SYLLABUS Chemistry 1990
Introduction to the Chemistry and Biochemistry Professions
1 credit, Pass/Fail
Thursdays 11:30am – 12:20pm

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. This class will be administered completely on line using synchronous ZOOM lectures/activity sessions during class time.

Instructor Contact Information:
Dr. Kimberly Hageman
Maeser Lab 281
kim.hageman@usu.edu
435-797-0114

**If you would like to meet via zoom, send an email to set up an appointment.
**Questions about assignments will be answered via email; however, questions must be sent at least 24 hours before the assignment is due.

General Information:
• Lectures will take place on Thursdays at 11:30am to 12:20pm via ZOOM. ZOOM links will be listed on the CANVAS website. Lecture attendance and participation is mandatory.
• 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 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 will therefore lose points. Lecture attendance is also required so that you receive critical information needed to complete assignments correctly.
- **Covid quarantine:** If you are in quarantine due to covid exposure, you are still required to attend lectures via zoom and complete assignments on time. Dr. Hageman will be informed by the COVID CARE team if you are in quarantine due to covid. **DON’T FORGET TO CONTACT the COVID CARE IF YOU NEED TO QUARANTINE** ([https://www.usu.edu/covid-19/if-you-are-sick/care-team](https://www.usu.edu/covid-19/if-you-are-sick/care-team)).
- **Covid illness:** If you are ill and/or need to isolate due to covid exposure, Dr. Hageman will be informed by the COVID CARE team about your situation. **DON’T FORGET TO CONTACT the COVID CARE IF YOU NEED TO ISOLATE** ([https://www.usu.edu/covid-19/if-you-are-sick/care-team](https://www.usu.edu/covid-19/if-you-are-sick/care-team)). If you are too ill to attend a lecture or complete an assignment on time, you must contact Dr. Hageman at the earliest date possible to request access to a recorded lecture and/or to request an extension on an assignment deadline. Pop quizzes will be embedded in recorded lectures.
- 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 request access to a recorded lecture and/or to request an extension on an assignment deadline. Pop quizzes will be embedded in recorded lectures.

**Pop quizzes:**
Each lecture during weeks 1-6 will contain a pop quiz. The purpose of the pop quiz is to ensure you are attending lectures and paying attention.

**Schedule:**

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Lecture Topic and Activities</th>
<th>Associated Assignment (see below for details)</th>
<th>Assignment Due Date (11pm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Jan 21</td>
<td>• Course introduction&lt;br&gt;• Discuss outside class activities assignment&lt;br&gt;• Study skills – interview a panel of upper-level undergraduate students and graduate students</td>
<td>A1 Outside activities&lt;br&gt;A2 Study habits&lt;br&gt;A3 Your degree and current career ideas</td>
<td>A1 – Apr 22&lt;br&gt;(13 weeks to complete)&lt;br&gt;A2 – Jan 28&lt;br&gt;A3 – Jan 28</td>
</tr>
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<td>2</td>
<td>Jan 28</td>
<td>• Being professionally ready&lt;br&gt;• Conduct &amp; correspondence&lt;br&gt;Review of professions we will encounter later in the semester</td>
<td>A4 Get to know your Department and send a professional email&lt;br&gt;A5 Prepare for Career Interviews</td>
<td>A4 – Feb 4&lt;br&gt;A5 – Feb 4</td>
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<td>3</td>
<td>Feb 4</td>
<td>• Resume building&lt;br&gt;• Career Services Video</td>
<td>A6 Draft resume&lt;br&gt;A7 Make an appointment with Career Services&lt;br&gt;A8 Revised resume</td>
<td>A6 – Feb 11&lt;br&gt;A7 – Feb 11&lt;br&gt;A8 – Mar 4&lt;br&gt;(4 weeks to complete A8)</td>
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<tr>
<td>Date</td>
<td>Activity</td>
<td>Notes</td>
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| Feb 11 | Video: Science publishing and citation: review of scientific literature, the peer review process, and how to cite scientific literature  
• Introduction to using literature databases | A9 Attend a USU research seminar  
A9 – Apr 15  
(9 weeks to complete) |
| Feb 25 | Video: Bibliographies  
Video: How to use Zotero  
Questions | A10 Literature databases and reference management  
A10 – Mar 11  
(2 weeks to complete) |
| Mar 4 | 11:30-11:55am: Chem & Biochem advising with Jordan Truex  
11:55am-12:20pm: OPTIONAL - Learn about Preparing for Health Professions while at USU Q&A | A11 Explore ACS or ASBSM & Prospects websites  
A11 – Mar 11 |
| Mar 11 | 11:30-11:55am: Panel with USU alumni who completed BS degrees within the last several years (learn about entry-level jobs and how to get one)  
11:55am-12:20pm: Panel with USU alumni currently in graduate school, medical school, or other professional schools | A12 Summary from panel discussions  
A12 – Mar 18 |
| Mar 18 | Career Exploration Interviews | A13: Summaries from Career Explorations interviews  
A13 - Apr 22  
(5 weeks to complete) |
| Mar 25 | Career Exploration Interviews | |
| Apr 1 | NO CLASS – Friday schedule on Thursday | A14: Take the end of class survey  
A15 – Apr 22 |
| Apr 8 | Career Exploration Interviews | |
| Apr 15 | Career Exploration Interviews | |
| Apr 22 | 11:30-11:50pm: Zoom feedback session  
11:50-12:20pm: OPTIONAL - Learn about applying to grad school (Prof. Dickinson) | A14: Take the end of class survey  
A15 – Apr 22 |
Assignment Details:
- All assignments should be submitted via the CANVAS website unless otherwise noted.
- See schedule above for due dates. The deadline is 11pm 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/index) and watch at least one of their videos
- Interview the USU Chemistry and Biochemistry Librarian, Anne Hedrich, about how to make the most of library resources (see https://library2.usu.edu/librarians/index.php?search=anne%20hedrich)
- Listen to an ‘Instead’ podcast (these are interviews with USU scientists that you can find on your podcast app)
- 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
- Conduct a mock interview for an undergraduate research position or other job (contact Dr. Hageman if you are interested)

Assignment 2. Study habits
On Jan 21, 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
Fill out the template on CANVAS: first, 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, that is fine but you need to say this.

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 at end of this document).
• 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. 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 7. Make an appointment with Career Services
For this assignment, simply demonstrate that you have scheduled an online appointment with Career Services for review of your resume. Submit a print screen of your scheduled appointment on CANVAS. Note that your revised resume will be due on March 4 so your appointment date must be before then. You have four weeks to complete this assignment so that Career Services has time to meet with all of you.

Assignment 8. Revised resume
After obtaining feedback about your draft resume form Career Services, use the advice you obtained to develop an improved version and submit the revised resume.

Assignment 9. Attend a USU research seminar
• Select a science-related USU research seminar to attend via ZOOM. 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 out 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.

**Assignment 10. Literature databases and reference management**

- **Download Zotero:** [https://www.zotero.org/](https://www.zotero.org/)
- **Select a science topic you find interesting.**
- **Using Scopus** [https://library2.usu.edu/inabs/more.php?Identify=630](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 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](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 ‘Exploring Career Options’. Select ‘College to Career’ in the Undergraduate section and choose ‘Chemistry Careers’.
  - Select the career (or careers) listed here that you currently find most appealing and read the information provided.
- **If you choose Biochemistry:**
  - First go to the American Society for Biochemistry and Molecular Biology (ASBMB) website [https://www.asbmb.org/](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](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. Summary from panel discussions
Using the template on CANVAS, answer questions about either the panel discussion with recent alumni or that with alumni currently in graduate, medical, or profession school.

Assignment 13. Summaries from career interviews
Using the template on CANVAS, answer questions about four of the Career Interviews you participated in.

Assignment 14: 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!

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<thead>
<tr>
<th>Grading element</th>
<th>Description</th>
<th>Points</th>
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<tbody>
<tr>
<td>Pop quizzes</td>
<td>Lectures during weeks 1-6 will contain a pop quiz, 3 points per quiz</td>
<td>18</td>
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<tr>
<td>Assignments</td>
<td>1 Outside activities: 3 activities required, 5 points each <em>You will automatically fail the course if you do not participate in three outside activities</em></td>
<td>15</td>
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<tr>
<td></td>
<td>2 Study habits</td>
<td>5</td>
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<td>3 Your degree and current career ideas</td>
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<td></td>
<td>4 Get to know your Department and send a professional email</td>
<td>3</td>
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<td></td>
<td>5 Prepare for Career Interviews</td>
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<td>6 Draft resume</td>
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<td>7 Make an appointment with Career Services</td>
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<td>8 Revised resume</td>
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<td>9 Attend a USU research seminar</td>
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<td></td>
<td>10 Literature databases and reference management</td>
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<td>11 Explore ACS or ASBSM and Prospects websites</td>
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<td>12 Summary from panel discussion</td>
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<td>13 Summaries from Career Exploration interviews</td>
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<td>14 End-of-class survey</td>
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<td>TOTAL</td>
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