

**COURSE INFORMATION**

Principles of Chemistry Lab I CP 2121 Section: L7A SUMMER 2023 MAY 30 – JUNE 29

Credits: 1.000 CRN: 35141 M/T/W 01:00 pm – 04:30 pm

Instructor: Dr. Jim Dimitrakopoulos Classroom: NATCSI S-102

Email: [Dimitrakopoulosj@oldwestbury.edu](mailto:Dimitrakopoulosj@oldwestbury.edu)

Office: NSB 246

Office Hours:M/T/W/R 12:00 pm – 1:00 pm

**Required Materials:**

* Experiment handouts will be posted on **Brightspace**.
* PhET simulations: <https://phet.colorado.edu/>

**Course description:**

CP 2121 is designed to illustrate the concepts of Principles of Chemistry I (CP 2120). This course emphasizes the basic chemical concepts, quantitative laboratory skills, descriptive chemistry, and development of scientific report writing skills. 3-hour-laboratory three per week is scheduled. CP 2121 is offered in conjunction with CP 2120. The prerequisite is MA 1020, completed with grade “C” or better.

**Brightspace and E-mail**

I will communicate with your through your **Old Westbury email (I will not use private email addresses or email addresses from other colleges) and Brightspace Announcements.** All course announcements, files, experiments, and grades will be posted on Brightspace, accessible from the Old Westbury web site with your student login information. If you need login help for the Old Westbury intranet or help accessing course information or posting assignments, contact the computer Help Desk: IT Service Desk at [servicedesk@oldwestbury.edu](http://servicedesk@oldwestbury.edu) or click on the **ITS Support Icon** on the portal.

**Course learning objectives/outcomes:**

* To gain familiarity with the vocabulary, unifying principles and tools of chemistry.
* To become familiar with conventional laboratory techniques, record their observations and measurements and draw reasoned conclusions from laboratory experiments.
* To improve critical thinking skills by making hypotheses and drawing conclusions based on laboratory experiments.
* To improve argumentative writing skills by writing weekly laboratory reports.
* To improve quantitative skills by working problems, interpreting quantitative data and creating graphical displays of scientific data.
* To develop an appreciation for scientific principles and processes at work in their environment.
* To understand the relationship between mathematics, science and technology.
* To develop an appreciation for the historical setting in which scientific progress has been made.
* To understand the way science influences and is influenced by forces in society.

**Assignments:**

* Quizzes: **Three (3) online quizzes** will be given throughout the semester. Dates: **TBA**.
* Post-Lab Reports: Post-Lab reports are due **on the Monday** following the completion of the assigned experiment. Reports should include all necessary observations, data, calculation work and argumentative writing. Science is about constructing arguments and evaluating multiple explanations for phenomena. The evidence plays a central role in developing your understanding of science. Proper support for conclusions must be provided. Refer to the rubric below to prepare your laboratory reports and be sure to submit them on time.

**Keys to succeed in this class:**

* On time attendance: A brief description of the experiment and potential trouble spots will be given at the beginning of each lab session, so it is crucial that you sign on time.
* Be responsible: Be responsible for your individual assignments.
* On time submission: Late post-lab reports will be penalized up to 30 points. Lab reports are due on the Monday following completion of the experiment.

**Grading:**

Lab report grades are assigned according to the percentage of points earned:

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **%** | **Grade** | **%** | **Grade** | **%** | **Grade** | **%** | **Grade** | **%** | **Grade** |
| ≥ 93.0 | A | 87.0-89.9 | B+ | 77.0-79.9 | C+ | 67.0-69.9 | D+ | ≤ 59.9 | F |
| 90.0-92.9 | A- | 83.0-86.9 | B | 73.0-76.9 | C | 63.0-66.9 | D |  |  |
|  |  | 80.0-82.9 | B- | 70.0-72.9 | C- | 60.0-62.9 | D- |  |  |

Your laboratory grade is computed as follows:

* **Lab reports: 80%**
* **Quizzes: 20%**

**Grade of Incomplete**

* The College bulletin allows faculty to assign a grade of Incomplete when circumstances such as accident or illness make it impossible for the student to complete course work by the end of the semester; as long as the student has completed most of the course work at a passing level. The grade of INCOMPLETE cannot be used to allow students to “try again” the following semester.

**Policy on lecture and laboratory withdrawals:**

* Check with registrar for withdrawals dates for SUMMER 2023.
* WITHDRAWALS CAN’T BE APPROVED AFTER THE DEADLINE.

**Accommodations for students with special needs:**

If you have or suspect you may have a physical, psychological, medical or learning disability that may impact your course work, please contact

Stacey DeFelice, Director

The Office of Services for Students with Disabilities (OSSD),

NAB 2065

Phone: 516-628-5666, Fax (516) 876-3005, TTD: (516) 876-3083.

E-mail: [defelices@oldwestbury.edu](mailto:defelices@oldwestbury.edu)

The office will help you determine if you qualify for accommodations and assist you with the process of accessing them. All support services are free and all contacts with the OSSD are strictly confidential. SUNY/Old Westbury is committed to assuring that all students have equal access to all learning and social activities on campus. More information about the OSSD can be found at their webpage:

<https://www.oldwestbury.edu/academics/support/OSSD>

**BASIC NEEDS STATEMENT**

Any student who faces challenges securing their food or housing and believes this may affect their performance in the course is urged to contact the Dean of Students for support at (516)876-3067 or Student Union 303.  The College's Panther Food Pantry offers food and personal care items to the campus community in Student Union 301B. The service is anonymous, OW ID is not required. The Pantry website is  [https://tinyurl.com/yb36bdxc](https://nam12.safelinks.protection.outlook.com/?url=https%3A%2F%2Ftinyurl.com%2Fyb36bdxc&data=05%7C01%7Cdimitrakopoulosj%40oldwestbury.edu%7C09a7fa432edf4a63158508da74bf1616%7Cf5089034f2334f12a71638b7f4904370%7C0%7C0%7C637950661372129598%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=w7vBJoJweibx7UvuvOVR9jYhLQ0jK7QxlZXNmHKHQY4%3D&reserved=0)

**COUNSELING RESOURCES:**

As a college student, there may be times when personal stressors interfere with your academic performance or negatively impact your daily life. If you or someone you know at this college is experiencing mental health challenges, please contact the Counseling and Psychological Wellness Services at 516-876-3053. They are located at the Student Union, Lower Level, Suite 100, and are open Monday to Friday, 9am to 5pm.If a crisis situation occurs after hours, contact a Residential Director or the University Police at 516-876-3333. The National Suicide Prevention Lifeline offers help 24/7, and can be contacted at 1-800-273-8255.

**Policy on academic integrity:**

**SUNY COLLEGE AT OLD WESTBURY POLICY ON ACADEMIC INTEGRITY**

The College’s Academic Integrity Policy is available at

<https://www.oldwestbury.edu/policies/academic-integrity>

**Administered by the Office of Academic Affairs: S**tudents are expected to maintain the highest standards of honesty in their college work. Any act which attempts to misrepresent to an instructor or College official the academic work of the student or another student, or an act that is intended to alter any record of a student’s academic performance by unauthorized means, constitutes academic dishonesty. Cheating, forgery and plagiarism are considered serious offenses and are subject to disciplinary action. Sanctions for a breach of academic integrity may include academic sanctions decided by the instructor, including failing the course for any violation, to disciplinary sanctions ranging from probation to expulsion. When in doubt about plagiarism, paraphrasing, quoting, collaboration, or any other form of cheating, consult the course instructor. Ignorance of the Academic Integrity Policy is never an acceptable excuse.

**Cheating:** Cheating is defined as giving or obtaining information by improper means in meeting any academic requirements. Examples of cheating, although not inclusive, include: unauthorized giving or receiving of information for an examination, paper, laboratory procedure, or computer assignment (file or printout); taking an examination for another student or allowing another student to take an examination for you; altering or attempting to alter a grade either on graded work or in an instructor’s records or on any College form or record.

**Forgery:** Forgery is defined as the alteration of college forms, documents, records, or the signing of such forms or documents by someone other than the proper authority.

**Plagiarism:** Plagiarism is defined as the use of material from another author whether intentional or unintentional, without referencing or identifying the source of the material. If students have any questions as to what constitutes plagiarism, it is their responsibility to get clarification by consulting with the appropriate instructor.

**Post-lab report**

The report must be structured to include the following sections shown below, properly labeled. **Typewritten reports are required.** All reports must be grammatically sound. Use a word processor to check spelling and grammar. Your lab report should be neatly organized and well documented. **SLOPPY WORK WILL BE PENALIZED. UNDER NO CIRCUMSTANCES WILL THERE BE DO-OVERS**. Keep your writing impersonal; avoid the use of the first person. Use the past tense and be consistent within your report. Strive for logic and precision and avoid ambiguity.

1. INTRODUCTION: Give a brief but complete statement describing the major objectives of the experiment. The introduction must contain background information; include any formulas or reactions pertaining to the experiment. The statement should be in your own words and should not be copied from the laboratory manual.
2. PROCEDURE: Describe the steps you completed during your investigation. Be sufficiently detailed that anyone could read this section and duplicate your experiment. Write it as if you were giving direction for someone else to do the lab. It may be helpful to provide a figure to diagram your experimental setup
3. DATA/DATA ANALYSIS/ DISCUSSION: In this section you should note any observations you make. Take special care to record anything unusual which may have affected your results. You will also record your data in this section. Sometimes you will use graphs and tables, sometimes you will make drawings, and other times you will record the results in words. For repetitious calculations, you may show the general formula and one example. Units and sig. figs. must be used correctly in all calculations.
4. CONCLUSION: Recap the experiment. Restate your important results. Comment on any difficulties in procedure or analysis. Compare your results to “literature” values or the correct answer if that is possible. Calculate % error. Use your introduction and your charts and graphs to help explain your results. If you did not get anticipated results, identify possible sources of error (random errors or systematic errors) and/or explain why you think you got those results.
5. POST LAB QUESTIONS: Answer the assigned laboratory questions shown at the end of each experiment. Answers must be written on a separate sheet of paper.

**PRINCIPLES OF CHEMISTRY I LAB CP 2121**

**SUMMER 2023 TENTATIVE SCHEDULE**

|  |  |  |  |
| --- | --- | --- | --- |
| **DATE** | **EXPT.** | **TITLE**  **Handouts for each lab will be posted on Brightspace.** | **Ebbing & Gammon**  **Chapter** |
| MAY 30 TUESDAY |  | Getting Started  Laboratory Safety |  |
| MAY 31 WEDNESDAY | Expt. 1 | EVALUATION OF EXPERIMENTAL ERRORS BY PRECISION AND ACCURACY | Ch. 1 |
| JUNE 5 MONDAY | Expt. 2 | DENSITY (PROJECT LAB) | Ch. 1 |
| JUNE 6 TUESDAY | Expt. 3 | PERCENT WATER IN A HYDRATED SALT | Ch. 1 |
| JUNE 7 WEDNESDAY | Expt. 4 | DETERMINATION OF EMPIRICAL FORMULA OF MAGNESIUM OXIDE | Ch. 2 |
| JUNE 12 MONDAY | Expt. 5 | DETERMINATION OF THE LIMITING REAGENT | Ch. 3 |
| JUNE 13 TUESDAY | Expt. 6 | DETERMINING METAL ION CONCENTRATION BY BEER’S LAW | Ch. 3, 4 |
| JUNE 14 WEDNESDAY | Expt. 7 | THE CHEMISTRY OF COPPER | Ch. 4 |
| JUNE 19 MONDAY | Expt. 8 | ACID-BASE TITRATION | Ch. 4 |
| JUNE 20  TUESDAY | Expt. 9 | MOLAR VOLUME OF A GAS | Ch. 5 |
| JUNE 21 WEDNESDAY | Expt. 10 | HOT AND COLD (PROJECT LAB) | Ch. 6 |
| JUNE 26 MONDAY | Expt. 11 | IDENTIFICATION AND PROPERTIES OF AN UNKNOWN IONIC COMPOUND (PROJECT LAB) | Ch. 8, 9, 10 |
| JUNE 27 TUESDAY | Expt. 12 | MOLECULAR MODELING – BONDING AND MOLECULAR GEOMETRY **(PhET SIMULATIONS)** | Ch. 8, 9, 10 |
| JUNE 28 WEDNESDAY |  | NO LAB |  |