

UNIVERSITY OF ILLINOIS  
School of Chemical Sciences  
Department of Chemistry  
CHEM 199L: iScience  
Spring 2020

Instructor: Prof. Yi Lu, A322 CLSL, 333-2619, [yi-lu@illinois.edu](mailto:yi-lu@illinois.edu)  
Lecture: W-F 12:00-12:50 pm, 165 Noyes Lab  
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**Course outline:**

This course fosters your scientific interests by giving you the tools and resources to **identify and refine your scientific interests, link these interests with the courses you are taking as well as scientific research, network with other students and researchers in academia and industry**, and most importantly, **develop your ability to think critically**.

**Mondays:** Online lectures. These lectures are meant to help you **navigate through the scientific community and advance as a scientist**. These lectures are available on Compass at the beginning of the week and are expected to be completed in form of a quiz before coming to class on Wednesdays.

**Wednesdays:** In class activities/guest lectures. For the first half of the Wednesday lectures, you will attend class to **hear from guest speakers including alums, career services, or industrial representatives to gain insights on the steps to get you to where you want to be upon graduation**. From this information, you are to complete a four-year academic plan including goals and your ideal résumé when you graduate (Assignment I). In the second half of the Wednesday classes, you will work on your **ability to think critically** by either presenting on a scientific paper of your choice (Journal club), participating in a discussion/debate of a controversial scientific topic (Special topic), or taking a quiz in form of Jeopardy game with your team (Jeopardy quiz). You will also be working on your research and scientific writing skills by completing a mini-review paper on an area of science of your choice (Assignment II).

**Fridays:** Based on your interests, you will be assigned to a subgroup/team to be **mentored** by an upperclassman who shares your interests. You will meet in subgroup every Fridays to not only **network**, but also learn from each other and build a bond over shared experiences. You will need to work together as a team to give a presentation on the controversial scientific topic to prepare for the debate and during the Jeopardy game.

**Grading policy:**

Attendance/Participation:	90 points (15%)	<b>Attendance/participation breakdown</b>	Attendance in Wednesday class	15
Online Lecture Quizzes	60 points (10%)		Active participation in Wednesday class	25
Jeopardy Quizzes:	60 points (10%)		Attendance in Friday class	15
Journal Club:	60 points (10%)		Active participation in Friday class	25
Special Topics:	60 points (10%)		<u>Completing surveys</u>	<u>10</u>
Assignment I:	120 points (20%)		Total Attendance/Participation points	90
Assignment II:	150 points (25%)			
Total	600 points (100%)			
[Extra Credit:	additional 60 points (10%)]			

(Regardless of any reason, two total absences for classes on Wednesdays and group meetings on Fridays are allowed before the class participation grade is reduced)

**Late policy:**

Assignments must be turned in on time. Any work turned in late will lose 10% of points for EACH day it is late. For example, an assignment worth 100 points that was turned in 2 days late would have 20 points deducted.

**Course Assignments:**

- 1. Online quizzes (due Mondays at 11:59 pm)**  
After watching each online lecture, you will take a short online quiz on Compass about the contents of the lectures. You are free to take the quiz whenever you want as long as it is before the due date.
- 2. Assignment I (due Wednesday 2/26 at 11:59 pm)**  
Students are asked to put together a four-year academic plan including goals and an ideal graduating résumé. Students are expected to incorporate information from the career center guest lectures and are free to discuss their plan/goals/resume with their mentors. Detailed instructions and rubric can be found on Compass.
- 3. Journal club (due the Monday before presentation at 11:59 pm)**  
Students are asked to choose, summarize, and present a scientific article via PowerPoint. Students will also evaluate other students' presentations, and this will constitute 1/3 of the presentation grade. Detailed instructions and rubric can be found on Compass.
- 4. Special topic presentation (due Monday 4/20 at 11:59 pm)**  
Towards the end of the semester, students will undertake an investigation into a controversial current issue in science and make decisions on policies and practices using scientific information. Each subgroup will be assigned to research one aspect of this topic to present to the class on the first day of presentations. Based on discussions from the first day, groups will then have a debate about the current issue on the second day of presentations. This will be your chance to showcase the skills you have acquired during the course of the semester, such as how to use scientific literature, especially primary sources. You will have two subgroup meeting times to work on your projects to ensure a high quality and lively debate! Students will evaluate other groups' presentations, and this will constitute 1/3 of the presentation grade.
- 5. Jeopardy quizzes (in class 3/11 and 5/6)**  
Each quiz will cover material from both online lectures and in-class guest lectures and their related book chapters prior to that date. Participation is MANDATORY (counts

toward your participation grades)! It is crucial that you have taken notes and studied the materials in the online lectures and book chapters well in order to obtain a good grade on these quizzes.

**6. Assignment II (due Wednesday 5/6 at 11:59 pm)**

Students are asked to select a topic of their choice, do a literature search, and compile and present findings in the form of an article. You are free to discuss the choice of topics/relevance of it with your mentors. Detailed instructions and rubric can be found on Compass.

- 7. Extra credit:** You may earn extra credits (30 points) by attending literature seminar, research fair, or career events and then submitting a 300-500 word report on the event. You may earn an additional 30 points of extra credits by attending an outside speaker presentation and submit a 300-500 word report on the event.

## Tentative Schedule:

Week	MONDAY Online lectures	WEDNESDAY In-class lectures/activities	FRIDAY Group discussions/activities
1 1/19-1/25	No online lecture this week. (These lectures will be available at the beginning of each week and you are expected to watch them prior to coming to class on Wednesdays)	First-year students meet in classroom to complete interest surveys	Introduction/Course overview: What will be happening this semester online, in lecture, and in subgroups
2 1/26-2/1	Webcast 1: Practical Lecture -- The Undergraduate Research Experience  <b>Quiz 1 due 1/27 at 11:59 pm</b>	Chemistry Career Counseling Guest Lecture -- All About Career Development	Introduction to small groups Group Discussion: What are your scientific interests? How do these interests affect the classes you should take in your four years?
3 2/2-2/8	Webcast 2: Practical Lecture -- What can I do with my degree in Chemistry? (Extra Credit: Engineering Career Fair Jan. 28-29)  <b>Quiz 2 due 1/26 at 11:59 pm</b>	Importance of doing research as an undergrad; how to find a research group and do well	Group Discussions: What are your career goals? What is your plan to achieve these goals?
4 2/9-2/15	No online lecture this week	Chemistry Career Counseling Guest Lecture -- How to Create a Powerful Science Résumé	Group Discussion Résumé Workshop: Students bring résumé, mentors help them to improve them <b>Have your résumé draft printed to bring to group discussion Assignment 1 Discussion</b>
5 2/16-2/22	Webcast 3: Practical Lecture -- Finding reliable literature and scientific databases  <b>Quiz 3 due 2/17 at 11:59 pm</b>	UIUC alum Lecture	Group Discussions: All about science literature -- how to find it, assess it, and understand it. <b>Preparation for Journal clubs: Have article summary prepared for small group discussion Prepare PowerPoint slides for your subgroup journal clubs</b>
6 2/23- 2/29	Webcast 4: Practical Lecture -- Scientific Writing  <b>Quiz 4 due 2/24 at 11:59 pm</b>	<b>Journal Club #1 Presentations</b>  <b>Assignment I due 2/26 at 11:59 pm</b>	<b>Further edit/revise résumé.</b>
7 3/1-3/7	No online lecture  <b>Abstracts and slides from presenting students due 3/2 at 11:59 pm</b>	Alumni in Industry Lecture (3pm)  <b>Assignment II topic due 3/4 at 11:59 pm</b>	Group preparation for Jeopardy Quiz #1  <b>Work on outline for your Assignment II</b>
8 3/8-3/14	No online lecture (Extra Credit: Research Park Career Fair: 4-7pm 3/12; SCS Etiquette Dinner: 6-7:30pm 3/12)	<b>Jeopardy Quiz #1</b>  <b>Assignment II outline due 3/11 at 11:59 pm</b>	

<b>9</b> 3/15-3/21	<b>Spring break</b>		
<b>10</b> 3/22-3/28	No online lecture	Mentor presentations about their research	Discussion: What is the hardest lesson mentors have had to learn as undergrads?
<b>11</b> 3/29-4/4	Webcast 5: Practical Lecture -- Seminar on seminars  <b>Quiz 5 due 3/30 at 11:59 pm</b>	Guest lecture from Professor	Journal club presentation in subgroups <b>Prepare PowerPoint slides for your subgroup journal clubs</b>  <b>Work on rough draft for your Assignment II</b>
<b>12</b> 4/5-4/11	Webcast 6: Practical Lecture -- Scientific Discovery  <b>Abstracts and slides from presenting students due 4/6 at 11:59 pm</b> <b>Quiz 6 due 4/6 at 11:59 pm</b>	<b>Journal Club #2 Presentations</b>  <b>Assignment II rough draft due 4/8 at 11:59 pm</b>	Journal club presentation in subgroups <b>Prepare PowerPoint slides for your subgroup journal clubs</b>
<b>13</b> 4/12-4/18	No online lecture  <b>Abstracts and slides from presenting students due 4/6 at 11:59 pm</b>	<b>Journal Club #3 Presentations</b>	Work on special topics projects  <b>Discussion on Assignment II</b>
<b>14</b> 4/19-4/25	No online lecture  <b>Special Topics presentation due 4/20 at 11:59 pm</b>	<b>Finish Journal Club #3</b> <b>Special Topics Discussion Ia</b>	<b>Special Topics Discussion Ib</b> (first half of class)  <b>Discussion about Assignment II</b> (second half of class, in normal small groups)
<b>15</b> 4/26-5/2	No online Lecture	<b>Special Topics Discussion II</b>	Group preparation for Jeopardy Quiz #2  <b>Discussion about Assignment II</b>
<b>16</b> 5/3-5/9	No online Lecture (Finish ICES surveys to earn 10 points)	<b>Jeopardy Quiz #2</b>  <b>Assignment II due 5/6 at 11:59 pm</b>	