

Chemical Principles II Laboratory 50:160:126 Syllabus

Spring 2024

Course Description

The Chemical Principles II Laboratory (50:160:126) is a 1 credit course that is a co-requisite with Chemical Principles II Lecture (50:160:116). The math prerequisite/co-requisite for this course is enrollment and successful completion of pre-calculus (50:640:115) or higher-level math. Successful completion of both the Chemical Principles I Lecture (50:160:115) and Chemical Principles I Laboratory (50:160:125) with a grade of “D” or better is the pre-requisite for this lab course. These chemistry courses are math-based, and a strong mathematics foundation is needed for success in these courses. This class is designed to illustrate the principles and complement the topics discussed in Chemical Principles Lecture. This class and the grade you earn is independent of the Chemical Principles Lecture course and grade.

Goals and Learning Objectives

Chemistry is an experimental science; this includes but is not limited to, careful observations, proper laboratory techniques, use of instrumentation, analysis of data, and formation of a conclusion. Observational skills, as well as the analysis of data and formation of a conclusion, are vital techniques in this course, as well as in the overarching science field. Each week of this course presents a new experiment designed to expose the student to a new topic or technique. Students will perform the experiment and analyze their obtained data. An introductory discussion includes defined objectives for both the theory and the necessary laboratory skills that would be required when performing the experiment. Additionally, each student will keep a lab notebook, which is a legal and scientific record of their work. This is useful regardless of the career path you follow: research, forensics, education, etc. Students will develop a set of skills that include but are not limited to:

- Problem-solving
- Chemical literature and information management
- Oral and written communication
- Ethics: responsibility as a chemist to the world at large and to classmates
- Laboratory and chemical safety

The development of these skills will involve:

- Careful observations
- Good laboratory techniques through observation
- Analysis of data
- Formation of an in-depth conclusion

Required Course Materials

- Safety gear:
 - Cloth, long-sleeved lab coat (You already have from last semester. If not, provided to you.)
 - Safety goggles (You already have from last semester. If not, provided to you.)
- Printed procedure and data sheet for each experiment (must have it at the start of class)
- Notebook to record in-person observations and data
- Canvas account
- Basic scientific (non-graphing) calculator
- Computer access and internet connection
- Microsoft office programs for reports

Class Format

This course has several different assignment types, including prelabs, exams, data analysis, and the formation of an in-depth conclusion. Deadlines are strictly enforced, and points are lost each day assignments are submitted late according to the late assignment guidelines section. There are two parts to this course: a recitation period and lab period. The recitation period is a lecture that introduces the theory, safety, and practical steps of the day's experiment. The lab period is when the experiments are performed using the newly learned techniques and safety guidelines.

Attendance

Exams as well as recitation and lab attendance cannot be made up. If you miss an exam or recitation/lab, you will receive no credit for that assignment. Extenuating circumstances may occur, but proper documentation will be required for these instances. As this is a hands-on laboratory course, weekly participation is required. Exceptions will be made on a case-by-case basis with your lab instructor, but proper documentation will be required (contact as soon as possible if you need to miss a lab due to illness or other extenuating circumstances). Missing more than three labs during the semester will result in an automatic grade of F for the lab course.

Communication guidelines

Please feel free to contact your instructor throughout the semester with any questions or concerns you have. General course questions, specific assignment questions, or confusion, as well as concerns you may have, are all welcome.

Email

When contacting your instructor, please include your full name. When you send your email, you can expect a response based on the following guidelines:

- Monday-Friday: within 24 hours (between 10:00am EST and 6:00pm EST, will likely be sooner).
- Weekend emails: within ~48 hours.
- Emails received between 8:00pm EST and 7:00am EST will not be answered until the next day.

Office hours

Office hours will be during designated times (provided by your instructor) or by appointment, which require 48-hour notice. Please email in advance with the specific reason you would like to meet if asking to schedule an appointment. Office hours may be subject to change depending on your instructor's availability. Each instructor will provide you with information about when and where office hours will be held.

What you can expect from your instructor in this course

- Communications to the entire class will come via Announcements in Canvas or Canvas emails. This will be a way to send out reminders, clarifications, or to announce when an assignment or video has been uploaded if not previously discussed. To ensure you receive these announcements/emails, please make sure your Canvas Notifications are set to alert you to new announcements immediately.
- Individual emails will be sent to your scarletmail email account. Please be sure to check this email daily.
- Provide feedback on all submitted prelabs, reports, and exams promptly to allow you to improve throughout the course.
 - To view feedback: click on the assignment of your choosing and then click "view feedback".
- Respond to emails based on the above guidelines.

Assessment and Grading Scheme

Grade Percentage	Letter Grade
100-90.00	A
89.99-85.00	B+
84.99-80.00	B
79.99-75.00	C+
74.99-70.00	C
69.99-60.00	D
59.99-0	F

Activity Type	Percentage of Grade
Recitation Attendance/Participation	15%
Prelab Questions	30%
Reports	35%
Exams	20%

Late assignment guidelines

If you miss a deadline for an assignment, please submit to the appropriate assignment tab on Canvas as soon as possible. Prelabs and reports lose points according to the late grading scheme below:

- Immediately following deadline time to 7 days late: 5% of points deducted **per day**
- 8-14 days late: 50% of points available
- 15-21 days late: 25% of points available
- After 21 days: 0% of points available

Assignment Descriptions and Expectations

Recitation Attendance/Participation

You are expected to attend recitation each week during the scheduled timeframe. If you are more than 5 minutes late, you will lose 40% of participation credit for that day and not be permitted to perform the experiment for safety reasons. Instead, you will observe during your lab period and lose 25% of the credit on your lab report. This recitation period is used to discuss the background of the experiment you will be studying that day. Equations, math, and pertinent information will be covered. You are also expected to participate in the laboratory by performing the designated experiment.

Prelabs

Students will complete a prelab assignment before coming to recitation. The prelab will ensure students understand the background information related to each particular experiment and are able to connect it to what they will be performing in the lab. The prelab can include basic questions as well as a purpose statement. **If the entire prelab assignment is not completed prior to lab, students will not be permitted to perform the experiment. Instead, students will observe, and 25% of the credit on the report will be lost.** This is for safety reasons since this assignment introduces the hazards of the chemicals used. You will access the Modules tab and choose the appropriate lab to submit your document. All assignments must be in PDF format and only one file must be submitted. Resubmissions after the assignment deadline are not permitted.

Reports

Students will complete a report after performing the experiment. The report will ensure students understand the details related to each experiment. **This assignment is made up of both the data sheets and postlab questions, as well as a formal conclusion. Prior to recitation (start of class), the procedure and data sheets must be printed. Instructors will initial the printed sheets prior to leaving the recitation room. Printing during class is not permitted, and credit will be lost.** You will access the Modules tab and choose the appropriate lab to submit your document. All assignments must be in PDF format, and only one file must be submitted. Resubmissions after the assignment deadline are not permitted.

Exams

Two exams will be given containing information from specific experiments performed and studied throughout the semester. Test questions can be of the following types: matching, fill in the blank, calculations, equations, and short answer.

In-Person Experiments

When in-person, contact lenses may not be worn. Glasses must be worn in their place. No open-toed shoes, crocs, shorts, tank tops, etc. may be worn in the lab. Pants and close-toed shoes must be worn in addition to goggles, gloves, and lab coats at all times. If you are asked three times to put goggles or a different piece of personal protective equipment back on, you will be asked to leave the lab. Gloves must be removed before leaving the lab, and you also must wash your hands. Cell phones and headphones of any kind are strictly prohibited in the lab.

Academic Integrity

Rutgers University takes academic dishonesty very seriously. By enrolling in this course, you assume responsibility for familiarizing yourself with the Academic Integrity Policy and the possible penalties (including suspension and expulsion) for violating the policy. As per the policy, all suspected violations will be reported to the Office of Community Standards. Academic dishonesty includes (but is not limited to):

- Cheating on exams, quizzes, assignments, etc. (Example: copying work from students or online/unsolicited sources)
- Plagiarism
- Aiding others in committing a violation or allowing others to use your work
- Failure to cite sources correctly
- Fabrication
- Using another person's ideas or words without attribution
- Re-using a previous assignment
- Unauthorized collaboration
- Sabotaging another student's work

If in doubt, please consult the instructor. Please review the Academic Integrity Policy

at <https://deanofstudents.camden.rutgers.edu/sites/deanofstudents/files/Academic%20Integrity%20Policy.pdf>.

Medical Conditions

- Should you have any medical condition that could endanger yourself or classmates during the lab period, it is important that you notify the instructor immediately and confidentially.
- If you are pregnant or become pregnant, please speak with your instructor immediately.

Students with Disabilities

Students with disabilities are welcomed into all of the University's educational programs. If you have any concerns regarding your participation in a class for any reason, it is wise to know the services and accommodations that are available through the University. See the links below.

- <https://success.camden.rutgers.edu/disability-services>
- <https://webapps.rutgers.edu/student-ods/forms/registration>
- <https://ods.rutgers.edu/students/documentation-guidelines>

If you obtain a Letter of Accommodations from the Office of Disability, it is the student's responsibility to provide a copy of that Letter to the lab instructor within the first two weeks of the semester, if possible.

Serious Emergencies and Absences

If a serious emergency or problem (hospitalization, serious automobile accident, death of a family member, COVID-19 related, etc.) should occur during the course that will cause you to be absent from the class, please contact your instructor directly to report your absence. In certain instances, contacting the Dean of Students Office by calling 856-225-6050 or emailing deanofstudents@camden.rutgers.edu will be necessary. Documentation will be required for failing to complete the assignments or come to class on time.

Campus Resources

Basic Needs Security

If you have difficulty affording groceries or accessing sufficient food to eat every day, lack a safe and stable place to live, and/or do not have regular access to technology, and believe this may affect your performance in the course, you are urged to contact the Dean of Students for support and/or can utilize the Rutgers University-Camden Food Pantry.

- **Dean of Students Office** – You can learn more about the free services by calling 856-225-6050, emailing deanofstudents@camden.rutgers.edu, or visiting the website at <http://deanofstudents.camden.rutgers.edu/>.
- **Rutgers-Camden Food Pantry** – You can learn more about this free service by calling 856-225-6005, emailing scarlet-raptor-foodpantry@camden.rutgers.edu or visiting the website at <https://wellnesscenter.camden.rutgers.edu/ru-camden-raptor-pantry/>.

Chosen Name (Preferred Name)

If you have a chosen name or preferred name other than what is listed on the roster, kindly let your instructor know. If you would like to have your name changed officially on the Rutgers University-Camden rosters, please visit: <https://deanofstudents.camden.rutgers.edu/chosen-name-application>. In addition, within your Canvas course sites, the [Rutgers Shout-Out](#) tool allows you to type the phonetic spelling of your name and record the pronunciation of your name in a shared audio recording for your professor and fellow students.

Code of Conduct

Rutgers University-Camden seeks a community that is free from violence, threats, and intimidation; is respectful of the rights, opportunities, and welfare of students, faculty, staff, and guests of the University; and does not threaten the physical or mental health or safety of members of the University community, including in classroom space, and a community in which students respect academic integrity and the integrity of your own and others' work.

As a student at the University, you are expected to adhere to the Student Code of Conduct. To review the code, go to: <https://deanofstudents.camden.rutgers.edu/student-conduct>.

Please Note: The conduct code specifically addresses disruptive classroom conduct, which means "engaging in behavior that substantially or repeatedly interrupts either the instructor's ability to teach or student learning. The classroom extends to any setting where a student is engaged in work toward academic credit or satisfaction of program-based requirements or related activities." Please be aware of classroom and out-of-classroom expectations by making yourself familiar with and by following the Student Code of Conduct.

Center for Learning and Student Success

The Center for Learning and Student Success (CLASS) provides academic support and enrichment services for students, at no additional cost, including one-on-one tutoring, small group tutoring and workshops, online tutoring, writing assistance, student success coaching, learning assessment, and metacognition training. Through collaboration with academic departments and faculty, CLASS facilitates programs and provides

academic resources to students. Our Learning Specialists provide learning-specific resources and support to students on academic or continued probation. CLASS is in Armitage Hall, second floor, suite 231. To learn more or to schedule an appointment, visit the [CLASS website](#), [email us](#) or call us at [\(856\) 225-6442](#).

- **Mid-Term Progress Reporting** - Each semester, typically from Week 6 through Week 8, faculty are offered the opportunity to provide students with feedback regarding their academic performance. Mid-Term Progress Reports are intended to encourage students to reflect on their academic performance and to take action, if necessary, to improve their academic outcomes. Students are notified immediately and provided information regarding available resources via email if they receive a progress report indicating concern. Mid-Term Progress Reporting encourages communication among faculty, students, advisors, and student success staff, which is critical to our academic mission.

Dean of Students – CARES Team

College is a time when you may be testing your independence and/or striving to find yourself. It is not uncommon for these journeys to have rough points. The Dean of Students Office is here to assist you by strategically and effectively handling and referring student concerns/needs across all areas of the campus and University as needed. For some students, personal, emotional, psychological, academic, or other challenges may hinder their ability to succeed both in and outside of the classroom. The Dean of Students Office serves as your initial contact if you need assistance with these challenges. You can learn more about the free services by calling 856-225-6050, emailing deanofstudents@camden.rutgers.edu, or visiting the website at <http://deanofstudents.camden.rutgers.edu/>.

Office of Disability Services (ODS) – Students with Disabilities

If you need academic support for your courses, accommodations can be provided once you share a Letter of Accommodation issued by the Office of Disability Services (ODS) that specifies your accommodations indicated. If you have already registered with ODS and have your Letter of Accommodation, please share this with your instructor early in the course. If you have not registered with ODS and you have or think you have a disability (learning, sensory, physical, chronic health, mental health or attentional), please visit the [ODS website](#), [email](#), or call [\(856\) 225-6954](#). Please Note: Accommodations will be provided only for students with a Letter of Accommodation from ODS. Accommodation Letters only provide information about the accommodation, not about the disability or diagnosis.

Help Desk (IT Support and Services)

For technical assistance, visit Help Desk in the Rutgers Student Computer Lab on the first floor of Robeson Library, call [\(856\) 225-6274](#) or [email](#). Help Desk support is available during [lab hours](#). Visit the [IT FAQ page](#) for information and documentation.

Paul Robeson Library (Reference Desk, Study Space, Computer Lab, Resources)

We are here to help you succeed! Our dedicated library team will boost your library research skills via workshops and reference help. Our experts will help you find the latest resources to advance your research and strengthen your teaching. If we don't have what you are looking for, our team will get those items from partner libraries. Our vibrant exhibits and displays will tell you many new stories and our Rutgers–Camden faculty publications area will inspire you. Robeson Library is part of what makes Rutgers–Camden an exciting place to learn! More information is available on the [Robeson Library website](#).

Learning Center – Learning Specialists and Tutoring

Your instructor is committed to making course content accessible to all students. The Learning Center provides Learning Specialists who can help you build a learning plan based on your strengths and needs. Tutors, study groups and more services are available to you for free. Many services are available in virtual formats and after normal business hours. In addition, if English is not your first language and this causes you concern about the

course, the Learning Center can help. You can learn more about these services by calling 856-225-6442, emailing rclc@camden.rutgers.edu or learningcenter@camden.rutgers.edu, or visiting the website <https://learn.camden.rutgers.edu/>. You can schedule an appointment with a Learning Specialist to create a plan of action using the website.

Office of International Students and Programs – International (F-1) Students

If you are an international student at Rutgers University-Camden and you need assistance with documentation, travel, campus assistance and/or advising, the Office of International Students and Programs provides support services. You can find more information by calling 856-225-6832, emailing ois@camden.rutgers.edu or by visiting the website at <https://international.camden.rutgers.edu/>.

Office of Military and Veterans Affairs – Veteran, Active Duty, and National Guard Member Services

The Office of Military and Veterans Affairs and Rutgers University-Camden supports our students who have served and their family members, including explanation of benefits, referrals to resources on and off campus, supporting students who are deployed for active duty and answering questions. If you are in need of assistance and are an active duty, National Guard or veteran (or are a family member), the Office of Military and Veterans Affairs can assist. You can find more information by calling 856-225-2791 or visiting the website at <http://veterans.camden.rutgers.edu/>.

Pronouns

This course affirms people of all gender expressions and gender identities. If you have a preferred gender pronoun, feel free to correct your instructor. If you have any questions or concerns, please do not hesitate to contact your instructor directly.

Title IX and the Violence Prevention & Victim Assistance Office

Rutgers University–Camden strives to create a campus community free from discrimination and interpersonal violence and harm. If you have experienced sexual violence, domestic/dating violence, stalking or any form of sex or gender discrimination, help is available. The office for Violence Prevention and Victim Assistance provides support to students. For more information about VPVA or to schedule a time to speak with an advocate visit the [VPVA website](#). To report an incident or speak with the Title IX coordinator, please visit our [Title IX website](#). If you choose to disclose to your instructor, thank you for trusting us. We are obligated to report any disclosures to our title IX coordinator to ensure you receive the appropriate support and university response.

Please Note: *All Rutgers employees (other than those designated as confidential resources such as advocates, counselors, clergy and healthcare providers as listed in Appendix A to Policy 60.1.33) are required to report information about such discrimination and harassment to the University.* This means that if you tell your instructor or any faculty member about a situation of sexual harassment or sexual violence, or other related misconduct, that information must be shared with the University’s Title IX Coordinator.

Undocumented and DACamented Student Services

Undocumented students enrich our university community. Rutgers University-Camden is steadfast in its effort to protect and support all members of our community, regardless of immigration status or personal circumstance. If you are in need of resources (legal, career and support) you can find more information and schedule appointments on the website <https://undocumented.camden.rutgers.edu/>.

Wellness Center – Health and Wellbeing Resources

Health and well-being impact learning and academic success. Throughout your time in college, you may experience a range of concerns that can cause barriers to your academic success. These might include illnesses,

strained relationships, anxiety, high levels of stress, alcohol or drug problems, feeling down, or loss of motivation. The Wellness Center Medical and Counseling staff can help with these or other issues you may experience. You can learn about the free, confidential medical and mental health services available on campus by calling 856-225-6005, visiting the website at <https://wellnesscenter.camden.rutgers.edu/> or visiting the Wellness Center on the second floor of the Campus Center.

Writing and Design Lab – Writing Support and Services

If you need assistance with writing, audio recordings, web creation or other creating software used in class, the Writing and Design Lab can help. They provide personal tutoring, workshops and online assistance. You can learn more by emailing rutgers.wdl@rutgers.edu or visiting the website <https://wdl.camden.rutgers.edu/about-2/>. On the website you can schedule an appointment.

National and State Resources for Wellbeing

- Crisis Text Line: text HOME to 741741
- Crisis Text Line for Students of Color: text STEVE to 741741
- National Domestic Violence Helpline: 1-800-799-7233 or text LOVEIS to 22522
- National Substance Abuse helpline, SAMHSA’s National Helpline: [1-800-662-HELP \(4357\)](https://www.samhsa.gov/1-800-662-HELP)
- National Suicide Prevention Lifeline: 1-800-273-8255
- NJ HOPE line: <https://njhopeline.com/>
- The Sexual Assault helpline: [1-800-656-HOPE](https://www.rutgers.edu/sexual-assault) (4673)
- Trevor Lifeline (LGBTQ+): 1-866-488-7386

Schedule of Experiments: Spring 2024

Week	Dates	Experiment	Exam/Quiz
N/A	Jan 16-18	NO LABS – DO NOT REPORT TO CLASS	-
1	Jan 22-25	Syllabus/Check in/Solutions and Concentration	-
2	Jan 29-Feb 1	Chemical Reactions of Copper	-
3	Feb 5-8	Molar Mass of a Vapor	-
4	Feb 12-15	Rates of Chemical Reactions; A Clock Reaction	-
5	Feb 19-22	Colorimetric Determination of K_{eq}	-
6	Feb 26-29	Le Chatelier’s Principle	-
7	Mar 4-7	Molecular Modeling	Exam 1 (Weeks 1-6)
8	Mar 11-14	NO CLASSES - SPRING BREAK	-
9	Mar 18-21	Solubility Product Constant, K_{sp}	-
10	Mar 25-28	K_a , Polyprotic Acid Titrations	-
11	Apr 1-4	Hydrolysis of Salts	-
12	Apr 8-11	pH of Buffer Solutions	-
13	Apr 15-18	Electrochemical Cells/Check Out	-
14	Apr 22-25	Exam 2	Exam 2 (Weeks 7-13)

Assignment Deadlines

Deadlines will be posted for each assignment in Canvas. However, the general guidelines for submitting assignments are as follows:

- Prelabs are due the day the lab will be discussed **before** your scheduled recitation time.
- Reports are due one week from when performed, **before** your scheduled recitation time.

Contact Information

Instructor Name	Email	Section Number
Ms. Blessing	bvb9@camden.rutgers.edu	01, 02
Dr. Kumi	gak65@camden.rutgers.edu	03
Ms. Verma	ujjwal.verma@rutgers.edu	04
Mr. Singer	cas701@camden.rutgers.edu	05, 06

Fill In/Sign and Submit to Canvas

I have read and understand ALL of the requirements for this lab course, including those in the syllabus. Failure to comply with them will result in a loss of points and ultimately a lower grade.

Date: _____

Course number & section: 50:160:126:

Student's Signature: _____

Printed Name: _____