CHEM 103: General Chemistry

Middlebury College

Fall 2020

Laboratory Syllabus

# Course/Instructor information

Class meeting times: Mondays 2 – 4:45 pm

In person class location: MBH 563

Instructor: Dr. Mary Jane Simpson

Contact: Email anytime msimpson@middlebury.edu

Zoom drop-in hours are held on Mondays, 7 – 8 pm

Zoom drop-in hours location: 985-569-2968, Password: 456068

In person/Zoom drop-in hours are held in MBH 563 on Fridays, 10 am – 12 pm

Private appointments are held in MBH 329 or on Zoom

# Course description

The laboratory component of General Chemistry serves the dual purpose of providing skills-based training in a chemistry laboratory and reinforcing lecture content through hands-on experimentation and scenario-based problem solving.

# Learning outcomes

* Test chemical theories using basic laboratory techniques and data analysis methods;
* Propose procedures to complete fundamental tasks such as preparing solutions at specified concentrations and tolerances;
* Investigate research questions using quantitative experimental methods and advanced data analysis approaches;
* Engage in the scientific process, including dealing with sources of uncertainty and unexpected results.

# Course structure

This blended course involves a combination of asynchronous individual learning and individual laboratory assignments. Students will complete one laboratory assignment per week. Laboratory assignments are designed to take approximately 3 hours and will include pre-lab background materials, a 45-minute mini-experiment, and a post-lab report. At the end of the semester, there will be an open-note cumulative assessment.

# Course materials

Students must have their own pair of chemical safety glasses. These are available in the Middlebury College bookstore and online. Students who wear eyeglasses need safety glasses designed to be worn over eyeglasses. Course content will be available on Canvas. Here you will find announcements, updates, additional readings, grades, assessments, etc. You are responsible for checking Canvas regularly to stay up to date.

# Grading information

The laboratory component of CHEM 103 counts as 25% of the final grade. You must complete every experiment in order to pass CHEM 103. Grades are assigned on a numerical basis out of 250 possible points. Each of the 10 labs counts for 20 points. 10 points will be assigned for participation on Canvas discussion forums. The end of course assessment counts for 40 points. See the main CHEM 103 syllabus for more information about grade assignments.

## Late submission

Unexcused late assignments will be penalized at 1 point per calendar day.

## Corrections

All students are eligible to correct for partial credit lab assignments that receive a 10 or below. Corrections are due one week after the grade is received.

# Relevant policies

## Academic integrity

Each student in this course is expected to abide by the Middlebury College Honor Code. Although students are encouraged to discuss lab assignments with other students, the work you turn in should be your own work, in your own words, based on your own original data (if applicable). Suspected violations will be reported to the Office of Judicial Affairs.

## Disability access/accommodation

Students with documented disabilities who believe that they may need accommodations in this class are encouraged to contact me as early in the semester as possible to ensure that such accommodations are implemented in a timely fashion. Assistance is available to eligible students through Student Accessibility Services. Please contact Jodi Litchfield at litchfie@middlebury.edu for more information. All discussions will remain confidential.

## Use of technology

All technology is permitted for all students at all times except for during the cumulative assessment, at which point specific guidelines will be provided regarding appropriate use of technology.

# Expectations of students

This course will operate under the principle of growth mindset: we are all here to learn and grow. Although our in-person meetings are currently limited, our class is still a safe and constructive learning environment in which mutual trust and respect among everyone is expected.

Although this course is mostly asynchronous, you should not allow yourself to become isolated. Instructors, teaching assistants, and peers are all resources that you should seek out to learn effectively and have an enjoyable experience in the course.

To encourage frequent use of Canvas discussion forums, 10 participation points will be assigned for regular contributions such as posting and/or answering questions. Be sure to start your lab assignments early to allow time for questions.

# Relevant campus resources

## Center for Teaching, Learning, and Research (CTLR)

This course requires advanced use of college-level algebra. Many students need to refresh math concepts in order to complete data analysis. The CTLR provides academic support for students in many specific content areas, including math, through both professional tutors and peer tutors. The Center is also the place where students can find assistance in time-management and study skills. These services are free to all students. For more information on how to get the help you need, go to <http://www.middlebury.edu/academics/resources/ctlr/students>.

## Disability Resource Center (DRC)

The DRC provides support for students with disabilities and facilitates the accommodations process by helping students understand the resources and options available and by helping faculty understand how to increase access and full participation in courses. The DRC can also provide referrals for students who would like to undergo diagnostic testing. Students who are on financial aid and have never undergone diagnostic testing can apply to the CTLR for support to cover the cost of off-campus testing. DRC services are free to all students.

# Exam dates

There will be an open-note cumulative assessment at the end of the course. Students can take the assessment anytime during the last week of the course (11/29 – 12/5), but students must return the assessment within 3 hours of receiving it. Students should refer to previous lab reports for examples of the types of problems to expect on this assessment.

# Detailed schedule

Lab assignments are due every week at the start of the scheduled meeting time following the week that it was assigned. See Canvas for specific due dates and assignment descriptions.

|  |  |
| --- | --- |
| **Date** | **Assignment** |
| 9/8 – 9/12 | Lab safety |
| 9/13 – 9/19 | Lab 1 |
| 9/20 – 9/26 | Lab 2 |
| 9/27 – 10/3 | Lab 3 |
| 10/4 – 10/10 | Lab 4 |
| 10/11 – 10/17 | Lab 5 |
| 10/18 – 10/24 | Lab 6 |
| 10/25 – 10/31 | Lab 7 |
| 11/1 – 11/7 | Lab 8 |
| 11/8 – 11/14 | Lab 9 |
| 11/15 – 11/21 | Lab 10 |
| 11/22 – 11/28  |  |
| 11/29 – 12/5 | Lab assessment |