note that you cannot use the same research seminar for Assignments 1 and 12!*

### **Assignment 13. Literature databases and reference management**

- Watch Zotero training video. You can find it in Canvas in the module for this week.
- Download and install Zotero (<https://www.zotero.org/>) on your computer. Follow instructions in the video!
- Select a science topic you find interesting.
- Using Scopus (<https://library2.usu.edu/inabs/more.php?Identify=630>) or another literature database, identify three **primary research** articles related your selected topic. These articles must be primary research articles (not review articles or non-peer-reviewed articles). At a minimum, read the abstract and Introduction sections of these articles.
- Write a short synopsis (4-7 sentences) that summarizes the three articles (one synopsis total, not one per article).
- Cite the three articles correctly in your synopsis and prepare a bibliography using ZOTERO. You must use the formatting style used in the journal 'Nature'.
- Submit your synopsis (with bibliography) and a screen shot of your ZOTERO database.

### **Assignment 14. Summary from panel discussions**

Write a paragraph about what you learned from the panel discussions on February 24. In your paragraph, answer the following questions.

At this point, do you think you will be interested in going directly into the work force or attending graduate school, medical school, or another professional school after completing your Bachelor's degree? Explain your thoughts about this. Did you learn anything from the two panel discussions that helped you with this decision? What are the key things you need to do during the next few years to prepare for your next career step?

### **Assignment 15. Summaries from Career Explorations interviews**

Prepare four summaries - one for each of the four Career Exploration interviews you selected. In your summary, address the following questions:

- Which career are you describing in this summary? Provide the name of the guest and the person's title (see document on Canvas if you forgot).
- Is this a career you might be interested in pursuing? Why or why not?
- Did you learn anything about this career that you didn't know before? If so, what?

Either use the textbox or upload a file containing your summaries.

*\*\*Note that for Assignment 15, do not choose one of the panel discussions from XXX.*

**Assignment 16: Take the end-of class survey**

**Grading:**

- **Pass = a minimum score of 80% and participation in three outside activities.**
- Late assignments will have 10% of points removed per day that it is late (weekend days count). This adds up quickly, so do not turn assignments in late!

Grading element		Description	Points
Pop quizzes		Lectures during weeks 1-6 will contain a pop quiz, 2 points per quiz	12
Assignments	1	Outside activities: 3 activities required, 5 points each *You will automatically fail the course if you do not participate in three outside activities*	15
	2	Study habits	5
	3	Your degree and current career ideas	3
	4	Get to know your Department and send a professional email	3
	5	Prepare for Career Interviews	3
	6	Watch the Career Services video and take the quiz	5
	7	Draft resume	5
	8	Submit revised resume (Resume 2.0)	5
	9	Meet with Career Services	3
	10	Submit revised resume (Resume 3.0)	5
	11	Explore ACS or ASBSM and Prospects websites	5
	12	Attend a USU research seminar	5
	13	Literature databases and reference management	5
	14	Summary from panel discussion	5
	15	Summaries from Career Exploration interviews	12
	16	End-of-class survey	4
<b>TOTAL</b>			<b>100</b>