



Chemistry 261, Quantitative Methods in Chemistry Laboratory

Spring 2024 Syllabus
January 16th – April 26th, 2024

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

Lab Location and Time: Flanner Hall 305/308, Mondays 10:25am – 1:10pm.

In-person attendance is mandatory for every person. No online lab supplement work given to absent students. 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 1:20-2:00pm, Tuesdays & Wednesdays 10:30-11am, or by a scheduled appointment*. *If you can't make office hours, email to schedule another time to meet.

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 help students develop critical thinking and 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 but recognize Lab Coordinator has final authority in all matters related to the course.

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).

Welcome to Chem 261. I look forward to having you in the lab course! Check Loyola email & log-in to Sakai often. **Read the entire syllabus to understand the course, expectations, and commitment for success.** Please contact the Lab Coordinator if you have any questions.

Course Description

This chemistry lab course continues emphasis of lab experiments & 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 instrumentation. Continued exposure to scientific writing skills in order to master the task 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 success of students 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 basics.
- 2) Apply quantitative techniques to collect experimental data and interpret experimental results. Analyze data for accuracy and precision using descriptive statistics.
- 3) Improve scientific writing skills and documentation of laboratory data and analysis. Participate in a peer review process.
- 4) Continue to learn how to work safety in the lab and gain an understanding of chemical and laboratory safety practices.

Outcomes:

- 1) Demonstrate knowledge of intermolecular forces, chemical kinetics, equilibrium, and acid – base theory through successful lab completion, data analysis & interpretation in lab notebook entries, online quizzes, and formal lab report writing.
- 2) Connect calculations to course concepts through successful lab notebook experiment calculations, data interpretation, and online quizzes. Articulate conclusions about individual and class lab results by explaining what they mean using statistics to determine 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.
- 2) Composition style notebook (not spiral bound & cannot have tear-out perforations). Line ruled. Students can re-use a composition notebook from a previous lab course if ½ full.
- 3) Safety goggles (we provided to you in Chem 161 or 181). These must be type G, H or K goggles 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 must purchase this.
- 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) A non-erasable pen is required 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. 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 your body from the waist down (including your ankles) must be worn [long pants or floor length skirt/covering]. Any type of shirt is OK because a long sleeve lab coat covers the arms, torso, shoulders, etc. A lab coat and goggles are required to be always worn, even when cleaning glassware. Lab coat protects arms and torso. Goggles protect eyes. *Lab Coordinator and TA have complete discretion to prohibit a student from completing lab work if the student has clothing/footwear exhibiting a potential safety hazard OR exhibits behavior deemed unsafe to self or students.*

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 the same response times. Requests to ZOOM on any evenings or on the weekends will not be granted. Requests to meet in person 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.
- In general, Sakai work cannot be made up. **See Late Policies section** in the syllabus for information on late work polices!
- If absence occurs, there is *little to no opportunity* to making 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 will fail the course if absent more than 2 times 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 that we only meet once a week and you cannot earn points or do experiments anywhere else than in person, in the laboratory.

- If a student was previously enrolled in Chem 261 but didn't finish [dropped/withdraw] or didn't pass, note that any data collected for experiments in a previous Chem 261 course or course assignments are NOT valid in the current semester. Students must complete all experiments & coursework in the current semester course.
- 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 will result in deduction of safety points.
 - Not dressing appropriately for lab. Proper footwear/clothing are required.
 - 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 properly wearing a face mask (when required).
 - 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 to 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).
 - Engaging in horseplay/actions that may endanger you, your classmates, TA, or Lab Coordinator.
 - Handling chemicals or lab equipment without lab coat and goggles on.
 - Not adhering to Disposal Instructions indicated in each lab handout.
 - The lab-pro equipment used is breakable and requires special care. You and your partner will be assigned a box to use, and if the equipment is found to have been handled negligently, points will be deducted from both your safety points and your lab score for the both of you.

***An action, even if not herein, deemed unsafe by TA or Lab Coordinator will result in safety point deductions.* Failure to adhere to lab safety rules can result in expulsion from the lab session and/or course with no opportunity for make-up of the work. Safety must be taken very 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 a mixture of in person experiments and then out of class time homework. 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 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 2 or more of the labs, which is nearly 25% of the lab work, 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 Laboratory Coordinator. Sakai work cannot be made up in any circumstances, no exceptions.

Laboratory 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 1-week after the start of the course 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 bases.

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 in a previous semester and are re-taking it for any reason [withdraw, drop, unfavorable grade, etc.], note that any 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. Any 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 Spring 2024 semester, students can convert a class to "Pass/No-Pass" or "Audit" through Monday, January 29th. 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

A line ruled, Composition notebook is required in the laboratory. Lab notebooks can only be hand-written. Pen is required; students cannot write in pencil in their lab notebooks.

Formal Lab Reports

Lab reports must be 100% computer generated [typed] and follow the format defined the documents in Sakai Resources and the accompanying Panopto video. Formal lab reports must be completed individually. Generative AI cannot be used for formal lab reports. Plagiarizing other students' reports (current or former), lab manual, book, or internet sources, will not be tolerated. You CANNOT copy course resources word for word; that is plagiarism. Cite course resources and outside sources when applicable in a Reference section in the report. Reports will be checked for plagiarism via Turn It In software and their new AI Detection Tool.

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. One cannot show TA or Lab Coordinator a lab report on a laptop or other device; that does NOT count as turning in a lab report on time. If a student is absent on 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 the required report(s) listed no credit is given so a zero (0) is recorded and the student is offered an opportunity to turn in the correct report, but it is considered late based on the late lab report policy. **Late lab reports will 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 all students, including absent students. This means the weekend days count as late days i.e., if a student has an item due Friday but doesn't turn it in until Monday that is technically 3 days late. If a student has an item due Wednesday but doesn't turn it in until Monday that is 5 days late.

Writing skills are important to explain results and other important information in the "real world," but the Lab Coordinator realizes completing lab reports is labor intensive. **Students will only write 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 go through publish research.

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 know the content for homework, quizzes, Excel, AI, and/or formal lab report. 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.

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 homework, notebook entries, Sakai pre/post work]. Any grading discrepancies must be resolved the day the graded work is 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 a Metal	In Lab/Sakai (Assignments)	25	
Lab 11 Colligative Properties TBA	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	180	
Lab 2 – AI in STEM, Eval	Sakai (Assignments)	20	15%
Lab 4 – CV Data Graphs, 3 graphs	Sakai (Assignments)	20	
Lab 8 – Titration Curve and 1 st Derivative Curve of Diprotic Acid, 2 Graphs	Sakai (Assignments)	20	
Lab 9 – Salt Solubility Graph	Sakai (Assignments)	20	
Total Excel and Word (A.I.) Points		80	
Formal Laboratory Report 1 on Lab #1, Peer Review Draft	Sakai (Assignments)	15	15%
Formal Laboratory Report 1 on Lab #1, Final Draft Submission	Sakai (Assignments)	85	
Formal Laboratory Report 1 on Lab #7, Peer Review Draft	Sakai (Assignments)	15	
Formal Laboratory Report 1 on Lab #7, Final Draft Submission	Sakai (Assignments)	85	
Total Formal Laboratory Report Points		200	
Clean Up, Safety, Lab Prep	In Lab	10/lab	10%
Total Clean Up, Safety, Lab Prep		110	

Last Day Attendance, Checkout	In Lab	10	5%
Total Practical Points		10	

Grade if Absent in Lab:

A zero (0) is recorded for work not completed, absent or not. The Lab Coordinator also has the right to fail the student if two or more 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 has a right to request documentation to confirm the reason for absence. 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.

Grade if Absent in Lab Discussion:

A zero (0) is recorded for discussion points due to absence. No exceptions. The Lab Coordinator will report students to the Dean's Office who skip more than 1 lab discussion.

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: 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 is 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: If the first draft is not completed on time, a 24-hr grace period is allotted because there is a 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 peer reviews are not completed by the due date, there is no late acceptance of them. For each peer review not completed by the due date(s), 5pts will be deducted from the student's peer review score.

Educational Goal

In this laboratory course, my purpose as the Lab Coordinator is to provide a 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 that 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."

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, sharing files for homework, or completing Sakai work with another person. Data and analysis as well as homework submitted for grading must be your own. If it is not, no credit will be awarded for the entire lab, nor will make-ups be granted. Findings of dishonest academic behavior are reported to the Chair of the Chemistry & Biochemistry Department, the Dean's Office, and are entered into an individual's record. Copied answer/report will result in penalty for all students involved.

AI Statement

Regarding the use of Artificial Intelligence: 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 course standards, please see your Lab Coordinator to discuss your concerns. AI cannot be used for the formal lab report nor other course materials. Why? Lab Coordinator has seen AI produce false scientific information, plagiarized info, and made-up fake references. You do not want to find yourself in a situation where your work is in question. Lab Coordinator has a right to require a student suspected of using A.I. to orally defend the written work in question via in-person questioning 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. One assignment in this course will explore the pros and cons of generative A.I. in STEM.

Accommodations via Student Accessibility Center (SAC)

If a student has a documented disability and wish to discuss academic accommodations, talk to your primary Laboratory Coordinator as soon as possible, the first week of the semester 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 in a timely manner. Recognize that the course time scheduled in LOCUS is fixed. No extra time on wet chemistry 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. Note 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 1 absence puts the student at risk for not learning the material.

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.

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 your name on your Composition notebook, lab manual, calculator, lab goggles, lab coat [tag], and other personal items.**

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.

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 in the event that students need more structured guidance on using the tools in the course. A link to the University Help Desk is provided for technology questions. Students can email the Lab Coordinator. However, links below may reveal the answer 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](#)

Tentative Chem 261 Order of Lab Experiments

ALL students *must* attend lab every day. Do not be absent for an in-person lab unless there is an emergency or valid medical reason. Lab Coordinator has a right to ask for proof of the absence reason. All lab experiments as well as the lab practical are completed IN-PERSON. There are no online substitutes for lab work! This is an accelerate course and accommodations for absences cannot be made for more than 1 absence.

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. You, the student also agree to consequences of no credit on course work that is not turned in and/or when absent from in person laboratory. Students also agree to log-in to Sakai several times a week and to check their Loyola email daily.

See the next few pages for 1) monthly calendar of experiments and 2) weekly breakdown of course work and due dates listed.



Tentative Semester Calendar of Chem 261 Laboratory, Spring 2024

Month	Monday	Tuesday	Wednesday	Thursday	Friday
January 2024	15 MLK JR DAY, NO CLASS	16 Semester Starts	17	18	19
	22 Safety/Glassware Review And Lab 1 Paper Chromatography	23	24	25	26
	29 Lab 2 Sherlock Holmes Deductive Reasoning Last day to withdraw from course without a W	30	31	1	2
February 2024	5 Lab 3 Iodination of Acetone Kinetics	6	7	8	9
	12 Lab 4 Crystal Violet Kinetics	13	14	15	16
	19 Lab 5 Bromothymol Blue (HBB) and Make Up Lab Time Labs 1-4	20	21	22	23
	26 Lab 6 pH and Buffers	27	28	29	1
March 2024	4 Spring Break, No Class	5 Spring Break, No Class	6 Spring Break, No Class	7 Spring Break, No Class	8 Spring Break, No Class
	11 Lab 7 NIC Titration	12	13	14	15
	18 Lab 8 Diprotic Acid Titration	19	20	21	22
	25 Lab 9 Solubility of a Salt Last day to withdraw from a course with a "W"	26	27	28 Holy Thursday Easter Break No Class	29 Good Friday Easter Break, No Class
	1 Easter Break NO CLASSES	2 Classes Resume	3	4	5
April 2024	8 Lab 10 Specific Heat Capacity	9	10	11	12
	15 Lab 11 Colligative Properties	16	17	18	19
	22 Check out / Lab Make Up Day Labs 5-11	23	24	25	26 Semester Ends

Due dates for course work are posted in this syllabus, Sakai Announcements & Calendar, 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 are used to communicate due dates. **Hold yourself accountable to knowing what is going on.**

Tentative Chem 261 Order of Lab Experiments and Course Work

Day & Class Dates	Activity Planned
Week 1: Monday January 15th	NO CLASSES DUE TO MLK HOLIDAY
Week 2: Monday, January 22 nd	<p>MUST DO THE FOLLOWING BEFORE COMING TO LAB ON DAY 1:</p> <ol style="list-style-type: none"> 1. WATCH Intro/Syllabus Panopto in Sakai (<i>Panopto</i>) and read the syllabus PDF (<i>Syllabus</i>) 2. Buy required course materials 3. Read Notebook Requirements (<i>Resources</i>) 4. Watch lecture on Paper Chromatography in Sakai (<i>Panopto</i>) 5. Read PDF lab manual for Paper Chromatography experiment (<i>Resources</i>) 6. Write Name, Date, Title, Intro, Purpose, Safety in lab notebook, will be checked at start of class i.e. you need to walk into lab having this done already in your lab notebook. <p>THEN</p> <p>Synchronous – In Person Safety, Glassware review & check-in – Lecture Paper Chromatography Prelab Lecture</p> <p>Complete Lab #1 – Paper Chromatography, collect classroom data. 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"> 7. Submit Lab #1 notebook pages (<i>Assignments</i>) 8. Watch lecture on Sherlock Holmes Deductive Reasoning (<i>Panopto</i>) 9. Read PDF lab manual Sherlock Holmes Deductive Reasoning experiment (<i>Resources</i>) 10. Write Name, Date, Title, Intro, Purpose, Safety in lab notebook, will be checked at start of class. 11. Take quiz #1 Syllabus, Safety (<i>Tests & Quizzes</i>)

Day & Class Dates	Activity Planned
Week 3: Monday, January 29 th	<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 AI in STEM Lab results (<i>Assignments</i>) 3. Watch lecture on Iodination of Acetone (<i>Panopto</i>) 4. Read PDF lab manual Kinetics of Iodination of Acetone experiment (<i>Resources</i>) 5. Write Name, Date, Title, Intro, Purpose, Safety in lab notebook, will be checked at start of class. 6. Watch lecture on Formal Lab Reports (<i>Panopto</i>) and read related PDF material (<i>Resources</i>) 7. Submit first draft of formal lab report for Paper Chromatography of Dyes (<i>Assignments</i>) *Remember, if you don't submit a first draft you cannot complete the peer review (worth 15pts)
Week 4: Monday, February 5 th	<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 lecture on Crystal Violet Kinetics (<i>Panopto</i>) 4. Read PDF lab manual Crystal Violet Kinetics experiment (<i>Resources</i>) 5. Write Name, Date, Title, Intro, Purpose, Safety in lab notebook, will be checked at start of class. 6. Watch the lecture on Peer Review (<i>Panopto</i>) 7. Complete the peer reviews assigned in the Sakai Assignment where you turned in 1st draft. Take care not to skip reviews, if you accidentally skip a review, you will not get credit for it.

Day & Class Dates	Activity Planned
Week 5: Monday, February 12 th	<p>Synchronous – In Person Complete Lab #4 – Crystal Violet Kinetics</p> <p>Due by Next Week, 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 3 CV graphs in Excel file (<i>Assignments</i>) 4. Watch lecture on Bromothymol Blue (<i>Panopto</i>) 5. Read PDF lab manual Equilibrium Constant of Bromothymol Blue (HBB) experiment (<i>Resources</i>) 6. Write Date, Title, Intro, Purpose, Safety in lab notebook, will be checked at start of class. 7. 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>)
Week 6: Monday, February 19 th	<p>Synchronous – In Person Complete Lab #5 – Equilibrium Constant of Bromothymol Blue (HBB) and 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 lecture on pH and Buffers (<i>Panopto</i>) 4. Read PDF lab manual for pH and Buffers experiment (<i>Resources</i>) 5. Write Name, Date, Title, Intro, Purpose, Safety in lab notebook, will be checked at start of class.
Week 7: Monday, February 26 th	<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>)

Continued... Week 7: Monday, February 26 th	<ol style="list-style-type: none"> 3. Watch lecture on Determine the pKa and Molar Mass of Nicotinic Acid (<i>Panopto</i>) 4. Read PDF lab manual Determine the pK and Molar Mass of Nicotinic Acid (<i>Resources</i>) 5. Write Name, Date, Title, Intro, Purpose, Safety in lab notebook, will be checked at start of class. <p>NEXT WEEK IS SPRING BREAK, SO YOU HAVE AN ADDITIONAL WEEK. Homework is due by Monday, March 11th.</p>
Week 8: Monday, March 4 th	No Classes, SPRING BREAK.
Day & Class Dates	Activity Planned
Week 9: Monday March 11 th	<p>Synchronous – In Person Complete Lab #7 – Advanced Acid-Base Titration, Determine pKa and Molar Mass of Nicotinic Acid</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. Watch lecture on the Advanced Titration of Diprotic Acids (<i>Panopto</i>) 4. Read PDF lab manual for Advanced Titration Diprotic Acids (<i>Resources</i>) 5. Write Name, Date, Title, Intro, Purpose, Safety in lab notebook, will be checked at start of class.
Week 10: Monday, March 18 th	<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"> 1. Submit Lab #8 notebook pages (<i>Assignments</i>) 2. Submit Excel titration curve and 1st derivative graph of diprotic acid data (<i>assignments</i>) 3. Watch lecture on Solubility of a Salt (<i>Panopto</i>) 4. Read PDF lab manual Salt Solubility (<i>Resources</i>) 5. Write Name, Date, Title, Intro, Purpose, Safety in lab notebook, will be checked at start of class. 6. Watch lecture on Formal Lab Reports (<i>Panopto</i>) and read related PDF material (<i>Resources</i>) 7. Submit first draft of formal lab report for Nicotinic Acid lab (<i>Assignments</i>) *

Day & Class Dates	Activity Planned
<p>Week 11: Monday, March 25th</p>	<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"> 1. Take quiz #7 on Acid-Base Titration (NIC and Diprotic Acids) (<i>Tests & Quizzes</i>) 2. Submit Lab #9 notebook pages (<i>Assignments</i>) 3. Submit Excel solubility curve graph (<i>Assignments</i>) 4. Watch lecture on Specific Heat Capacity (<i>Panopto</i>) 5. Read PDF lab manual Specific Heat Capacity (<i>Resources</i>) 6. Write Name, Date, Title, Intro, Purpose, Safety in lab notebook, will be checked at start of class. 7. Watch the lecture on Peer Review (<i>Panopto</i>) 8. Complete the peer reviews assigned in the Sakai Assignment where you turned in 1st draft. Take care not to skip reviews, if you accidentally skip a review, you will not get credit for it. <p>NEXT MONDAY IS EASTER BREAK, SO YOU HAVE AN ADDITIONAL WEEK TO GET THIS TURNED IN. List is due by Monday, April 8th</p>
<p>Week 12: Monday, April 8th EASTER MONDAY BREAK</p>	<p>No Classes, LAST DAY OF EASTER BREAK</p>
<p>Week 13: Monday, April 8th</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 (<i>Panopto</i>) 4. Read PDF lab manual Colligative Properties (<i>Resources</i>) 5. Write Name, 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 Determine pKa and Molar Mass of NIC lab report (<i>Assignments</i>)

Day & Class Dates	Activity Planned
<p>Week 14: Monday, April 15th</p>	<p>Synchronous – In Person Complete Lab #11 – Colligative Properties</p> <p>Due by Next Week, Start of Lab:</p> <ol style="list-style-type: none"> 1. Take quiz #9 on Specific Heat of Metals (<i>Tests & Quizzes</i>) 2. Submit Lab #11 notebook pages (<i>Assignments</i>) 3. Review Sakai Gradebook for all posted grades so far. Grades are final when you EXIT the laboratory 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>Week 15: Monday, April 22nd</p> <p>LAST DAY OF LAB Attendance points (10) all or nothing; if you are absent today regardless of the reason you automatically earn 0 out of 10 for the last day attendance points.</p>	<p>Synchronous – In Person Drawer equipment Checkout Last minute grading questions and Make Up Lab Time Labs 5-11</p> <p>When you walk out of lab today, your course grade is final. All questions related to grades must be addressed IN PERSON during the lab period.</p> <p>You are done with the course; there is no final exam!</p>