



Chemistry 111, General Chemistry Laboratory A

Summer 2020 Syllabus

Chem 111-001, General Chemistry Lab A (1 credit hour)

Summer Session I: May 18th – June 26th, 2020

Lab Location: ONLINE

Prerequisite: Math Placement Test or Math 117

Lab Location: ONLINE

Course Meeting Times: This course has both synchronous (real-time, virtual in ZOOM) and asynchronous (pre-recorded lectures, independent videos and/or virtual labs, other activities) components. It is the student's responsibility to pay attention to all information regarding the course. As a student enrolled in the course, you agree to abide by, follow, and complete all course aspects including rules, requirements, virtual labs, lab reports, assignments, homework, quizzes/tests/exams, due dates, and other. This course requires your full commitment.

- **Synchronous session in ZOOM: Tuesdays 1:30-4:15pm (Central Time Zone)**
The [ZOOM link](#) is accessed from the ZOOM tool in Sakai. You must log in to Sakai to join. Make sure your ZOOM name is first Full Name and initial of Last Name. Odd usernames will not be allowed into ZOOM to combat any unauthorized access. Be mindful of this!
- **Asynchronous session (not meeting in real-time): Thursdays 1:30-4:15pm (Central Time Zone)**

Laboratory Coordinator: Dr. Katrina Binaku

Office Hours: [Mondays 4-5pm](#), [Thursdays 12-1pm](#), and by a scheduled ZOOM appointment.

Office Hours Location: ZOOM

Email: kbinaku@luc.edu

Teaching Assistant: Madison Smith

Office Hours: [Wednesdays 10-11am](#) (Central Time) and by a scheduled ZOOM appointment.

Office Hours Location: ZOOM

Email: msmith40@luc.edu

Email Etiquette: When sending emails please put Chem 111-001 in the subject line or there will be a delay in response time. The Lab Coordinator teaches multiple courses and must know which course a student is in before replying to email. Weekday emails to Dr. Binaku will get a response within a couple hours. Emails after 8:00pm may not be replied to until the following morning. Do not wait until the last minute to email questions. Dr. Binaku checks email on weekends, but email response time might be longer [up to 24-hours].

As a Teaching Assistant (TA), Madison assists me in the course. TA responsibilities include but are not limited to holding one weekly office hour, presence in synchronous sessions, grading materials, and answering student questions. Lab Coordinator and TA are in constant communication and "CC" each other on email replies to students. This mitigates a student emailing both Dr. Binaku and Madison with the same question; one reply will be given and it will be the same answer whether emailing Dr. Binaku or Madison.

Welcome to Chem 111. We look forward to working with you this summer session I. Check Loyola email & log-in to Sakai often. Read the entire syllabus to understand the course expectations.

COURSE DESCRIPTION

This lab course emphasizes introductory application of topics/theory covered in the lecture course (Chem 101). It introduces students to basic chemical laboratory skills & techniques including lab and chemical safety, glassware & lab equipment, basic operations of a laboratory, significant figures, basic statistics, writing a formal lab report, graphing data, accuracy & precision, atomic structure, periodic table trends, solution preparation, stoichiometry, titration, pH, use of indicators, and spectrophotometry. This list is not exhaustive but mentions the highlights.

Goals of this course include: 1) teach lab safety & basic laboratory skills, 2) connect students' lecture topics to virtual lab simulations, and 3) introduce scientific writing via a formal lab report. By completing this lab course, student outcomes include: 1) demonstrate safe lab practice and use of glassware & lab equipment, 2) demonstrate stoichiometry and titrations through computing calculations and theoretical analysis questions coupled to each lab experiment, and 3) practice scientific writing through completion of a formal lab report.

REQUIRED ITEMS

- 1) Desktop or Laptop computer. Virtual Lab simulations do NOT work on tablets nor mobile devices. Computer must have a microphone and speakers to participate in synchronous sessions and for office hours. If you do not have a desktop or laptop computer, you need to contact the Information Commons [extended loan equipment program](#) within the first day of summer session I and arrange this resource. Lab Coordinator is not responsible for coordinating this resource for students nor responsible for the loaned device. Everything in this course requires a computer for access.
- 2) High-speed Internet access: Wired (ethernet cable) preferred but WI-FI is ok. Make sure WI-FI connection is reliable. Lab Coordinator is not responsible if internet goes out when you are working on course items. Contact the Information Commons [extended loan equipment program](#) within the first day of summer session I and arrange this resource if you do not have internet at home. Lab Coordinator is not responsible for coordinating this resource for students nor responsible for the loaned device.
- 3) Scientific OR graphing calculator. Suggested model: CALC TI30XA SCIENTIF/STAT FRAC. A graphing calculator is o.k. too. Cell phones are not calculators; do not use them for calculations.
- 4) [Sakai access](#) via the internet to review/complete course content, resources, review grades, etc. The course site is CHEM 111 001 SU20.
- 5) Labster – web-based lab experiment simulations. Access directions to [Labster](#) will be in an email and a link will be provided in Sakai. Labster is the foundation of the course. Lab experiment exercises are completed in a virtual lab. Labster will only run on a desktop or laptop computer.
- 6) [ZOOM video & web conferencing software](#) (free for LUC/summer students). UVID username and password may be required to access and download ZOOM, enter synchronous course meetings, office hours, etc. See [ZOOM participation instructions](#) supplied by the University for more info. Links to ZOOM for synchronous sessions and office hours will be provided in Sakai.
- 7) Panopto (free for LUC/summer students). One format of recorded course content is Panopto videos. You may be prompted to log in with UVID username and password to view the videos. Links to videos will be provided in Sakai and via email.
- 8) Microsoft 365 (free for LUC/summer students) to write a formal lab report. Information is supplied on [how to download & access Microsoft 365 for free](#).
- 9) Composition style notebook (not spiral bound & no tear-out perforations). Line ruled.
- 10) A non-erasable pen is useful for writing notes in the Composition Notebook.
- 11) Periodic table. There is a cool one provided for free by the [Museum of Science & Industry](#).

INSTRUCTIONAL FORMAT

- Attendance in synchronous sessions (Tuesdays) in ZOOM is required. The lecturing portion of synchronous sessions will be recorded if you do have to miss a session due to unforeseen circumstances. That way, students do not miss out on information. Other than office hours, the synchronous sessions are the only other “real-time” opportunity to ask questions and communicate with us in ZOOM. Emails work great, but they are not “real-time.” There is a delay with an email reply. Keep that in mind.
- The asynchronous sessions on Thursdays are designed as time set aside for you to work on lab simulations, instead of meeting in ZOOM. Of course, you have access to the lab simulations 24/7 when they are opened; use time wisely to complete the necessary work as most of the course work is asynchronous and has specific due dates that will not be adjusted. If lab simulations are completed AFTER the due date listed, the student will not get any credit for doing them.
- We are going to have fun with Labster simulations! [Labster](#) gives students direct exposure to laboratory protocols and the ability to experience a variety of experiments in a virtual space. Labster & Sakai work, as well as quizzes & a formal lab report, serve as a basis for earning points and showing course progress.

GENERAL POLICIES

- Course work will be graded with an emphasis on correct significant digits, consistent results (do data & observations match conclusions), correctness of calculations & analysis, and thoroughness in responses. Following directions of reporting calculated answers are taken into account too.
- The Composition notebook is suggested to contain all laboratory experiment information [Date, Title, data/observations/calculations for the experiment]. It will be useful to record progress during the Labster experiment simulations to keep track of calculations, data, etc. Use the notebook as a resource. Feel free to take class notes in it as well; it is a place to organize your thoughts which is important in an online course. A lot of the success in an online course is the student being organized. Since Dr. Binaku will never see the actual lab notebook, it is not graded.
- Aspects of course work must be completed in the avenue/medium that they are provided in and in the time allotted [i.e. be mindful of due dates]. This means that a lab simulation can only be completed in Labster, for example, or Test and Quizzes in Sakai can only be submitted in Sakai. Course work items such as homework, quizzes/tests/exams, lab simulation results, lab report, etc. can never be submitted via email. No exceptions. Submit them in their required, respective medium and do so on time.
- Be mindful that everything in the course has a due date. Course work cannot be made up. There are no exceptions to this rule. Late work is not accepted. Although majority of the course requirements are asynchronous work; there are due dates and they must be followed.
- There is a point value associated with the work, and one cannot earn points for work not completed. **There are no makeups allowed i.e. students cannot make up a lab experiment or Sakai work that they missed the due date for.** There are eight lab experiments and students are expected to complete all of them; if a lab simulation is not completed a zero (0) is earned. No makeup work is given.
- Students should not enroll in courses that they cannot fully attend. Missing 2 or more of the lab simulations is significant and unacceptable and will result in academic failure. The same penalty applies if a formal lab report is not turned in.
- Although probably not applicable, since all University activities are suspended: Students participating in co-curricular activities must make information concerning time conflicts with University sponsored events available to the Laboratory Coordinator within the first two days of the summer session I. The Laboratory Coordinator reserves the right to contact the Athletics Department. Students missing classes while representing Loyola University Chicago in an official capacity (e.g. intercollegiate athletics, debate team, model government organization) will need to discuss their needs with the Laboratory Coordinator. No extensions nor modifications will be made; this is an online course.

- Students missing a lab experiment due to observing religious holidays must alert the Lab Coordinator no later than two business days after the start of the summer session I to request a special accommodation. This is handled on a case by case basis. The Lab Coordinator reserves the right to contact Campus Ministry, which keeps information on a plethora of religions and holidays. Since lab is online and access to virtual simulations are twenty-four hours for several days; there should be no conflicts.

RECORDING POLICY AND COURSE CONTENT POLICY

- ZOOM will be used to record live synchronous sessions. Lab Coordinator intends to only record the lecture portion(s), but as a student in this class, it is possible your participation in live class discussions may be recorded. The synchronous recordings will be made available only to students enrolled in the course, via Panopto, to assist those who cannot attend the live session or to serve as a resource for those who would like to review content that was presented. All recordings will become unavailable to students in the class when the Sakai course is unpublished (i.e. shortly after the course ends, per the [Sakai administrative schedule](#)). Students who prefer to participate via audio only will be allowed to disable their video camera so only audio will be captured. Lab Coordinator will announce when recording starts so that students can turn their cameras off.
- The use of all video recordings will be in keeping with the University Privacy Statement shown below: Assuring privacy among faculty and students engaged in online and face-to-face instructional activities helps promote open and robust conversations and mitigates concerns that comments made within the context of the class will be shared beyond the classroom. As such, recordings of instructional activities occurring in online or face-to-face classes may be used solely for internal class purposes by the faculty member and students registered for the course, and only during the period in which the course is offered. Recordings are not shared outside of this course. The above bullet point states when recordings will occur in this course (synchronous sessions). Recordings including student activity that have been initiated by the Lab Coordinator may be retained by the instructor only for individual use.
- ZOOM chats are not private. Be mindful of what you type in the chat box when messaging other students, the TA, and the Lab Coordinator. Breakout rooms are sometimes utilized too & are monitored.
- All activities pertaining to the course should be completed as an INDIVIDUAL. Any collaboration on course material and/or graded materials can constitute cheating. Failure of the course may result if an instance of copying or sharing answers to graded content is discovered by TA or Lab Coordinator.
- **Course content is designed for use ONLY by students in this course. All materials are subject to privacy and copyright laws. Students are NOT allowed to share any course resources, Labster info, Panoptos, PowerPoints, quiz/test/exam questions, documents, etc. with anyone nor post to any outside media. The Chem 111 syllabus and all course materials are NOT allowed for distribution outside of class nor outside of the University. Uploading, posting, copying, or sharing electronic/non-electronic Chem 111 materials outside of class [i.e. share sites] is NOT allowed. If discovered that a student completes such action, the Dean and University get notified immediately.**
- **Chegg, Course Hero, Reddit, among other webpages, are monitored by the Lab Coordinator. If any Chem 111 course content is posted on these sites or other, the Dean and University will be notified. Student(s) involved may fail the content the posted material pertains too and/or fail the course. Posting any course content online to facilitate getting answers is a form of cheating and will not be tolerated.**

COURSE REPEAT RULE

Effective as of the Fall 2017 semester, students are allowed only THREE attempts to pass Chemistry courses with a C- or better grade. The three attempts include withdrawals (W). After the second attempt, the student must secure approval for a third attempt. Students must come to the Chemistry Department, fill out a permission to [register form](#) or access it from the Department of Chemistry & Biochemistry website, and personally meet and obtain a signature from either the Undergraduate Program Director, Assistant Chairperson, or Chairperson in Chemistry. A copy of this form is then taken to your Academic Advisor in Sullivan to secure final permission for the attempt.

ROLE OF TEACHING ASSISTANTS

The function of a TA is to help the Lab Coordinator facilitate online learning content and provide individual help to students when necessary. TA will not do the course work for you nor release answers. TA will help students develop critical thinking and problem-solving skills. The Lab Coordinator is available during and outside of class time if there are any questions or concerns that the TA cannot handle appropriately. Students can always email the Lab Coordinator; TA is present to help answer student questions too. The Lab Coordinator has final authority in all matters relating to the course. Utilize both the Lab Coordinator and TA for assistance. *If at any point in summer session you want to talk to the Lab Coordinator regarding the TA, please do. The TA should enhance the educational experience. If this is not the case, talk to me.

TUTORING

To find more information visit the [Tutoring Center webpage](#).

GRADING

Reference the grading scale below. There will be no change in the grading scale nor the number of points allotted in this course. There are no dropped grades in the course. Every piece of course work is counted toward the course grade. It is in your benefit to complete all lab experiment simulations to know the content for homework, quiz/test/exam, and/or a formal lab report. There are no weighted grades in the course; it is points earned divided by total points possible. A zero (0) is earned for work not completed. Remember that there is no makeup work; no exceptions.

The University uses the +/- grading scale system and that system is implemented in this course. Rounding only applies to the final course grade percentage. Sakai reports course grades to TWO digits past the decimal (XX.XX%); this final course grade percentage is rounded to the closest integer. For example, an 89.50% or 89.90% (B+) rounds up to a 90% (A-), BUT an 89.30% or 89.45% (B+) round to the integer 89% (B+).

Grades of completed online items are posted on Sakai within one week of completion. Grading of the formal lab report may take longer than one week. Any grading discrepancies must be resolved no later than two business days after the grade & feedback are released in Sakai. A student must show proof the work was graded wrong or grade entered incorrectly. Grade disputes will not be entertained past one week nor be acknowledged after the last day of class. Be mindful of this policy.

Although Labster allows multiple tries in a simulation, the FIRST attempt grade is the grade that is recorded. So be mindful that multiple attempts on questions does result in point deduction for not getting it right the first try.

Grading Scale:

% total	Grade
94 – 100	A
90 – 93	A-
87 – 89	B+
84 – 86	B
80 – 83	B-
77 – 79	C+
74 – 76	C
70 – 73	C-
65 – 69	D+
60 – 64	D
0 – 59	F

Point Breakdown:

Activity	Origin	Points
Welcome & Introduction Discussion Forum	Sakai (Forums)	10
Laboratory Safety virtual lab simulation	Labster	110
Chemistry Safety virtual lab simulation	Labster	130
Quiz on Safety Rules in the Laboratory	Sakai (Tests & Quizzes)	20
Atomic Structure: Assess Possibility of Life on Other planets virtual lab simulation	Labster	120
Periodic Table (Principles): Get the Table Organized in Time virtual lab simulation	Labster	160
Quiz on Significant Figures, Lab Equip.	Sakai (Tests & Quizzes)	20
Solution Preparation: From Salt to Solution virtual lab simulation	Labster	60
Notebook Entry for Solution Preparation virtual lab simulation	Sakai (Tests & Quizzes)	20
Quiz on JoVE videos & Lab Notebook Writing	Sakai (Tests & Quizzes)	30
Stoichiometry Calculations: ID an Unknown Compound virtual lab simulation	Labster	90
Notebook Entry for Stoichiometry Calculations virtual lab simulation	Sakai (Tests & Quizzes)	20
Titration: Neutralize Acid Lake Contamination virtual lab simulation	Labster	150
Notebook Entry for Titration: Neutralize Acid Lake virtual lab simulation	Sakai (Tests & Quizzes)	20
Graphing in Excel using Practice Data Beer's Law Relationship	Sakai (Assignments)	20
Quiz on Beer's Law and Intro to Spectrophotometry JoVE videos	Sakai (Tests & Quizzes)	30
Eutrophication virtual lab simulation	Labster	170
Notebook Entry for Eutrophication virtual lab simulation	Sakai (Tests & Quizzes)	20
Formal Laboratory Report, typed [PDF or Word Doc]	Sakai (Assignments)	100
Total Course Points	N/A	1300

Grade if an Assignment/Course Work is Missed: As stated earlier in the syllabus, makeup work is not given. A zero (0) is recorded for work not completed. You will be responsible for understanding the missed material, and normal deadlines apply for completing related items. This is an online course which affords flexibility in completion of items [access 24/7 to lab simulations during their open periods before the due date, as opposed to an in-person laboratory having 3 hours to complete a lab]. Sometimes life happens and the Lab Coordinator understands that; contact the Lab Coordinator if any legitimate emergencies arise. Lab Coordinator has the right to fail a student if two or more lab simulations are not completed or if the formal lab report is not turned in.

EDUCATIONAL GOAL

In this general chemistry laboratory course, my purpose as your Chemistry Lab Coordinator is to provide introduction to experimental methods of scientific investigation in Chemistry. The fundamental models of chemistry discussed in lecture provide the basis for understanding the experimental simulation laboratory work. Each simulation is an opportunity for students to gain competence in the basic techniques of lab work and the experience necessary to understand its significance. It is my wish that this course will encourage students who are seeking intellectual challenges along with an understanding of the chemical principles in the laboratory.

Conducting experiments and collecting data to test the validity of theories and models requires a different set of skills than those required for success in a general chemistry lecture course. During a lab simulation activity, each student's virtual hands, mind, eyes, as well as other senses are focused on the task at hand. Success in the lab involves skills in making perceptive qualitative observations and accurate quantitative measurements. All labs are structured enough so that students should not feel lost or confused, but not so structured that students will find it unnecessary to think for oneself.

REGARDING SAKAI AND TECHNICAL DIFFICULTIES

It is *strongly encouraged* that all required submissions to Sakai, use of Labster and electronic resources, writing formal lab reports, opening course files, etc. be done on a reliable wired (ethernet) internet connection. WI-FI is perfectly o.k. if the connection is reliable. The internet user must determine the reliability of their WI-FI.

Excuses of "technical difficulties" are generally not accepted as this syllabus is stating all students should use wired (ethernet) internet connection and/or ensure their WI-FI connection is reliable [not prone to outages]. The Lab Coordinator realizes that campus is closed and University computer labs are not accessible. Even so, students should ensure their internet connection is reliable enough to complete an online course without interruption. If an outage arises, the Lab Coordinator does reserve the right to ask for proof. The best advice the Lab Coordinator can give is to NOT complete assignments at the last minute, in order to avoid glitches with internet, since every part of the course work needs reliable internet to submit. Lab Coordinator is not responsible for technical difficulties of personal devices [phone, tablet, home/work/public wireless internet or computer]. Do not submit items in Sakai using a cell phone or a tablet device.

ACADEMIC INTEGRITY

The standard of academic integrity and personal honesty delineated in the [College of Arts & Sciences Statement on Academic Integrity](#) is expected of every student and will be enforced. Cheating can take many forms in a lab course, but the most common forms are copying data and answers to analysis questions, sharing files for homework, completing Sakai work or other electronic content with another person. The data and analysis as well as the homework submitted for grading must be your own. If it is not, no credit will be awarded for the lab

simulation, nor will make-ups be granted. Findings of dishonest academic behavior are reported to the Chair of the Chemistry Department and to the Dean's Office; it is also entered into an individual's record. Copied answers to course work or copied formal lab reports will result in penalty for all students involved. Turn It In is utilized for formal lab reports to identify plagiarism, cheating, and other.

DISABILITY ACCOMMODATIONS

If you have a documented disability and wish to discuss academic accommodations, [discuss this with the Lab Coordinator via ZOOM](#) as soon as possible, ideally the first week of summer session I. The Coordinator of Student Accessibility Center (SAC), formerly referred to as SSWD, is located in the Sullivan Center and must be contacted independently.

Necessary accommodations will be made for students with disabilities who procure a SAC letter. However, to receive any accommodations self-disclosure, proper documentation, and registration with the SAC office at Loyola University Chicago is required. Accommodations cannot be made until the Laboratory Coordinator receives proper documentation. Furthermore, accommodations are not retro-active and begin only once appropriate documentation has been received by the Laboratory Coordinator in a timely manner. Only those accommodations that are specifically listed in the formal SAC letter will be provided. If an accommodation letter suggests the Testing Center be utilized to take an exam, remember the University is not open. Read up on [SAC Policies and Procedures](#).

SMART EVALS

Feedback on the course is important so that a Lab Coordinator can gain insight into how to improve the course, the teaching style, and so the department can learn how best to shape the curriculum for future semesters. Students are welcome to email the Lab Coordinator at any point in summer session to voice feedback. Towards the end of the summer session, students will receive an email from the Office of Institutional Effectiveness with a reminder to provide feedback on the Chem 111 course. This office will send constant reminders during the open period of feedback until the evaluation has been completed. The evaluation is completely anonymous. When the results are released, no one will be able to tell which student provided individual feedback. Feedback is not released until after the semester is over, therefore any feedback given will not impact student grades.

ADDITIONAL STUDENT RESOURCES

A considerable amount of technology is utilized in this course. Below are links of information guides to Sakai, Panopto, ZOOM, the University Help Desk in the event that students need more structured guidance on using the tools in the course in order to be successful. Students can always email the Lab Coordinator, but these guides may reveal the answer more quickly when a student reads them. These guides are written by the pros.

[SAKAI student guide](#)

[Panopto Information](#)

[ZOOM Information](#) and [Contacting ZOOM Support](#)

[Information Technology Service Desk](#) (ITS Help Desk)

SYLLABUS DISCLAIMER

The Laboratory Coordinator (Dr. Binaku) reserves the right to revise this syllabus to correct any unintentional mistakes found at any point of the summer I session. Students will be notified if any changes have been made.

See the next two pages for lab's scheduled activities. The "Lecture and/or Lab Activity" column lists the day the work starts/is open, or is discussed in ZOOM. The "Activity Due Date" column lists the due date of a Forum, Labster, Tests & Quiz, Assignment, formal lab report, etc. Be mindful of due dates; they will also be listed in Sakai

Tentative Chem 111 Schedule of Lectures and Activities

WEEK & Class Dates	Meeting Type	Lecture and/or Lab Activity* (type) *activity opens on the class day it is listed	Activity Due Date
WEEK 1			
Tuesday, May 19	Synchronous in ZOOM	Intro & Syllabus Lecture in ZOOM Glassware & Safety Lecture in ZOOM Sakai and Labster Demo in ZOOM <i>Laboratory Safety (LABSTER)</i> <i>Chemical Safety (LABSTER)</i> Welcome & Introduction Forum (Sakai FORUM) Quiz on Safety Rules in Lab (Sakai Tests & Quizzes)	Saturday, May 23 @11pm
Thursday, May 21	Asynchronous	<i>Atomic Structure (LABSTER)</i> <i>Periodic Table Principles (LABSTER)</i>	Tuesday, May 26 @1:30pm
WEEK 2			
Tuesday, May 26	Synchronous in ZOOM	Significant Figures, Lab Equip. Lecture in ZOOM Quiz on Significant Figures, Lab Equip. (Sakai Tests & Quizzes) No LABSTER activity today.	Thursday, May 28 th @1:30pm
Thursday, May 28	Asynchronous	Importance of a Lab Notebook Lecture (Panopto) <i>Solutions & Concentrations video (JoVE)</i> <i>Making Solutions in Lab video (JoVE)</i> <i>Solution Prep: From Salt to Solution (LABSTER)</i> Sakai Notebook Entry for Labster (Tests & Quizzes) Quiz on Solutions & Concentration and Notebook Keeping (Sakai Tests & Quizzes)	Tuesday, June 2 nd @ 1:30pm
WEEK 3			
Tuesday, June 2	Synchronous in ZOOM	Stoichiometry Lecture; Titration Lecture in ZOOM <i>Stoichiometry Calculations (LABSTER)</i> Sakai Notebook Entry for Labster (Tests & Quizzes)	Tuesday, June 9 th @1:30pm
Thursday, June 4	Asynchronous	<i>Titration: Neutralize Acid Lake Contam. (LABSTER)</i> Sakai Notebook Entry for Labster (Tests & Quizzes)	Tuesday, June 9 th @1:30pm

WEEK & Class Dates	Meeting Type	Lecture and/or Lab Activity* (type) <i>*activity opens on the class day it is listed</i>	Activity Due Date
WEEK 4			
Tuesday, Jun 9	Synchronous in ZOOM	Scientific Writing: Lab Report Lecture in ZOOM Accuracy & Precision Lecture in ZOOM <i>*Panopto and Experiment Data Given for Lab Report*</i>	Tuesday, June 16 th @1:30pm
Thursday, June 11	Asynchronous	No specific assignment today. Lab time is set aside for students to work on lab report data analysis and typing.	
WEEK 5			
Tuesday, June 16	Synchronous in ZOOM	Submit finished Lab Report to Sakai (Assignment) by 1:30pm today. Light, Beer's Law Lecture in ZOOM Graphing Beer's Law Relationships Lecture in ZOOM <i>Practice data graphing in Excel (Sakai Assignment)</i>	Thursday, June 18 @11pm
Thursday, June 18	Asynchronous	<i>Beer's Law video (JoVE)</i> <i>Introduction to Spectrophotometry video (JoVE)</i> Quiz on JoVE content in (Sakai Tests & Quizzes)	Tuesday, June 23 @1:30pm
WEEK 6			
Tuesday, June 23	Synchronous in ZOOM	Spectrophotometry Basics Lecture in ZOOM <i>Eutrophication (LABSTER)</i> Sakai Notebook Entry for Labster (Tests & Quizzes)	Thursday, June 25 @1:30pm
Thursday, June 25	Synchronous in ZOOM	<u>LAST DAY OF CLASS</u> Wrap up Chemistry lab concepts in ZOOM Undergrad Research/REU/Internship Information TA Evaluation (Sakai Tests & Quizzes) Labster Survey (Sakai Tests & Quizzes) All grading questions must be resolved in ZOOM Breakout Rooms during class time. Grades are final and put in LOCUS after students log off ZOOM.	N/A