Chemistry 113 General Chemistry Lab 1 Credit 21:160:113 Spring 2020

Lecture Instructor: Dr. Karen Chaffee
Email: kchaffee@newark.rutgers.edu  
Office location: Olson 310
Office Hours: Monday 10:30AM-12:00PM and Thursday 10:30AM-12:00PM

Corequisite: Chemistry 115, General Chemistry

Required Materials:
Chem21labs access code
In order for you to do this lab you will need to register onto our software, Chem21. You can't do this early. I have to enroll you. The software can be purchased online or from the Rutgers Newark bookstore for around $10-$15. You will purchase this during the first week and you cannot purchase this early. (To avoid the need for refunds if you switch sections.)
You can read about chem21 at this website:
https://www.chem21labs.com

Meeting Times:

<table>
<thead>
<tr>
<th>Section</th>
<th>Day</th>
<th>Time</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>Mon</td>
<td>1:00-3:50 PM</td>
<td>Olson 105</td>
</tr>
<tr>
<td>02</td>
<td>Thurs</td>
<td>1:00-3:50 PM</td>
<td>Olson 105</td>
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<tr>
<td>03</td>
<td>Fri</td>
<td>1:00-3:50 PM</td>
<td>Olson 105</td>
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Materials
- Safety glasses or goggles (purchase online if you want fancy ones or we have them FREE from stockroom)
- Lock for storage lockers (You can buy it the first day in town or save money and buy one at home. You must buy one by week 2.)
- Calculator. BUT I have quite a few available to borrow.
- Pen
- Long sleeved lab coat (this is provided FREE by stockroom)
- We provide FREE plastic gloves but if you want something fancy you can bring your own.
- ALSO: you need access to Chem21Labs. This is a computer program. You can buy it online using a credit card or with a code you can buy in the bookstore. We will explain how the first day.

Course Description:
This is a companion course to General Chemistry I (21:160:115) for science majors. It is a General Chemistry lab.

Learning Goals. In this lab you will:
- Begin to learn lab techniques that will be used in a scientific career
- See first-hand how chemistry theory translates into physical reality
- Learn time management skills in a lab setting
- Work independently
Grading:
Your grade is a SUM of your points after dropping the 2 lowest lab AND the 2 lowest safety grades--But you are allowed to drop only one practical and you may not drop the final. Do not divide or average when calculating. In Chem21, you can calculate your grade by unchecking all the prelabs, and unchecking the labs and safety grades that will not count, and look at the center column for your points. (We will show you how.) The maximum number of points is 1000.

<table>
<thead>
<tr>
<th>Maximum Points</th>
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<tbody>
<tr>
<td>Experiments</td>
</tr>
<tr>
<td>100 x 90 (drop 2) = 700</td>
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<tr>
<td>Safety &amp; Clean Up</td>
</tr>
<tr>
<td>10 x 9 (drop 2) + 20 (designated cleanup day) + 10 (sample lab) = 100</td>
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<tr>
<td>Final Exam</td>
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<td>200</td>
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The final exam will be held during your regular class room and meeting time, i.e., not during finals week. It is a lab like any other but has cumulative aspects.

Missed labs:
We drop 2 labs. You must complete at least one practical; we will have opportunity to make up one practical if you need. Failure to complete a lab on its assigned day will automatically count as a dropped lab & safety (cleanup excluded). More than 4 missed labs will require approval from the Dean and make it difficult for you to pass.

Prelabs:
Prelabs can be accessed through the Chem21Labs website or Blackboard and will be available one week early. You have to complete it before lab, for safety and other reasons. Failure to complete a prelab before lab will result in a 0 for the prelab. So start work on the pre lab early, you have a full week!

In Lab:
Lab doors will not open before the scheduled start time. Lab announcements and demonstrations will be given by TAs at the beginning of lab. These announcements are meant to help you be more efficient with your time. You must be out of lab by the scheduled end time of the course. This may mean that you have to wait until the following week to clean your glassware etc. On most occasions, you will be able to work on calculations at home until 11:30 am the next day but all experimental data must be submitted before leaving lab. Late submissions may be allowed at the instructor’s discretion and will result in a point penalty up to 10 points per day. Exceptions may be made at the instructor’s discretion.

Lab Safety:
You are expected to participate in maintaining a safe environment in the lab. These responsibilities include, but are not limited to: ALWAYS wearing eye protection, wearing the appropriate protective clothing (closed-toe shoes, pants/long skirts), disposing of waste in the appropriate waste containers, having a personal lock for your locker, etc. If you don’t adhere to these guidelines, you may be dismissed from the lab for the day and a 0 on the experiment and for safety/cleanup, because safety is our highest priority. Additional lab safety guidelines will be covered during the first class meeting and posted to BB.

Cleanup:
You will be assigned a cleanup day where you will be responsible for ensuring the cleanliness of the entire lab before leaving for the day. You will be provided with a checklist that must be reviewed by a TA before leaving.
for the day. This may mean that you have to stay even after you have completed the day’s experiment. (but we will work with you if you have a conflict.)

**Lab Practical:**
You will have (2) lab practicals and a lab final. You must complete these experiments independently without help from a TA, the instructor, or your classmates! More details will be announced closer to the date of the practicals and we will help you prepare.

**Final Exam:**
The final exam is a mix of lab work and an in-lab written test (done during the regular class period.) More details will be posted closer to the week of the final.

There are no lab partners for this course. All submitted work should be done independently. Academic integrity, as defined by the University Code of Student Conduct (for further details, see link on BB), requires that students:

1) Make sure that all work submitted as his or her own in a course or other academic activity is produced without the aid of unsanctioned materials or unsanctioned collaboration.

2) Obtain all data or results by ethical means and report them accurately without suppressing any results inconsistent with his or her interpretation or conclusions.

3) Treat all other students in an ethical manner, respecting their integrity and right to pursue their educational goals without interference. This requires that a student neither facilitate academic dishonesty by others nor obstruct their academic progress.

**Religious Holidays:**
Please provide written notification (email preferred) to the instructor within the first days of the semester about necessary absences for religious observances. Students are responsible for making up missed work and exams according to an agreed upon schedule.

**Advice:**
This lab course is challenging. Ask for help often and early. While the TAs CANNOT give you answers, they can often walk you through the calculations. The pre-lab assignments are meant to help you understand the experiment and related calculations prior to conducting the experiment yourself. Because you are doing self-teaching, the prelabs will take a significant amount of time and will be challenging.

**This syllabus is subject to change according to the needs of the class.**

<table>
<thead>
<tr>
<th>Date</th>
<th>Experiment</th>
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<tbody>
<tr>
<td>Week 1</td>
<td>Safety Overview and check in</td>
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<td>Week 2</td>
<td>Dimensional Analysis</td>
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<td>Week 3</td>
<td>Density</td>
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<td>Week 4</td>
<td>Chromatography</td>
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<td>Week 5</td>
<td>Density II (Practical)</td>
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<td>Week 6</td>
<td>Titration</td>
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<td>Week 7</td>
<td>Group I</td>
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<tr>
<td>Week 8</td>
<td>Calorimetry</td>
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<td>Week 9</td>
<td>Copper analysis</td>
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<tr>
<td>Week 10</td>
<td>Copper analysis II (Practical)</td>
</tr>
<tr>
<td>Week 11</td>
<td>Final</td>
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<tr>
<td>Week 12</td>
<td>Final Make up (and check out if there is time)</td>
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<tr>
<td>Week 13</td>
<td>Make up practical (and check out if there is time)</td>
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<tr>
<td>Week 14</td>
<td>Check out</td>
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</tbody>
</table>
Academic Integrity (The following statement is recommended for inclusion on all syllabi.):

As an academic community dedicated to the creation, dissemination, and application of knowledge, Rutgers University is committed to fostering an intellectual and ethical environment based on the principles of academic integrity. Academic integrity is essential to the success of the University’s educational and research missions, and violations of academic integrity constitute serious offenses against the entire academic community. The entire Academic Integrity Policy can be found here: http://academicintegrity.rutgers.edu/academic-integrity-policy/

Accommodation and Support Statement (The following statement and information is recommended for inclusion on all syllabi.):

Rutgers University Newark (RU-N) is committed to the creation of an inclusive and safe learning environment for all students. RU-N has identified the following resources to further the mission of access and support:

- **Students with Disabilities:** Rutgers University welcomes students with disabilities into all of the University's educational programs. The Office of Disability Services (ODS) is responsible for the determination of appropriate accommodations for students who encounter barriers due to disability. In order to receive consideration for reasonable accommodations, a student with a disability must contact ODS, register, have an initial appointment, and provide documentation. Once a student has completed the ODS process (registration, initial appointment, and documentation submitted) and reasonable accommodations are determined to be necessary and appropriate, a Letter of Accommodation (LOA) will be provided to the student. The student must give the LOA to each course instructor, followed by a discussion with the instructor. This should be completed as early in the semester as possible as accommodations are not retroactive. More information can be found at ods.rutgers.edu. Contact ODS: (973) 353-5375 or ods@newark.rutgers.edu.

- **Religious Holiday Policy and Accommodations:** Students are advised to provide timely notification to instructors about necessary absences for religious observances and are responsible for making up the work or exams according to an agreed-upon schedule. The Division of Student Affairs is available to verify absences for religious observance, as needed: (973) 353-5063 or DeanofStudents@newark.rutgers.edu.

- **Counseling Services:** Counseling Center Room 101, Blumenthal Hall, (973) 353-5805 or http://counseling.newark.rutgers.edu/.

- **Students with Temporary Conditions/Injuries:** Students experiencing a temporary condition or injury that is adversely affecting their ability to fully participate in their courses should submit a request for assistance at: https://temporaryconditions.rutgers.edu.

- **Students Who are Pregnant:** The Office of Title IX and ADA Compliance is available to assist students with any concerns or potential accommodations related to pregnancy: (973) 353-1906 or TitleIX@newark.rutgers.edu.

- **Gender or Sex-Based Discrimination or Harassment:** Students experiencing any form of gender or sex-based discrimination or harassment, including sexual assault, sexual harassment, relationship violence, or stalking, should know that help and support are available. To report an incident, contact the Office of Title IX and ADA Compliance: (973) 353-1906 or TitleIX@newark.rutgers.edu. To submit an incident report: tinyurl.com/RUNReportingForm. To speak with a staff member who is confidential
and does **NOT** have a reporting responsibility, contact the Office for Violence Prevention and Victim Assistance: (973) 353-1918 or run.vpva@rutgers.edu.

- **Learning Resources:**
  - Rutgers Learning Center (tutoring services)
    Room 140, Bradley Hall
    (973) 353-5608
    [https://sasn.rutgers.edu/student-support/tutoring-academic-support/learning-center](https://sasn.rutgers.edu/student-support/tutoring-academic-support/learning-center)
  - Writing Center (tutoring and writing workshops)
    Room 126, Conklin Hall
    (973) 353-5847
    nwc@rutgers.edu
    [https://sasn.rutgers.edu/student-support/tutoring-academic-support/writing-center](https://sasn.rutgers.edu/student-support/tutoring-academic-support/writing-center)