



Chemistry 261, Quantitative Methods in Chemistry Laboratory
261-003
Fall 2024 Syllabus
August 26th – December 7th, 2024

Pre-Requisite: Chem 180, Chem 181, & Math 131 (or Math 161)

Lab Location and Time: Flanner Hall 305/308, Mondays 4:45pm – 7:30pm.

In-person attendance is mandatory for every person. No online lab supplement work is given to absent students, no exceptions. This is not an online course. No modifications to the course will be made. Students can only complete the experiments in person, during the scheduled lab period.

Laboratory Coordinator: Dr. Katrina Binaku

Office Hours* simultaneously in person & ZOOM: Mondays and Thursdays 3:40-4:15pm, Tuesdays 10-11am, or by a scheduled appointment*. *If you can't make office hours, email to schedule another time [M-F] to meet in person at my office or in ZOOM when we are both available. Evening and weekend appointments are not available.

Office: Flanner Hall 304 | **Email:** kbinaku@luc.edu | **Phone:** (773) 508-8715

Teaching Assistant (TA) and TA Role: See Syllabus tab in Sakai for TA info & office hours.

TAs help the Lab Coordinator facilitate learning, deliver course content, and provide help to students. TAs monitor lab during in-person labs, ensuring a safe and productive environment. TAs also assist students to develop critical thinking & problem-solving skills. TA responsibilities also include holding an office hour, grading some coursework, and answering questions via email. Lab Coordinator and TA are in constant communication and “CC” each other on email replies to students. This mitigates a student emailing both of us with the same question; one reply is given and will be the same answer. Utilize both the Lab Coordinator and TA for assistance.

Lab Coordinator has final authority in all matters related to the course. TA does not participate in any part of the course syllabus and is simply following directions. If something is said in error by the TA, the Lab Coordinator reserves all rights to not grant it.

Course Meeting Times:

Lab meets every week. Be present and be on time. Students are only allowed to attend the lab course section they are enrolled in according to LOCUS. No exceptions to that University rule. This course has in-person lab experiments that students should expect will take the entire 2-hour & 45-minute lab period. There is also homework outside of class time (online in Sakai, Panopto lectures, independent videos and other) activities. It is the student's responsibility to pay attention to all course information, including the course schedule for laboratory sessions at the end of this syllabus. As a student enrolled in the course, you agree to abide by the syllabus and complete all course aspects including rules, requirements, labs/experiments/activities, lab report, assignments, homework, quizzes, or other and abiding by due dates, etc. This course requires your full commitment. All times listed are Central Standard Time (CST).

Check Loyola email & Sakai often. **Read the entire syllabus to understand the course, expectations, and commitment for success.** Contact Lab Coordinator with any questions. 😊

Course Description

This chemistry lab course continues an emphasis of learning and improving proper lab technique & data collection, data interpretation/analysis, and scientific writing. The course is designed for a non-chemistry major. Lab topics are related to some topics/theory covered in the lecture course (Chem 260). The course introduces students to intermolecular forces, matter and phase changes, chromatography, chemical kinetics, chemical equilibrium, acids & bases, pH & buffers, net ionic equations, solubility, specific heat, and UV-Vis. Continued exposure to scientific writing skills to master the task of summarizing & articulating scientific data is achieved through formal lab reports, the peer review process, & keeping a written lab notebook. Dimensional analysis and significant figures also play a continued role in the course. Chemical knowledge spanning from your first-year chemistry lectures and labs will be used; students are expected to remember what they learned in previous courses. This list is not exhaustive but mentions the highlights. To be successful in any course [including this one], an honest effort and time commitment on the students' part is vital. Students must choose to commit to learning course material, adequately manage time, complete course work, and ask for assistance when things are unclear.

Goals of course:

- 1) Build additional laboratory skill knowledge through new techniques of quantitative analysis of chemical analytes. Skills built on Chem 111/161 lab basic practices.
- 2) Apply quantitative techniques to collect experimental data and interpret experimental results. Analyze data for accuracy and precision using descriptive statistics. Strive to improve lab technique and subsequently collect *better* [more precise and accurate] data.
- 3) Improve scientific writing skills and documentation of laboratory work. Participate in a peer review process.
- 4) Continue proper lab safety practice and understanding of chemical and laboratory work.

Outcomes:

- 1) Demonstrate knowledge of intermolecular forces, chemical kinetics, equilibrium, and acid – base theory through successful lab completion, precise & accurate data collection, data analysis/interpretation in lab notebook entries, formal lab reports, and other work.
- 2) Connect lab calculations to course concepts through successful lab notebook experiment set-up, data interpretation/representation [such as graphing], and online quizzes. Articulate conclusions about individual and class lab experiment results through use of descriptive statistics and comment on accuracy and precision of lab data.
- 3) Demonstrate enhanced, intermediate scientific writing skills through experimental lab notebook and typed scientific formal lab reports.

Academic Calendar, Health, Safety, and Well-Being Students are responsible for knowing the course schedule within the syllabus as well as the [University Academic Calendar](#) and any important dates. Students must also keep up to date on university announcements regarding health and safety on campus.

Masking Requirement

None. A mask is not required in this course. You may choose to properly wear a mask (e.g., over nose and mouth) at your own discretion based on your comfort level.

Required Items

- 1) Chem 261 Laboratory Packet (provided as a PDF in Sakai). Printed manuals are provided during lab time to students. Printed manuals are stored in the lab. If a student wants their own paper copy, ask the Lab Coordinator for free printed version to keep.
- 2) Composition style paper notebook (no spiral bound, no tear-out perforations). Line ruled. Students can re-use a composition notebook from a previous lab course if $\frac{1}{2}$ full.
- 3) Safety goggles (already provided to you in previous labs). Goggles must be type G, H or K and must meet or exceed ANSI Z87.1 requirements. Safety glasses do not meet our requirements and are not allowed.
- 4) Long-sleeve Laboratory Coat (white is preferred coat color). You should already have 1.
- 5) Appropriate clothing and footwear. See below for details*
- 6) Scientific calculator, such as TI-30 (non-programmable, non-graphing, and independent of another device such as a phone or tablet). Cell phones are not calculators.
- 7) Non-erasable pen for all written work. No white-out nor pencils allowed.
- 8) Sakai access via the internet to watch pre-lab video content, post-lab content, online content, lab simulations, submit lab work, and complete all Sakai work.
- 9) Desktop or Laptop computer with internet access. Labster does NOT work on tablets nor mobile devices; Sakai does not display well on those devices. If you do not have a computer, the Information Commons (IC) on campus has plenty of available computer stations to work at. You may also use the [extended loan equipment program](#) to arrange a resource. Lab Coordinator is not responsible for coordinating resources for students nor responsible for a loaned device. Coursework requires a computer for access/completion.
- 10) CamScanner app, Notes app, OR a scanner machine. CamScanner app is free; it converts phone pictures to a PDF file. You will take pictures of Composition notebook pages and convert them to a PDF file to submit notebook pages to Sakai for grading. CamScanner app works on android and iPhone. Notes app (iPhone) or scanner machine can be used.
- 11) Microsoft 365 (free for LUC students) to write a formal lab report. Information is supplied on [how to download & access Microsoft 365 for free](#).
- 12) Panopto (free). One format of recorded course content is Panopto video. You may be prompted to log in with UVID username and password to view the videos. Links to videos will be provided in Sakai (Panopto tool) and via email.
- 13) Periodic table. Here is a cool one provided by the [Museum of Science & Industry](#)

Footwear/Clothing Safety

Appropriate clothing must be worn that minimizes potential chemical contact with your skin. This is a course requirement. Closed toe, closed heel shoes that adequately cover the entire foot are required. Sandals, open-toes shoes, perforated shoes, open-backed shoes, slippers, Crocs, boat shoes, flats, Ugg or other branded slippers, and shoes without a back are not acceptable. Skin cannot be exposed on feet, ankles, or legs. Clothing that covers and protects the body from the waist down (including ankles) must be worn [long pants or floor length skirt/covering]. Any type of shirt is OK because a long sleeve lab coat covers & protects the arms, torso, shoulders, etc. A lab coat and goggles are required to be always worn in lab, even when cleaning glassware. Goggles protect the eyes. *Lab Coordinator and TA have complete discretion to prohibit a student from completing lab work if the student has clothing/footwear exhibiting potential safety hazards OR if the student exhibits behavior deemed unsafe to self, fellow students, or faculty. Aggressive or disrespectful behavior will not be tolerated; campus safety will be called if needed.*

Email and ZOOM Etiquette

When sending emails please put Chem course # in the subject line or there will be a delay in response time. Lab Coordinator and TA must know which course a student is in before replying to email. Weekday emails will get a response within 24 hours. Emails after 7pm may not be replied to until the next morning at 8am. Lab Coordinators may check email on weekends; but understand response time may be 24-48 hours. TAs may check email on weekends as well but expect longer response times.

Office Hour Etiquette

The listed office hours for Lab Coordinator and TA are “open hours,” meaning you just show up during those times for help. You don’t have to email or say you are coming. Bring materials you want assistance with. Office hours are only for Chem 261; Lab Coordinator and TA cannot assist with Chem 260 nor other chemistry courses. If a student cannot make it during office hours, send an email to Lab Coordinator or TA to request a scheduled appointment [in person or ZOOM] at a different time. Requests to meet in ZOOM on evenings or weekends will not be granted. Requests to meet in-person or last-minute during evening hours will not be granted.

General Policies

- **Attendance is mandatory.** This is a 100% in-person lab course that meets every week of the semester. All in-class & Sakai work, as well as TA and/or Lab Coordinator observations, serves as the basis for earning points and showing progress. Written work will be graded with an emphasis on correct significant digits, consistent results (does data & observations match conclusions), appropriateness/correctness of analysis, thoroughness in responses, and lab technique. Following directions of reporting calculated answers are considered in grades too. There are no online supplements to in-person lab experiments; students must be in attendance in person to complete labs.
- All work must be completed in non-erasable pen. This includes the Composition notebook, any worksheets/handouts and homework. Work not completed in pen or containing “white-out” is subject to deductions and is not eligible for a regrade requests.
- The Composition notebook is to contain all laboratory experiment information required [Name, Date, Section #, Experiment Title, Introduction, Purpose, Safety, Results & Data, Conclusion] according to the lab notebook guidelines. Notebook is the major component of your course grade. Losing the Composition notebook may result in failure of the course, as one cannot be graded on work that does not exist if the notebook is lost. Follow course guidelines on how to appropriately set up a laboratory notebook.
- Experiment work must be done in the Composition notebook only. (No loose-leaf paper or other notebooks). Your TA and/or Lab Coordinator will evaluate/grade your notebook. This functions to grade along the way and to make sure you are on the right track with lab results. If there are any discrepancies in recorded grades, proof of having earned a specific grade on a particular lab is the presence of that graded work in your notebook.
- Each student is assigned a drawer with glassware and equipment. At the beginning of the semester & semester’s end, the drawer contents will be checked for completeness. The drawer is shared with other students over the course of a week. Therefore, it is essential that you clean the equipment used after an experiment is done. Drawers may be checked sporadically. If glassware is broken, the student is responsible for requesting a replacement item; there is no penalty for broken glassware.

- Homework can never be submitted via email. No exceptions. Course work is submitted through Sakai only.
- Sakai work cannot be made up. **See Late Policies section** for info on late work policies!
- If absence occurs, there is *little to no opportunity to* make up in-lab experiments. Documentation of illness, other reasons for absence will be requested and does not guarantee being allowed to make up lab work. A student may fail the course if absent more than once during the duration of the course or if one or more of the formal lab reports are not turned in. I understand that “life happens” yet you need to understand lab only meets once a week and students cannot earn points when a lab is missed nor complete experiments anywhere else than in person, in the laboratory during lab time.
- If a student was previously enrolled in Chem 261 but didn’t finish [dropped/withdraw] or didn’t pass, any data collected for experiments and all course assignments in a previous Chem 261 course are NOT valid in the current semester. Students must complete all lab experiments, data collection, & coursework in the current semester course in Sakai.
- Safety and Clean-up points will be earned based on safe/professional conduct in the lab. A safe lab environment is essential. Unsafe actions will result in grade degradation. The following is a partial list of ways you can lose safety/clean-up points:
 - Coming late to class, after the pre-lab lecture has started.
 - Not dressing appropriately for lab (not having proper Personal Protective Equipment [PPE] on). Proper footwear/clothing are required. If not present, students are sent home and cannot earn points for the experiment.
 - Not bringing goggles to lab/not wearing goggles consistently in lab can result in expulsion from the lab. Safety glasses do not meet our safety requirements.
 - Not bringing a lab coat to lab. Not wearing the lab coat properly [buttoned] in lab.
 - Not having the required information written in the lab notebook when you walk in lab for the day and/or not watching the required Panopto video before lab.
 - Not keeping equipment drawer or lab space in good condition (i.e., dirty glassware/bench). Not locking the lab drawer will also result in point deductions.
 - Horseplay or actions that endanger you, classmates, TA, Lab Coordinator.
 - Handling chemicals or lab equipment without lab coat and goggles on.
 - Spilling chemicals on balances, around balances, on lab benches, or in the fume hood and not cleaning up spills OR not altering TA to ask for help to clean spill.
 - Not wearing proper PPE when cleaning glassware or putting equipment away.
 - Not adhering to Disposal Instructions indicated in each lab handout.
 - Lab equipment is breakable and requires special care. Students are assigned lab equipment and if the equipment [Vernier items, pH meters, balances, etc.] is found to have been handled negligently, points will be deducted from both your safety points and your lab score for both of you.

An action, even if not listed herein, that is deemed unsafe by TA or Lab Coordinator will result in safety point deductions or expulsion from the lab. **Failure to adhere to lab safety can result in expulsion from the lab session and/or course with no opportunity for make-up work. Safety is extremely important, and all students must demonstrate that they take it seriously.**

Privacy Policy, Recording Policy, and Sharing of Course Materials

Materials from the course cannot be shared outside the course without the lab coordinator's written permission. Course material cannot be shared on websites or file sharing, or any other web or electronic based avenues. If the Lab Coordinator or TA and student meet in ZOOM for office hours or a scheduled appointment, neither party is allowed to record the other. Panopto is used to record lectures and content information for the course. This content is posted to the Sakai site. If any content is recorded by Lab Coordinator it is done outside of class time and no students are included.

Attendance/Participation

Attendance is mandatory in this lab course. You are required to come to class in person to complete the lab experiments and can only attend the lab section in which you are officially enrolled in LOCUS. There is a point value associated with the work accomplished in each class. You cannot earn points for classes that you do not attend. **There are limited opportunities to make up missed labs!** Students are expected to complete all the in-person lab experiments in the course. This course consists of in-person lab experiments and out of class homework/activities. Experiments are 100% in-person and mandatory. There are no online substitutions for in-person laboratory work. All coursework has specific due dates that will not be adjusted. If a student is absent for both the lab experiment and a make-up lab opportunity [if offered], a zero (0) is recorded in the gradebook for the experimental work missed. Students are not allowed to make up a lab experiment outside of the normal class time listed in LOCUS. If the University is open, you are expected to attend class and be on time. Points are deducted for those who arrive late to the lab. If you arrive after the conclusion of the pre-lab lecture, you may not be allowed to perform the lab. Being sent home for improper clothing/footwear counts as an absence; no makeup work is allowed.

Review the schedule at the end of the syllabus and consider the negative impact that missing a hands-on laboratory session will have on your educational experience. It is in your best interest to register for a section that does not conflict with other obligations. Students should not enroll in a lab section that they cannot fully attend. Missing more than 1 of the lab experiments is significant and unacceptable and will result in academic failure. This is also true as well for not turning in the typed formal lab report(s).

Loyola University Absence Policy for Students in Co-Curricular Activities (including ROTC)

Students missing classes while representing Loyola University Chicago in an official capacity (e.g., intercollegiate athletics, debate team, model government organization) shall be allowed by the faculty member of record to make up any assignments and to receive notes or other written information distributed in the missed classes. 1 absence only, no more than that.

Students should discuss with faculty the potential consequences of missing lectures and the ways in which they can be remedied. Students must provide Lab Coordinator with proper documentation (develop standard form on web) describing the reason for and date of the absence. This documentation must be signed by an appropriate faculty or staff member, and it must be provided as far in advance of the absence as possible. It is the responsibility of the student to make up any assignments. [Athletic Advising Attendance Policy](#).

Students participating in co-curricular activities must make information concerning time conflicts with university sponsored events available to the Laboratory Coordinator within the first day of the semester. The Laboratory Coordinator reserves the right to contact the Athletics Department confirming time conflicts and regarding concerns. 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 Lab Coordinator. Sakai work cannot be made up in any circumstances, no exceptions. Lab work cannot be made up either; you cannot attend another lab section. These types of absences are handled on a case-by-case basis with remedy.

Accommodations for Religious Reasons:

Students missing a lab experiment due to observing religious holidays must alert the Lab Coordinator no later than the Friday of Week 2 of the semester 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. Absence is handled on a case-by-case basis. No more than 1 absence can be accommodated.

Students must discuss with the Lab Coordinator the consequences of missing laboratory and the ways [if any] they can be remedied, while also providing the Laboratory Coordinator with proper documentation describing the reason and date of the absence. The document must be signed by an appropriate Faculty/Staff member, and it must be provided as far in advance of the absence as possible. It is a student's responsibility to proactively ask what will be missed due to absence.

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 print 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.

Previous Course Work Does Not Count When Repeating the Course:

If you were enrolled in a Chem 261 lab course [or equivalent] in a previous semester or another institution and are re-taking Chem 261 for any reason [withdraw, drop, unfavorable grade, etc.], all coursework, data, etc. from a previous term does NOT count in the current semester the course is being taken. Students must complete all coursework within the same semester of the enrolled course. Previous data or coursework taken in prior semesters does not count in the current semester.

Pass/Fail Conversions Deadlines and Audit Policy

A student may request to convert a course into or out of the "Pass/No-Pass" or "Audit" status only within the first two weeks of the semester. For the Fall 2024 semester, students can convert a class to "Pass/No-Pass" or "Audit" through Monday, September 9th. Students must submit a request for Pass/No-Pass or Audit to their Academic Advisor.

Tutoring

The Tutoring Center offers free tutoring. Visit the [Tutoring Center Page](#).

Lab Notebook

Lab notebooks can only be hand-written in pen. iPads or tablet notebooks are not allowed.

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 lab, but the most common forms are copying data & answers to analysis questions from current or former students, sharing files, or completing Sakai work with another person. Lab experiment notebooks, data, analysis, formal lab reports, as well as quiz answers and all coursework submitted to Sakai for grading must be your own. If it is not, no credit will be awarded for the work in question, nor will make-ups be granted. Findings of dishonest academic behavior are reported to the Chemistry & Biochemistry Department Chair, Dean's Office, Academic Advisor, and are entered into an individual's record. Copied work will result in penalties for all students involved.

AI Statement

Regarding the use of Artificial Intelligence (AI): our Provost has expressed to “Let us all make sure we are learning and sharing best practices and not allowing AI to do the learning for us.” In this course, any work you submit for credit must represent your own ideas and understanding of the assigned material. If you are uncertain about any case where your use of AI may be in conflict with university or this course's standards, please talk to the Lab Coordinator to discuss.

Generative AI (gen AI) is all around us, every day. It's the predictive text in our messages and Google search bar, or spell check in Word. But gen AI is also in newer avenues such as Chat GPT, Claude, Gemini, Leap AI, Grammarly, and more (there are too many to list). I'll list where you can use generative AI to assist you in the course and where you cannot use it.

Gen AI can do, list:

- the AI part of Lab 2 (an actual assignment you will complete using Chat GPT)
- to generate an outline for formal lab report 1 and 2
- to generate an AI critique/review of YOUR first draft of formal lab report 1 and 2 (these are actual assignments we'll do)
- help assist students to understand topics by re-explaining work in different way

Gen AI cannot be used for, list:

- physical lab experiment work
- lab notebook entries
- quizzes
- data tables, graphing, figures
- the text of the typed formal lab report 1 and 2
- all other course materials that are not explicitly listed in the “can do” list

Why the list of can and cannot for gen AI? Lab Coordinator has seen AI produce false scientific information, plagiarized information, and made-up fake references. Students, you do not want to find yourself in a situation where your course work is in question. Lab Coordinator has a right to require a student suspected of using A.I. for a “cannot do” course item to meet in-person and orally defend the written work in question via question & answer by the Lab Coordinator in order that the student proves the written work is their own and they can explain all words, phrases, analysis, and conclusions.

Formal Lab Reports

Lab reports must be 100% computer generated [typed] and follow the format defined the documents in Sakai [PDF guide and Panopto video]. Formal lab reports must be completed individually. Generative AI cannot be used for the actual formal lab reports but can be used to generate an outline of the report being written. Plagiarizing other students’ reports (current or former), lab manual, book, or internet sources, will not be tolerated and will result in failure of the assignment. Presenting generative AI written text will result in failure of the assignment. You CANNOT copy course resources word for word; that is plagiarism too. Cite course resources and outside sources when applicable. Formal lab reports are checked for plagiarism via Turn It In.

Lab report due dates are in the laboratory schedule. Lab reports **are not** accepted via email. Reports must be submitted to the appropriate Sakai Assignment **as a Word Doc or PDF file** by official lab start time on the date the report is due. Students cannot show TA nor Lab Coordinator a lab report on a laptop or other electronic device; that does NOT count as turning in a lab report on time to Sakai. If a student is absent the day a lab report is due, the report must still be turned in. If a student turns in the incorrect lab report i.e. a lab report that is not on the correct lab experiment listed, no credit is given so a zero (0) is recorded. The student is offered an opportunity to turn in the correct lab report, but it is considered late based on the late lab report policy. **Late lab reports receive a 2pt penalty deduction each day the report is late and result in a grade of zero (0) if not received within one week of the due date.** “Day” is defined as the 7 days of the week Monday to Sunday. Late penalty applies to absent students, if a report is due, it must be turned in regardless of absence/presence in lab. The weekend days count as late days too i.e., if a student has an item due Friday but doesn’t turn it in until Monday that is 3 days late. If an item due Wednesday but is not turned in until Monday that is 5 days late.

Writing skills are important to explain scientific results, conclusions, and other important information in the “real world. Lab Coordinator realizes formal lab reports are labor intensive.

Students will only type two formal lab reports in this course, for these experiments:

- 1) Paper Chromatography of Food Dyes
- 2) Determining the Experimental pK_a and Molar Mass of Nicotinic (NIC) Acid

To assist students in improving writing skills, students complete peer reviews for both typed lab reports. There is a Panopto to explain the concept. Anonymous peer review is completed on rough drafts of formal lab reports. Then a student sees the reviews of their own report, revises it, and submits a ‘final’ draft which TA or Lab Coordinator grades. The peer review experience is on par with the process scientists do to publish research. There will be an opportunity to use gen AI to proofread your formal lab report drafts [an AI review]. More info on that in Sakai.

Grading

Reference the grading scale for letter grades. There will be no change in the grading scale, nor the number of points allotted in this course. It is in your benefit to attend all in-person lab experiments to learn the information to succeed on all course work but especially homework, quizzes, Excel, AI, and/or formal lab reports. A zero (0) is earned for work not completed and for an in-person experiment that is missed due to absence. If students do not bring the lab notebook to laboratory, points will be deducted from the notebook grade.

There is no final exam in this course.

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 a course grade 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+) rounds to the integer 89% (B+).

Grades are posted on Sakai a week after submitting the work to Sakai [Excel, notebook entries, Sakai pre/post work]. Any grading discrepancies must be resolved within 1-week of the graded work handed back/grade posted in Sakai. Discrepancies in Sakai [grade incorrect, for example] must be resolved no later than 1-week after reviewing the graded assignment. A student must show proof the work was graded wrong or entered in the Sakai gradebook incorrectly. Grade disputes will not be entertained past 1-week of the grade /graded work being returned to students nor be acknowledged after the last day of class. Be mindful of this policy.

See the next few pages for an itemized list for all graded course work and the point value.

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	% of Final Grade
Lab 1 - Paper Chromatography	In Lab/Sakai (Assignments)	25	35%
Lab 2 – Sherlock Holmes Deductive Reasoning	In Lab/Sakai (Assignments)	25	
Lab 3 – Iodination of Acetone Kinetics	In Lab/Sakai (Assignments)	25	
Lab 4 – Crystal Violet Kinetics	In Lab/Sakai (Assignments)	25	
Lab 5 – Equilibrium Constant of Bromothymol Blue (HBB)	In Lab/Sakai (Assignments)	25	
Lab 6 – pH and Buffers	In Lab/Sakai (Assignments)	25	
Lab 7 - Advanced Acid-Base Titration pKa and Molar Mass of Nicotinic Acid	In Lab/Sakai (Assignments)	25	
Lab 8 - Advanced Acid-Base Titration Diprotic Acid	In Lab/Sakai (Assignments)	25	
Lab 9 – Solubility of a Salt	In Lab/Sakai (Assignments)	25	
Lab 10 – Specific Heat Capacity of Metal	In Lab/Sakai (Assignments)	25	
Lab 11 Colligative Properties	In Lab/Sakai (Assignments)	25	
Total Lab Experiment Notebook Points		275	
Quiz 1 – Syllabus, Safety	Sakai (Tests & Quizzes)	20	20%
Quiz 2 – Paper Chromatography	Sakai (Tests & Quizzes)	20	
Quiz 3 – Sherlock Holmes Deduction	Sakai (Tests & Quizzes)	20	
Quiz 4 – Kinetics (Iodine & CV)	Sakai (Tests & Quizzes)	20	
Quiz 5 – Chemical Equilibrium HBB	Sakai (Tests & Quizzes)	20	
Quiz 6 – pH and Buffers	Sakai (Tests & Quizzes)	20	
Quiz 7 – Advanced Acid-Base Titrations	Sakai (Tests & Quizzes)	20	
Quiz 8 – Solubility of a Salt	Sakai (Tests & Quizzes)	20	
Quiz 9 – Specific Heat of Metals	Sakai (Tests & Quizzes)	20	
Total Quiz Points	Lowest Quiz Dropped	160	
Lab 1 – Chat GPT Peer Review results for first draft of formal lab report 1	Sakai (Assignments)	10	15%
Lab 2 – Gen AI in STEM	Sakai (Assignments)	20	
Lab 4 – Excel CV Graphs, 3 graphs	Sakai (Assignments)	20	
Lab 7 – Chat GPT Peer Review results for first draft of formal lab report 2	Sakai (Assignments)	10	
Lab 7 – Excel Titration and 1 st Derivative Curves of Nicotinic Acid, 1 graph	Sakai (Assignments)	20	
Lab 8 – Excel Titration and 1 st Derivative Curves of Diprotic Acid, 2 graphs	Sakai (Assignments)	20	
Lab 9 – Salt Solubility Graph, 1 graph	Sakai (Assignments)	20	
Total Excel and A.I. Points		120	

Formal Laboratory Report 1 on Lab #1, Peer Review First Draft	Sakai (Assignments)	15	15%
Formal Laboratory Report 1 on Lab #1, Final Draft Submission	Sakai (Assignments)	85	
Formal Laboratory Report 2 on Lab #7, Peer Review First Draft	Sakai (Assignments)	15	
Formal Laboratory Report 2 on Lab #7, Final Draft Submission	Sakai (Assignments)	85	
Total Formal Laboratory Report Points		200	
Clean Up, Safety, Lab Prep	In Lab	10/lab	15%
Total Clean Up, Safety, Lab Prep		110	
Sum:		865	100%

Grade if Absent in Lab:

A zero (0) is recorded for work not completed, absent or not. Lab Coordinator has the right to fail a student if two or more lab experiment absences occur during the semester/term or if either typed formal lab report is not turned in.

If absent for a lab, contact the Laboratory Coordinator immediately via email or phone.

Lab Coordinator may request documentation to confirm the reason for absence. Student must request information on whether the in-person lab can be made-up. Students are responsible for understanding missed material. **Normal deadlines always apply for homework on Sakai.**

There are limited to no makeup opportunities for missing lab experiments due to absence.

Late Work Policies:

EXCEL/GRAPH/A.I. WORK: If not completed on time, a 1-week grace period is allotted to turn the work in late [2pt penalty for lateness applied to grade]. After 1-week, if the work is not turned in a 0 is the final grade.

NOTEBOOK ENTRIES (all pages): If not completed on time, a 1-week grace period is allotted to turn the work in late [2pt penalty for lateness applied to grade]. After 1-week, if the notebook pages for an experiment are not turned in a 0 is the final grade.

QUIZZES: If not completed on time, a 0 is the final grade. Quizzes cannot be accessed after the due date. Answers and feedback are released when the quiz closes.

FORMAL LAB REPORTS 1 & 2: If the first draft is not completed on time, a 24-hr grace period is allotted because there is a classmate peer review involved. If draft is not turned in, student forfeits 15pts allotted to peer review [a peer's review cannot be done if student doesn't turn in a draft of their own typed formal lab report]. For the final draft of the reports, a 1-week grace period is allotted to turn the work in late [2pt penalty per day for lateness applied to grade]. After 1-week, if the final draft of the typed formal lab report is not turned in a 0 is the final grade.

PEER REVIEWS OF FORMAL REPORT DRAFTS: If assigned classmate peer reviews are not completed by the due date, there is no late acceptance. For each peer review not completed by

the due date(s), 5pts will be deducted from the student's peer review score. The AI peer review on the student's own first draft of the report has a 1-week grace period for lateness.

Educational Goal

In this laboratory course, my purpose as the Lab Coordinator is to provide hands-on lab experimental methods of scientific investigation in Chemistry. The fundamental models of chemistry discussed in lecture will provide the basis for understanding the experimental laboratory work. Each lab will provide a practical opportunity for students to gain competence of techniques of lab work and the practical experience necessary to understand its significance. It is my wish that this laboratory experience will encourage students who are seeking intellectual challenges along with an understanding of the chemical principles in the laboratory. After all, Chemistry is all around us in our everyday lives! 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 the lecture part of the course [which is not a co-req]. During a laboratory activity, each student's hands, mind, eyes, as well as other senses are focused on the task at hand. Success in the lab involves skills in making qualitative observation & accurate quantitative measurements.

With each laboratory experiment, relevant questions are posed, and along with TAs, the Lab Coordinator assists each student to execute a laboratory approach which will yield reliable data related to these questions. Each student is required to obtain data and to depend upon this data when answers to these questions are drafted. All labs are structured enough so that the student should not feel lost or confused, but not so structured that a student won't think critically.

Regarding Sakai and Technical Difficulties

It is *strongly encouraged* that all required submissions to Sakai as well as writing lab reports, opening course/data/experiment files, be done on a reliable wired internet connection [not wireless], that of which the University itself provides in the Information Commons and various computer labs on the Lake Shore Campus and Downtown. Under NO circumstances will excuses of "technical difficulties" be accepted as this syllabus is stating all students should use a wired internet University computer [not wireless internet] to submit work in Sakai, write lab reports, open course/data/experiment files. This list is not exhaustive, and it should be noted that any activities this course may require a computer or internet connection for should be completed using University computers with wired internet connection. Use of home internet [wired or wireless], University wireless, or public wireless is at your, the student's, own risk. It is not prohibited but as Lab Coordinator has stated in this syllabus, they are not responsible for technical difficulties of non-University devices [cell phone, tablet, home/work/public wireless internet or computer]. Do not submit items in Sakai using a cell phone or a tablet device as these do not count as reliable internet connection tools."

Accommodations via Student Accessibility Center (SAC)

If a student has a documented disability and wishes to discuss academic accommodations, talk to your primary Laboratory Coordinator as soon as possible, the first week of the semester is of course preferred. The Coordinator of Student Accessibility Center (SAC) is in the Sullivan Center; SAC must be contacted independently by the student. 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. Recognize that the course time scheduled in LOCUS is fixed. No extra time on wet chemistry/lab experiments is given to a student with an SAC letter; the SAC office has been made aware of this. 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, it is the student's responsibility to schedule the testing time in the center. There are no exams in this course. If flexible attendance and/or extended deadlines are a listed accommodation, the student must understand this cannot be granted in a laboratory course with mandatory attendance. Lab Coordinator will work with the student wherever possible when there is 1 absence. But more than 2 absences put the student at risk for not learning the material and not succeeding in this course and the courses that come after it.

Notice of Reporting Obligations for Responsible Campus Partners

As a faculty member, I am a Responsible Campus Partner ("RCP") under Loyola's [Comprehensive Policy and Procedures for Addressing Discrimination, Sexual Misconduct, and Retaliation](#). While my goal is for you to be able to engage fully and authentically with our course material through class discussions and written work, I also want to be transparent that as a RCP I am required to report certain disclosures of sexual misconduct (including sexual assault, sexual harassment, intimate partner and/or domestic violence, and/or stalking) to the [Office for Equity & Compliance](#) ("OEC"). As the University's [Title IX](#) office, the OEC coordinates the University's response to reports and complaints of sexual misconduct (as well as discrimination of any kind) to ensure students' rights are protected. I also have an obligation under Illinois law to report [disclosures of or suspected instances of child abuse or neglect](#). The University maintains such reporting requirements to ensure that any student who experiences sexual/gender-based violence receives accurate information about available resources and support. Such reports **will not generate a report to law enforcement** (no student will ever be forced to file a report with the police). Additionally, the University's resources and supports are available to all students even if a student chooses that they do not want any other action taken. If you have any questions about this policy, you are encouraged to contact the OEC at equity@luc.edu or 773-508-7766. If you ever wish to speak with a **confidential** resource regarding gender-based violence, I encourage you to call [The Line](#) at 773-494-3810. The Line is staffed by confidential advocates from 8:30am-5pm M-F and 24 hours on the weekend when school is in session. Advocates can provide support, talk through your options (medical, legal, LUC reporting, safety planning, etc.), and connect you with resources as needed - *without* generating a report or record with the OEC. More info: [The Line](#).

Use of Appropriate Names and Pronouns

Always addressing one another by using one's chosen modes of address (preferred names and pronouns) honors and affirms individuals of all gender identities and expressions. Misgendering and heteronormative language excludes the experiences of individuals whose identities may not fit within a gender binary, and/or who may not identify with the sex they were assigned at birth. If you wish to, share your gender pronouns with me and the class when introducing yourself. If you do not wish to be called by the name that appears on the class roster/attendance sheet, please

let me know privately and I honor your wishes. My goal is to create an affirming environment for all students so that everyone can learn and engage as our full and true selves.

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. Towards the end of the term, students receive an email from the Office of Institutional Effectiveness with a reminder to provide feedback on the Chem 261 course the student is enrolled in. This office will send you constant reminders during the open period of feedback until the evaluation has been completed. The evaluation is 100% anonymous. When results are released, no one will be able to tell which student provided the individual feedback. Responses are not released to the Lab Coordinator until after the semester.

Syllabus Disclaimer about Revisions

The Laboratory Coordinators reserve the right to revise this syllabus to correct any unintentional mistakes and/or to change the labs or lab directions for the class if necessary. Students will be notified if any changes have been made and sent the revised PDF syllabus.

Additional Student Resources

Below are links to information students might need for various aspects of the course. For tech questions, always ask the IT Help Desk. Students can email the Lab Coordinator. However, these links below may reveal the answer more quickly.

[First and Second Year Advising](#), [Information Technology Service Desk](#) (ITS Help Desk)

[Laptop Rental](#)

[Library](#)

[Loyola Bookstore](#)

[Panopto Information](#), [Resource Guide for Online Learning](#), [SAKAI student guide](#)

[Success Coaching](#) and [Writing Center](#),

[Student Accessibility Center](#)

[Tutoring](#)

[Wellness Center](#)

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

Lost and Found

Any items mistakenly left in lab will be taken to the Chemistry Department office, 125 Flanner Hall, and can be identified and claimed there. **Put name on all course materials.**

Statement of Intent

By enrolling in this course, you agree to read every page of the syllabus, abide by all syllabus and course requirements, and turn in all course work. Students agree to the consequences of no credit on course work not turned in and/or when absent from lab. Students also agree to log-in to Sakai several times a week and to check their Loyola email daily.

Safety In The Laboratory

Laboratory safety is everyone's responsibility. By registering for and participating in this course you agree to abide by all safety precautions, information, and rules provided to you

herein as well as in or outside of the laboratory. Failure to follow these rules constitutes grounds for withdrawing the offending student from the lab session or course at any time.

The Laboratory Coordinator, TA, and University take safety in the laboratory very seriously. Make sure to always listen to information regarding extra safety precautions when applicable. The rules of safety listed on the following page are reviewed during the first day of the laboratory course. Practice safe laboratory conduct during the entire semester and beyond. This list is not exhaustive, and it is the student's responsibility to understand the proper, safe conduct when working in a laboratory. Students cannot complete experiments in the course unless the safety lecture and safety form are completed. By using common sense and following all the safety rules provided, it is unlikely that you or your classmates will be involved in or injured in a mishap in the laboratory. While it is very important that you do your part to prevent an accident from occurring, it is just as important to know what to do if someone is injured.

There are several key safety features of a laboratory that will be pointed out during the first day of class. Preventing an accident or injury from occur is the ideal case scenario, which is why proactively being safe in the laboratory is desired. We live in the real-world and therefore have to be reactive in case of a lab incident. Although not a requirement, it can be helpful if a Laboratory Coordinator knows if a student has a condition that could render an unsafe lab situation (allergies to latex, heart condition, seizure risk, etc.).

Do discuss any concerns you may have regarding health conditions and lab work.

Your commitment to safety [including the following rules] is very important:

1. To always be on time to lab. Coming in late violates safety. Pre-lab lecture starts on time and missing any of its content is unsafe.
2. To wear approved safety goggles¹ and a [buttoned] long-sleeve laboratory coat at all times in the laboratory. Safety glasses are NOT allowed under any circumstances.
3. Non-latex, nitrile glove are optional but *highly* encouraged, especially when working with acids and bases or solvents. Do not wear gloves in the hallway or anywhere outside of lab. Do not touch cell phone with dirty gloves.
4. To know both the location of and how to use eye washes.
5. Not to wear contacts in the laboratory. Eyeglasses are recommended.
6. To wear appropriate clothing that minimizes potential chemical contact with your skin. A lab coat is required, as are shoes that adequately cover the entire foot. Sandals, open-toe shoes, perforated shoes, open-backed shoes are not acceptable. No skin should be exposed on your feet, ankles, or legs, so clothing that covers and protects your body from the waist down (including ankles) should be worn. You must be dressed appropriately to do experiments.
7. To know both the location of and how to use the safety showers.
8. To know both the location of and how to use the fire extinguishers.
9. To know the proper clean-up and disposal procedure for broken glass.

10. Not to perform unauthorized and unknown experiments, nor work in the lab alone.
11. Not to take chemicals or equipment out of the laboratory.
12. Not to engage in horseplay or any clowning around that may endanger you or other students.
13. Not to eat, drink, chew gum, or smoke anything in the laboratory at any time. No headsets, cell phones, or any other audio devices.
14. Cell phones cannot be used as calculators. If chemicals get on to a cell phone, students are at risk of getting chemical residue on their hands, face, or clothing.
15. To pull long hair back, keeping it away from chemicals and open flame.
16. To keep your lab space clean and tidy. This includes locking lab locker when done.
17. To ask your Lab Coordinator or TA when in doubt about procedures.
18. Inform Lab Coordinator of any health condition you have that might affect your performance or safety in the laboratory.
19. When required, wear a face mask correctly at all times in the laboratory.

The list is not exhaustive. The Lab Coordinator and/or Teaching Assistants reserve the right to make a judgement call on an activity they deem unsafe taking place in the laboratory. Safety is a priority and students who do not follow the rules can be removed from the course, and if necessary Campus Safety will be called.

If you have any questions regarding the content of this syllabus, including the safety information provided, you are encouraged to discuss all questions/concerns with the Laboratory Coordinator.

The following information provided is some basic reactive procedures to difference scenarios that have occurred in the laboratory.

FIRST AID BASICS

Minor Cuts: Clean the wound, remove foreign material. Band-Aids are available. Two Band-Aid rule: If you bleed through one Band-Aid, another should be applied over the first Band-Aid. If you bleed through two Band-Aids in a few minutes or there is any possibility of broken glass in a cut, you will be escorted to Wellness Center.

Minor Burns from Fire: Immerse affected area in ice water.

Chemicals in Eyes: Immediately flush eyes with water at the eye wash. Continue with flush for at least 10 minutes. Hold the affected eye(s) open to do this properly.

Chemicals on Skin: Rinse affected area with water immediately at the sink or safety shower. If clothing is affected, remove clothes before rinsing! Continue to rinse for at least 10 minutes.

Critical Injuries may include glass in eye(s), serious cuts, severe chemical burns, severe fire burns, seizures. **Immediately call for help using either the lab phone (security number is taped to phone handle) or the emergency phone in the hallway directly outside the laboratory.** Anyone with chemicals or foreign objects in his/her eye(s) will be escorted to the Wellness Center or to the hospital.

FIRE HAZARDS

The primary heat source in this laboratory is the Bunsen burner, which is fueled by natural gas. A lit Bunsen burner is a small, controllable fire, but the heat generated by the burner fire can be quite hazardous in certain circumstances. It can serve as an ignition source for other combustible materials in the lab, such as paper (lab handouts, paper towels, filter paper, etc.), plastics (wash bottle), flammable liquids (acetone, ethanol). A burner fire can also ignite clothing and hair. Proper operation of a burner and the absence of combustible materials in the proximity of the burner will significantly reduce the risk of a fire.

Keep chords and paper products away from laboratory hotplates. Always make sure hot plates are off & un-plugged before leaving the lab. Avoid spilling chemicals on hot plates. Each lab is equipped with several fire extinguishers, fire blanket, and safety showers, which should be used in a fire emergency.

In a case of a fire:

Remain calm; alert the instructor/lab coordinator and your immediate neighbors. Personal safety, yours and others in the labs, is always the top priority. A small fire in a small container can be suffocated by covering it with a watch glass or inverted beaker. With a somewhat larger fire, decide whether or not you think you can control it with a fire extinguisher.

Use of a Fire Extinguisher:

Located by the doors in lab; a fire extinguisher is located at the west end of the 3rd floor. Maintain an escape position, i.e. stay between the fire and the doorway.

Break the plastic ring, pull out the metal ring, release the hose from the bracket, direct the hose at the base of the flames, and press the lever down. PASS (pull, aim, squeeze, sweep).

Note: Fire extinguishers are heavy and not particularly easy to direct. These are multi-purpose, dry chemical extinguishers, safe for anything we use in lab.

See next few pages for 1) monthly calendar, 2) weekly course items & due dates listed.

Tentative Semester Calendar of Chem 261 Laboratory, Fall 2024

Month	Monday	Tuesday	Wednesday	Thursday	Friday
August 2024	26 Semester Starts Course Expectations Safety/Glassware Review Intro to Generative A.I.	27	28	29	30
September 2024	2 Labor Day, NO CLASSES	3	4	5	6
	9 Lab 1 Paper Chromatography	10	11	12	13
	16 Lab 2 Sherlock Holmes Deductive Reasoning	17	18	19	20
	23 Lab 3 Iodination of Acetone Kinetics	24	25	26	27
	30 Lab 4 Crystal Violet Kinetics	1	2	3	4
October 2024	7 Fall Break, NO CLASSES	8 Fall Break, NO CLASSES	9	10	11
	14 Lab 5 Bromothymol Blue (HBB) and Make Up Lab Time Labs 1-4	15	16	17	18
	21 Lab 6 pH and Buffers	22	23	24	25
	28 Lab 7 NIC Titration	29	30	31	1 Last day to withdraw with W
November 2024	4 Lab 8 Diprotic Acid Titration	5	6	7	8
	11 Lab 9 Solubility of a Salt	12	13	14	15
	18 Lab 10 Specific Heat Capacity	19	20	21	22
	25 Lab 11 Colligative Properties	26	27 NO CLASSES <-THANKS	28 Thanksgiving NO CLASSES GIVING -----	29 NO CLASSES BREAK----->
December 2024	2 Check out / UG Research & Internships Lab Make Up Day Labs 5-11	3	4	5	6 Semester Ends

Due dates for course work are posted in this syllabus, Sakai, sent via email, and mentioned during pre-lab lecture each class session. No excuses are accepted if a student claims they did not know when an item was due. That is simply not true as 5 avenues communicate due dates. **Hold yourself accountable; know what is going on.**

Tentative Chem 261 Order of Lab Experiments and Course Work

Day & Class Dates	Activity Planned
<p>Week 1: Monday, August 26</p>	<p>MUST DO THE FOLLOWING BEFORE COMING TO LAB ON DAY 1 (all can be found in Sakai):</p> <ol style="list-style-type: none"> 1. WATCH Intro/Syllabus Panopto (<i>Panopto</i>) and read the syllabus PDF (<i>Syllabus</i>) 2. Buy required course materials 3. Read Notebook Requirements (<i>Resources</i>) 4. Review the clothing and footwear requirements for a lab course (<i>Syllabus</i>) <p>THEN</p> <p>Synchronous – In Person Safety, Glassware review & check-in – Lecture Intro to Generative A.I. – Lecture Question & Answer Period – Open Discussion</p> <p>Due in Two Weeks, Start of Lab:</p> <ol style="list-style-type: none"> 1. Purchase course materials if not done so already; Read Notebook Requirements (<i>Experi Lessons</i>) 2. Watch Panopto lecture on SDS & Chemical Labels (<i>Panopto</i>) and lecture on Glassware ID & Safety Rules (<i>Panopto</i>) 3. Watch Panopto lecture on Paper Chromatography and Read PDF lab manual for Paper Chromatography experiment (<i>Experi Lessons</i>) 4. Write Name, Date, Title, Intro, Purpose, Safety in lab notebook, will be checked in person at start of class i.e. you need to walk into lab having this done already in your lab notebook. 5. If you registered late or didn't do the homework listed to be done BEFORE lab today, please do it.
<p>Week 2: Monday, September 2 LABOR DAY</p>	<p>NO CLASSES, LABOR DAY</p> <p>You have homework to complete BEFORE lab on Sept 9th. See list of items in week 1.</p>

Day & Class Dates	Activity Planned
Week 3: Monday, September 9	<p>Synchronous – In Person Complete Lab #1 – Paper Chromatography of Dyes There is a typed formal lab report on this experiment. Get a head start!</p> <p>Due by Next Week, Start of Lab:</p> <ol style="list-style-type: none"> 1. Submit Lab #1 notebook pages (<i>Assignments</i>) 2. Watch Panopto lecture on Sherlock Holmes Deductive Reasoning and Read PDF lab manual Sherlock Holmes Deductive Reasoning experiment (<i>Experi Lessons</i>) 3. Write Name, Date, Title, Intro, Purpose, Safety in lab notebook, will be checked at start of class. 4. Take quiz #1 Syllabus, Safety (<i>Tests & Quizzes</i>)
Week 4: Monday, September 16	<p>Synchronous – In Person Complete Lab # 2 – Sherlock Holmes Deductive Reasoning, then generative A.I. in STEM activity Reminder about Formal Lab Report #1</p> <p>Due by Next Week, Start of Lab:</p> <ol style="list-style-type: none"> 1. Submit Lab #2 notebook pages (<i>Assignments</i>) 2. Complete and submit work for AI in STEM Lab (<i>Assignments</i>) 3. Watch Panopto lecture on Iodination of Acetone and Read PDF lab manual Kinetics of Iodination of Acetone experiment (<i>Experi Lessons</i>) 4. Write Name, Date, Title, Intro, Purpose, Safety in lab notebook, will be checked at start of class. 5. Watch lecture on Formal Lab Reports (<i>Panopto</i>) and read related PDF material (<i>Formal Lab Reports</i>) 6. Submit first draft of formal lab report for Lab #1: Paper Chromatography of Dyes (<i>Assignments</i>) *Remember, if you don't submit a first draft you cannot complete the peer review (worth 15pts) 7. Paste your entire first draft of formal report 1 into Chat GPT after entering prompt: Please review chemistry lab report and offer advice on the format, content, and wording. COPY Chat GPT results, past to Word doc, and submit to the SEPARATE Sakai Assignment.

Day & Class Dates	Activity Planned
<p>Week 5: Monday, September 23</p>	<p>Synchronous – In Person Complete Lab #3 – Kinetics of the Iodination of Acetone</p> <p>Due by Next Week, Start of Lab:</p> <ol style="list-style-type: none"> 1. Submit Lab #3 notebook pages (<i>Assignments</i>) 2. Take quiz #2 on Paper Chromatography (<i>Tests & Quizzes</i>) 3. Watch Panopto lecture on Crystal Violet Kinetics and Read PDF lab manual Crystal Violet Kinetics experiment (<i>Experi Lessons</i>) 4. Write Name, Date, Title, Intro, Purpose, Safety in lab notebook, will be checked at start of class. 5. Watch the lecture on Peer Review (<i>Panopto</i>) 6. Complete the peer reviews assigned in the Sakai Assignment where you turned in 1st draft. If you accidentally skip a review, you will lose points.
<p>Week 6: Monday, September 30</p>	<p>Synchronous – In Person Complete Lab #4 – Crystal Violet Kinetics</p> <p>Due in Two Weeks, Start of Lab:</p> <ol style="list-style-type: none"> 1. Take quiz #3 on Sherlock Holmes Deductive Reasoning (<i>Tests & Quizzes</i>) 2. Submit Lab #4 notebook pages (<i>Assignments</i>) 3. Submit the 3 generated CV data graphs in Excel file (<i>Assignments</i>) 4. Watch Panopto lecture on Bromothymol Blue and Read PDF lab manual Equilibrium Constant of Bromothymol Blue (HBB) experiment (<i>Experi Lessons</i>) 5. Write Date, Title, Intro, Purpose, Safety in lab notebook, will be checked at start of class. 6. Read peer reviews, make any revisions to the formal lab report, and then submit final draft of Paper Chromatography of Dyes formal lab report (<i>Assignments</i>)
<p>Week 7: Monday, October 7th FALL BREAK</p>	<p>FALL BREAK, NO CLASSES</p> <p>Reminder: you have homework due next week!</p>

Day & Class Dates	Activity Planned
<p>Week 8: Monday, October 14</p>	<p>Synchronous – In Person Complete Lab #5 – Equilibrium Constant of Bromothymol Blue (HBB); Make Up Lab Time Labs 1-4</p> <p>Due by Next Week, Start of Lab:</p> <ol style="list-style-type: none"> 1. Submit Lab #5 notebook pages to (<i>Assignments</i>) 2. Take quiz #4 on Kinetics (Iodine & CV) (<i>Tests & Quizzes</i>) 3. Watch Panopto lecture on pH and Buffers and Read PDF lab manual for pH and Buffers experiment (<i>Experi Lessons</i>) 4. Write Name, Date, Title, Intro, Purpose, Safety in lab notebook, will be checked at start of class.
<p>Week 9: Monday, October 21</p>	<p>Synchronous – In Person Complete Lab #6 – pH and Buffers</p> <p>Due by Next Week, Start of Lab:</p> <ol style="list-style-type: none"> 1. Submit Lab #6 notebook pages (<i>Assignments</i>) 2. Take quiz #5 on Bromothymol Blue HBB (<i>Tests & Quizzes</i>) 5. Watch Panopto lecture on Determine the pK_a and Molar Mass of Nicotinic Acid and Read PDF lab manual Determine the pK_a and Molar Mass of Nicotinic Acid (<i>Experi Lessons</i>) 3. Write Name, Date, Title, Intro, Purpose, Safety in lab notebook, will be checked at start of class.
<p>Week 10: Monday, October 28</p>	<p>Synchronous – In Person Complete Lab #7 – Advanced Acid-Base Titration, Determine pK_a and Molar Mass of Nicotinic Acid There is a typed formal lab report on this experiment!</p> <p>Due by Next Week, Start of Lab:</p> <ol style="list-style-type: none"> 1. Take quiz #6 on pH and Buffers (<i>Tests & Quizzes</i>) 2. Submit Lab #7 notebook pages (<i>Assignments</i>) 3. Submit Excel titration curve and 1st derivative graph of nicotinic acid data (<i>Assignments</i>) 4. Watch Panopto lecture on Advanced Titration of Diprotic Acids and Read PDF lab manual for Advanced Titration of Diprotic Acids (<i>Experi Lessons</i>)

	<ol style="list-style-type: none"> Write Name, Date, Title, Intro, Purpose, Safety in lab notebook, will be checked at start of class.
Day & Class Dates	Activity Planned
Week 11: Monday, November 4	<p>Synchronous – In Person Complete Lab #8 – Advanced Acid-Base Titration of Diprotic Acids</p> <p>Due by Next Week, Start of Lab:</p> <ol style="list-style-type: none"> Submit Lab #8 notebook pages (<i>Assignments</i>) Submit Excel titration curve and 1st derivative graph of diprotic acid data (<i>Assignments</i>) Watch Panopto lecture on Solubility of a Salt and Read PDF lab manual Salt Solubility (<i>Experi Lessons</i>) Write Name, Date, Title, Intro, Purpose, Safety in lab notebook, will be checked at start of class. Watch Panopto lecture on Formal Lab Reports and Read related PDF material (<i>Formal Lab Reports</i>) Type and submit first draft of formal lab report 2 for the Nicotinic Acid Titration lab (<i>Assignments</i>).
Week 12: Monday, November 11	<p>Synchronous – In Person Complete Lab #9 – Solubility of a Salt</p> <p>Due by Next Week, Start of Lab:</p> <ol style="list-style-type: none"> Take quiz #7 on Acid-Base Titration (NIC and Diprotic Acids) (<i>Tests & Quizzes</i>) Submit Lab #9 notebook pages (<i>Assignments</i>) Submit Excel solubility curve graph (<i>Assignments</i>) Watch Panopto lecture on Specific Heat Capacity and Read PDF lab manual Specific Heat Capacity (<i>Experi Lessons</i>) Write Name, Date, Title, Intro, Purpose, Safety in lab notebook, will be checked at start of class. Watch lecture on Peer Review (<i>Panopto</i>) Complete peer reviews assigned in the Sakai Assignment where you turned in 1st draft. If you accidentally skip a review, you will lose points.

Day & Class Dates	Activity Planned
<p>Week 13: Monday, November 18</p>	<p>Synchronous – In Person Complete Lab #10 – Specific Heat Capacity of Metals</p> <p>Due by Next Week, Start of Lab:</p> <ol style="list-style-type: none"> 1. Take quiz #8 on Salt Solubility (<i>Tests & Quizzes</i>) 2. Submit Lab #10 notebook pages (<i>Assignments</i>) 3. Watch lecture on Colligative Properties and Read PDF lab manual Colligative Properties (<i>Experi Lessons</i>) 4. Write Name, Date, Title, Intro, Purpose, Safety in lab notebook, will be checked at start of class. 5. Read peer reviews from students. THEN, copy and paste YOUR first draft formal report in Chat GPT after typing in this prompt: Please peer review this college level lab report and offer advice for improvement. Copy the Chat GPT results for advice into a Word Document. Read that advice and type a short summary stating whether you felt that Chat GPT or real students gave better peer advice. Submit Word doc. (<i>Assignments</i>). 6. Make any revisions to the formal lab report, and then submit final draft of Determine pKa and Molar Mass of NIC lab report to separate assignment than Chat GPT work (<i>Assignments</i>)
<p>Week 14: Monday, November 25</p>	<p>Synchronous – In Person Complete Lab #11 – Colligative Properties</p> <p>Due TOMORROW NIGHT, Tuesday (before T-Giving Break starts):</p> <ol style="list-style-type: none"> 1. Submit Lab #11 notebook pages (<i>Assignments</i>) <p>Due by Next Week, Start of Lab:</p> <ol style="list-style-type: none"> 2. Take quiz #9 on Specific Heat of Metals (<i>Tests & Quizzes</i>) 3. Review Sakai Gradebook for all posted grades. Grades are final when you EXIT the lab next week after checkout. Ask questions regarding graded items before then. 4. IF APPLICABLE: prepare to make up lab work for labs 5-11 <p>See next page for last day of lab info!</p>

Day & Class Dates	Activity Planned
<p data-bbox="201 226 594 262">Week 15: Monday, April 22nd</p> <p data-bbox="201 302 483 338">LAST DAY OF LAB</p> <p data-bbox="201 338 623 411">When you walk out of lab today, course grade is final.</p> <p data-bbox="201 411 574 447">No final exam in this course.</p>	<p data-bbox="652 226 1000 262">Synchronous – In Person</p> <p data-bbox="652 262 1404 298">Drawer equipment Checkout; Last minute grade questions</p> <p data-bbox="652 298 1045 333">Make Up Lab Time Labs 5-11</p> <p data-bbox="652 333 1404 447">All questions related to grades must be addressed IN PERSON during the lab period. If absent, grade is final no email or other chance to ask questions.</p>