

CHEM112 Syllabus 2021-22

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Important Course Information

Course Details

Course: CHEM112 - General Chemistry

Semester: Fall/Winter 2021-22

Sessional dates: September 7, 2021 to April 8, 2022

Credits: 6

Modality: Face-to-face on campus

Pre-requisites: 4U Chemistry or equivalent

Class time and locations: Please review the Fall schedule below. There are three sections of CHEM112 that meet for 50 minutes on Mondays, Tuesdays, and Thursdays.

CHEM112					
Fall					
Time	Monday	Tuesday	Wednesday	Thursday	Friday
8 am :30	001 West				
9 am :30	DUNMAC aud			001 West	
10 am :30		001 West		DUNMAC aud	
11 am :30	002	DUNMAC aud			
12 PM :30	BIO 1101			002	
1 PM :30		002		BIO 1101	
2 PM :30	003	BIO 1101			
3 PM :30	BIO 1101			003	
4 PM :30		003		BIO 1101	
5 PM :30		BIO 1101			

Classroom accessibility: CHEM112 is held in two different classrooms on campus. Accessibility information and room descriptions can be found for each at the links below.


Duncan McArthur Auditorium: <https://www.queensu.ca/classrooms/classrooms/duncan-mcarthur-hall/duncan-mcarthur-auditorium> (Section 001)

Biosciences 1101: <https://www.queensu.ca/classrooms/classrooms/biosciences-complex/biosciences-auditorium> (Sections 002 and 003) *Note that the first week or two of lectures, sections 2 and 3 will be held in Grant Hall while renovations on BIO 1101 are being completed.*



Instructor Information

These are the professors for CHEM112 2021-22. Please send all requests for academic consideration to the course coordinator, Michael Mombourquette. See OnQ for updated information on office hours.




Course/Lab Coordinator

Instructor Name: Michael Mombourquette Department: Chemistry E-mail: mjm5@queensu.ca Phone: 613-533-2612 Please send all requests for academic consideration to me.	
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Fall Instructors

Instructor Name: Alaina Boyd Department: Chemistry E-mail: a.boyd@queensu.ca Phone:	
Instructor Name: Stephen Brown Department: Chemistry E-mail: stephen.brown@chem.queensu.ca Phone: 613-533-2655	

Winter Instructors

Instructor Name: Amanda Bongers Department: Chemistry E-mail: amanda.bongers@queensu.ca Phone: 613-533-2631	
Instructor Name: Anne Petitjean Department: Chemistry E-mail: anne.petitjean@chem.queensu.ca Phone: 613-533-6587	
Instructor Name: Kevin Stamplecoskie Department: Chemistry E-mail: kevin.stamplecoskie@queensu.ca Phone: 613-533-2649	

Teaching Assistants (TAs)

There are two sets of TAs that you will encounter in this course: Lab TAs and Tutorial TAs.

Lab TAs are responsible for leading the CHEM112 laboratory experiments, for grading lab reports, and for your safety in the lab. They will be wearing distinctive red or blue lab coats. If you have questions about the lab content or procedures, please consult your lab TA.

Tutorial TAs are responsible for leading CHEM112 tutorials and for grading tutorial assignments. If you have questions about the tutorial content or assignments, please consult your tutorial TA.

TA contact information will be available in OnQ.

Laboratory and Tutorial Schedules

Labs and tutorials are conducted concurrently during a 3-hour time slot, for which some sections will start with 90 minutes of tutorial then 90 minutes of lab, or vice versa.

Each 3-hour time slot has 4 sections of students, two that are even-numbered and two that are odd-numbered. The even numbered sections will go to tutorial first – the smaller number to CHERNF 213 and the larger to 211. The odd-numbered sections will go to lab first

Example Schedule:

Monday Afternoon, 2:30-5:30, sections 005, 006, 007, 008

TIME	Section 005	Section 006	Section 007	Section 008
2:30	Go to lab (CHERNF206A)	Go to tutorial (CHERNF213)	Go to lab (CHERNF206A)	Go to tutorial (CHERNF211)
4:00	Go to tutorial (CHERNF213)	Go to lab (CHERNF206A)	Go to tutorial (CHERNF211)	Go to lab (CHERNF206A)

Questions about the Course and Contacting the Teaching Team

Throughout this course, you may come upon some general questions about the course and any assignments. If you think that your question may benefit other students, you are invited to post your question in the Course Questions discussion forum. Feel free to help answer your peers' questions on this forum. The teaching team will monitor this discussion forum and answer questions. Most questions are answered within 24 hours. Any other questions that you would prefer to share privately, please contact me (mjm5@queensu.ca) or your TA at one of the emails listed in OnQ.

Course Announcements

Throughout the course, we will routinely post course news in the Announcements section of the course homepage. We encourage you to actively check the course OnQ main page for course announcements throughout the semester for reminders and additional course information or learning opportunities. Please configure your OnQ settings to send an alert to your cell phone or your favourite e-mail address.

Welcome Message and Land Acknowledgement

Welcome to CHEM112! To begin, let us acknowledge that Queen's is situated on traditional Anishinaabe and Haudenosaunee territory. We are grateful to be able to live, learn, and play on these lands.

We are excited to have you join us this year as we re-enter the classroom. This course will explore the foundations of chemistry through lectures, laboratories, and problem-solving. We hope that you will enjoy your year with us and hope that the experience can kindle your enthusiasm for chemistry.

Equity, Diversity, and Inclusivity Statement

Equity in an educational institution is achieved when all members of our society have fair and equal opportunity to participate in and enjoy the benefits of an education, including the opportunity to experience success and human dignity while developing the skills, knowledge and attitudes necessary to contribute as leaders and citizens in society.

Course Learning Outcomes

By the end of this course, students should be able to:

- Know and understand basic microscopic models of matter so they can build up macroscopic concepts of materials.
- Understand and use thermodynamics principles to assess such things as energy change, entropy, enthalpy, work, Gibbs Energy, and spontaneity.
- Recognize and describe phase changes in pure and solution-based systems using both fundamental principles and phase diagrams.
- Understand and use concepts in organic chemistry, including nomenclature, functional groups, reactivities.
- Understand and use concepts of equilibrium systems including acid/base, solubility, oxidation/reduction and precipitation systems.
- Determine and describe the kinetics of a system using different experimental procedures and relate the results to reaction mechanisms

Course Materials

- Textbook: Petrucci Herring Madura Bissonette, General Chemistry Principles and Modern Applications 11e, Pearson Toronto, Canada, 2016. Electronic editions only.
- Homework: Mastering Chemistry, used for homework assignments and practice problems.

These items can be purchased as a single item (an access code) from the [Campusbookstore.com](https://www.campusbookstore.com).

Click this direct link to purchase the code needed to get the ebook and Mastering access:

[https://www.campusebookstore.com/integration/AccessCodes/default.aspx?bookseller_id=5&Course=CHEM+112+\(Fall-Winter+2021-22\)&frame=YES&t=permalink](https://www.campusebookstore.com/integration/AccessCodes/default.aspx?bookseller_id=5&Course=CHEM+112+(Fall-Winter+2021-22)&frame=YES&t=permalink)

There are two options in the page this link leads to. If you want to only purchase the Mastering access code, then choose that link. If you want to purchase the Mastering and e-text code then purchase that one. DO NOT BUY both codes. Additionally, there is a third option, not available at the bookstore. You can get the paper copy of the text delivered free, for \$65 directly from the publisher's site.

<https://www.pearson.com/store/p/general-chemistry-principles-and-modern-applications/P100002469693/9780133897364>

Technology Requirements

- **Calculator Policy**

As noted in Academic Regulation 9.2, "Calculators acceptable for use during quizzes, tests and examinations are intended to support the basic calculating functions required by most Arts and Science courses. For this purpose, the use of any of the **Casio 991 series calculators** is permitted and is the only approved calculator for Arts and Science students." *You can purchase one of the several models of 991 calculators at the bookstore.*

- **Web Browsers**

onQ works best with Chrome or Firefox. Mac users have reported problems using Safari and Queen's IT claims that Microsoft Edge may also cause problems although it is my go-to browser and I've never encountered an issue with it.

- **Internet Speed**

While a wired Internet connection is encouraged, we recognize that most students rely on a wireless connection. A minimum download speed of 10 Mbps and up to 20 Mbps for multimedia is recommended. Click here for an [Internet speed test](#).

Course Important dates

A detailed course timeline can be found in onQ. Below are important university dates:

- 7-SEP-21: Fall Term Classes start
- 11-OCT-21 to 15-OCT-21: Thanksgiving Monday and Fall reading week
- 11-NOV-21: Remembrance Day (Classes cancelled 10:30-11:30 am)
- 3-DEC-21: Fall Term Classes end.
- 4-DEC-21 to 7-DEC-21: Study period
- 8-DEC to 22-DEC-21: Exam period. Your midyear exam will occur somewhere in this time period, to be announced late October or early November by the Exams Office.

- 10-JAN-22: Winter term Classes start
- 21-FEB-22 to 25-FEB-22: Family Day and Winter reading week.
- 8-APR-22: Winter term Classes end
- 9-APR-22 to 13-APR-22: Study period
- 14-APR-22 to 30-APR-22: Exam period. Your final exam will occur somewhere in this time period, to be announced late February or early March by the Exams Office.

Timing of Final Examinations

The December midyear and April final exams timetable will be set by the Exams office and will be made public in Late October or early November (for the midyear) and late February, early March (for the finals). Make sure you do not make travel plans until you know when your exams will be. **You MUST be in attendance in person to write all exams.**

Assessments

We will have 5 types of assessments in this course: exams, labs, tutorial assignments, quarterly quizzes, and weekly homework assignments from Mastering Chemistry.

- **Exams:** There will be two in-person exams for this course. The mid-year exam will occur during the December exam period, and the final exam will occur during the April exam period. These exams will be multiple choice and will focus on the material from the most recent semester.
- **Labs:** The labs portion of your grade comprises pre-lab quizzes and lab reports. Your lab report will be due the week following your experiment.
- **Tutorials:** Tutorials are weekly assignments to be completed in groups during your tutorial time slot. These assignments are due at the end of the tutorial.
- **Quarterly Quizzes:** Each quiz will cover 1-2 modules of content and will occur in OnQ outside of class time. See OnQ for the quiz schedule.
- **Weekly Homework (Mastering):** The weekly homework assignments are completed using the Pearson tool Mastering Chemistry. You must register for access to this site. These assignments will give you the opportunity to practice using the materials you have learned in class. The assignments are due every Monday.

Grading Scheme

Exams	60%
Midyear exam in December (30%)	
Final exam in April (30%)	
Labs	15%
Tutorials	10%
Quarterly Quizzes	10%

Weekly homework assignments	5%
Total:	100%

Grading Method

All components of this course will receive numerical percentage marks. Note that to pass the course, you will **need to achieve a passing average in the labs and a pass in the lecture portion** of the course in addition to an overall pass in the course itself. The final grade you receive for the course will be derived by converting your numerical course average to a letter grade according to [Queen's Official Grade Conversion Scale](#):

Queen's Official Grade Conversion Scale

Grade	Numerical Course Average (Range)
A+	90-100
A	85-89
A-	80-84
B+	77-79
B	73-76
B-	70-72
C+	67-69
C	63-66
C-	60-62
D+	57-59
D	53-56
D-	50-52
F	49 and below

Late Policy

- **Mastering homework** will be marked zero for any portion of the assignment that is not submitted before the deadline.
- **Lab reports** will be given a 24h grace period and after that will lose 1%/hour in value to a minimum grade of 5% (1/20).
- **Tutorial reports** are group work. Your tutorial TA will expect the report by the end of the day from whomever the group scribe is. After that, value will be lost the same way as in the Lab reports Late Policy, except without the grace period.

Policy on Exams and Quizzes

Exams must be done in person. Without an approved accommodation or consideration, a grade of zero will result from missing one of these.

- **Quarterly Quizzes** are done on-line using the onQ Quiz system. Similar to the Exams, without an approved accommodation or consideration, a missed quiz gets a grade of zero, subject to the UDL considerations (see below).

Attendance in Labs and Tutorials is mandatory.

- **Missing a lab** will result in failure of the course, subject to the UDL automatic considerations (see below). Note the opportunities to make up a missed lab in the schedule.
- **Missing a tutorial** will result in a zero for that tutorial (it is group work so there are no individual submissions accepted). This too is subject to the UDL considerations.

Suggested Time Commitment

Generally, the more time you put into something the better you will master it but there are limits in all our lives as to how far that goes. We expect that you will put in about 10 hours of private study a week of work on the course, divided between:

- reviewing your lecture notes and making your own version of the notes,
- writing your lab report,
- studying for quizzes,
- preparing for tutorial work,
- doing the Mastering Chemistry practice problems and homework assignments.

Studies are clear that students who cram for major exams but do not work through their material through the course do not long remember the material. As this is a prep course for the rest of your university careers, even if not in Chemistry, your short-term cramming may get you through this course but will not set you up for success in future courses.

Start now! Plan your time carefully, being sure to schedule time for all the aspects of the course in your calendar. Be flexible. As the course progresses, you may find you need less time than you thought on some things but more on others, adjust your personal calendar appropriately. Schedule your break/social time too. You need to take a break regularly. Don't allow yourself to use "coffee time" to use up dozens of hours each week that could be put to better use.

You may find that you are running up against unplanned-for time crunches or unexpected illness that makes it difficult to complete your current item in the course. Be aware that the course is designed with Universal Design for Learning (UDL) in mind (see below).

Academic Accommodations

Queen's University is committed to achieving full accessibility for people with disabilities. Part of this commitment includes arranging academic accommodations for students with disabilities to ensure they have an equitable opportunity to participate in all their academic activities. The Senate Policy for Accommodations for Students with Disabilities was approved at [Senate in November 2016](#). If you are a student with a disability and think you may need academic accommodations, you are strongly encouraged to contact the **Queen's Student Accessibility**

Services (QSAS) and register as early as possible. For more information, including important deadlines, please visit the [QSAS website](#).

Academic Consideration for Students in Extenuating Circumstances

Queen's University is committed to providing academic consideration to students experiencing extenuating circumstances. For more information, please see the [Senate Policy on Academic Consideration for Students in Extenuating Circumstances](#).

This course uses Universal Design for Learning (UDL). Each term, the lowest grade in each of the following categories (labs, quizzes, tutorials, Mastering Assignments) will be automatically dropped (It's programmed into onQ). This is to allow you to unexpectedly miss one of these items with no penalty and without the need to apply for academic consideration.

Each Faculty has developed a protocol to provide a consistent and equitable approach in dealing with requests for academic consideration for students facing extenuating circumstances. Arts and Science undergraduate students can find the Faculty of Arts and Science protocol and the [portal where a request can be submitted](#). Students in other Faculties and Schools who are enrolled in this course should refer to the protocol for their home Faculty.

If you need to request academic consideration for this course, you will be required to provide the name and email address of the instructor/coordinator. Please use the following contact information:

- Michael Mombourquette:
- Mjm5@queensu.ca:

Students are encouraged to submit requests as soon as the need becomes apparent and to contact their Professors/Course Coordinators as soon as possible once Consideration has been granted. Any delay in contact may limit the Consideration options available.

Please note that requesting an academic consideration form from the FAS portal does not automatically grant you the consideration you may need. You still need to communicate directly with the Course coordinator with whom you can discuss what needs to be done.

Your Professor/Course Coordinator requests email/onQ/phone communication to 613-533-2612 or mjm5@queensu.ca within 2 days of receiving verification of your Consideration request.

For more information on the Academic Consideration process, what is and is not an extenuating circumstance, and to submit an Academic Consideration request, [please visit the website](#).

Academic Integrity

Queen's students, faculty, administrators and staff all have responsibilities for upholding the [fundamental values of academic integrity](#); honesty, trust, fairness, respect, responsibility and

courage. These values are central to the building, nurturing, and sustaining of an academic community in which all members of the community will thrive. Adherence to the values expressed through academic integrity forms a foundation for the "freedom of inquiry and exchange of ideas" essential to the intellectual life of the University (see the [Senate Report on Principles and Priorities](#)).

Students are responsible for familiarizing themselves with the regulations concerning academic integrity and for ensuring that their assignments and their behaviour conform to the principles of academic integrity. Information on academic integrity is available in the Arts and Science Calendar (see [Academic Regulation 1](#)), on the [Arts and Science website](#), and from the instructor of this course. Departures from academic integrity include plagiarism, use of unauthorized materials, facilitation, forgery, and falsification, and are antithetical to the development of an academic community at Queen's. Given the seriousness of these matters, actions which contravene the regulation on academic integrity carry sanctions that can range from a warning or the loss of grades on an assignment to the failure of a course to a requirement to withdraw from the university.

- **For Lab Reports:** Although you are working with a partner, your report must be your own. Don't copy words and phrases directly from your partner's report. Both reports will get a zero if copying has happened. You can and should discuss things between you and your partner, but then go away and write your own report without knowing exactly what your partner wrote.
- **For on-line quizzes:** Use of any on-line resource such as Chegg, Answers, Quora, etc. will result in a grade of zero in the quiz for both the person posting the question to that source and any students found to be using that resource. Yes, we do check.

Copyright of Course Materials

Course materials created by the course instructors, including all slides, presentations, handouts, tests, exams, and other similar course materials, are the instructor's intellectual property. It is a departure from academic integrity to distribute, publicly post, sell, or otherwise disseminate an instructor's course materials or to provide an instructor's course materials to anyone else for distribution (including note sharing sites), posting, sale or other means of dissemination without the instructor's express consent. A student who engages in such conduct may be subject to penalty for a departure from academic integrity and may also face adverse legal consequences for infringement of intellectual property rights.

Netiquette / Discussion Guidelines

University is a place to share, question, and challenge ideas. Each student brings a different set of lived experiences. You can help to create a safe, respectful place for learners by promoting the following guidelines:

- Make a personal commitment to learn about, understand, and support your peers.
- Assume the best of others and expect the best of them.
- Acknowledge the impact of oppression on other people's lives and make sure your writing is respectful and inclusive.
- Recognize and value the experiences, abilities, and knowledge each person brings.
- Pay close attention to what your peers write before you respond. Think through and re-read your writings before you post or send them to others.
- It's alright to disagree with ideas, but do not make personal attacks.
- Be open to being challenged or confronted on your ideas and challenge others with the intent of facilitating growth. Do not demean or embarrass others.
- Encourage others to develop and share their ideas.

Students Studying or Travelling Abroad

CHEM 112 has mandatory in-person labs. You cannot miss these and expect to pass the course. We strongly recommend that you confirm Internet availability in your host country before departure if you plan to travel. In the past, students in other countries have been blocked from accessing certain websites relevant to their courses and onQ. It is the responsibility of all students to book travel around course work, as we cannot change the format or timing on assessments or assignments because of travel plans.

Privacy Statement

Mastering Chemistry

This course makes use of Mastering Chemistry for Homework assignments. Be aware that by logging into the site, you will be leaving onQ, and accessing Pearson Canada's Website. Your independent use of that site, beyond what is required for the course (for example, purchasing the company's products), is subject to Pearson Canada's terms of use and privacy policy.

Turnitin

This course uses Turnitin, a third-party application that helps maintain standards of excellence in academic integrity. Normally, students will be required to submit their course assignments through onQ to Turnitin. In doing so, students' work will be included as source documents in the Turnitin reference database, where they will be used solely to detect plagiarism.

Turnitin is a suite of tools that provide instructors with information about the authenticity of submitted work and facilitates the process of grading. Turnitin compares submitted files against its extensive database of content and produces a similarity report and a similarity score for each assignment. A similarity score is the percentage of a document that is similar to content held within the database. Turnitin does not determine if an instance of plagiarism has occurred. Instead, it gives instructors the information they need to select the authenticity of work as a part of a larger process.

Please read [Turnitin's Privacy Pledge, Privacy Policy, and Terms of Service](#), which govern users' relationship with Turnitin. Also, please note that Turnitin uses cookies and other tracking technologies; however, in its service contract with Queen's, Turnitin has agreed that neither Turnitin nor its third-party partners will use data collected through cookies or other tracking technologies for marketing or advertising purposes. For further information about how you can exercise control over cookies, see [Turnitin's Privacy Policy](#)

Turnitin may provide other services that are not connected to the purpose for which Queen's University has engaged Turnitin. Your independent use of Turnitin's other services is subject solely to Turnitin's Terms of Service and Privacy Policy, and Queen's University has no liability for any independent interaction you choose to have with Turnitin.

Recording Synchronous Sessions

Synchronous remote (live, on-line) delivery on the Zoom platform will be used for Office Hours and Q&A sessions. These sessions will be recorded and posted for later review, including by students who could not attend. The use of cameras during these sessions is optional, and if used, artificial or blurred backgrounds may be employed. Students may pose questions or participate in discussion by unmuting and speaking through a microphone, but this is optional. Participating through the chat function is also possible. Students who turn on their cameras or unmute and speak must be aware that they will be included in the recording that will be posted to onQ, with secure access only to those registered in the course. Reposting or retransmitting any portion of the recorded sessions, including screen shots, is not permitted. In the event of switching the lectures to remote delivery for any reason during the term, the same policy will apply for those sessions.