Structure of Course

This course is organized using topic modules. Some modules will take longer than others to complete. There will be weekly assignments, quizzes and lecture material you can do asynchronously and at least one Zoom session (synchronous) for you to attend.

Instructor Information

The following list of instructors is alphabetical. You will encounter all of these professors by the end of your year.

**Fall Instructors**

| Instructor Name: Alaina Boyd | Department: Chemistry | E-mail: a.boyd@queensu.ca |
| Instructor Name: Stephen Brown | Department: Chemistry | E-mail: stephen.brown@chem.queensu.ca |
| Instructor Name: Danesh Roudini | Department: BISC | E-mail: d_roudini@bisc.queensu.ac.uk |

**Winter Instructors**

| Instructor Name: Amanda Bongers | Department: Chemistry | E-mail: amanda.bongers@queensu.ca |
| Instructor Name: Anne Petitjean | Department: Chemistry | E-mail: anne.petitjean@chem.queensu.ca |
| Instructor Name: Kevin Stamplecoskie | Department: Chemistry | E-mail: kevin.stamplecoskie@queensu.ca |

**Course/Lab Coordinator**

| Instructor Name: Michael Mombourquette | Department: Chemistry | E-mail: mjm5@queensu.ca |
**TA Information**

(Use the search feature on the Queen’s home page to find pertinent information for your TA (email, etc). Note that the times listed here do not represent live times in the Labs. All labs are done virtually and you can complete them at any time during the week. They do represent live times for the Tutorials, however.

<table>
<thead>
<tr>
<th>Time</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 am</td>
<td>25,26,27,28 (86)</td>
<td>29,30,31,32 (88)</td>
<td>33,34,35,36 (90)</td>
<td>37,38,39,40 (92)</td>
<td></td>
</tr>
<tr>
<td>9 am</td>
<td>Yu Zhu 25(86)</td>
<td>Januka Duwadi 29(88)</td>
<td>Jia Julia 33(90)</td>
<td>Chun Keat Tan 37(92)</td>
<td></td>
</tr>
<tr>
<td>10 am</td>
<td>Jiafu Wu 26</td>
<td>Sho Fujita 30</td>
<td>Katie Manas 34</td>
<td>Joshua Kofsky 38</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Longyu Li 27</td>
<td>Mai-Jan Tom 31</td>
<td>Marina Tintor 35</td>
<td>Alireza Tehrani 39</td>
<td></td>
</tr>
<tr>
<td>11 am</td>
<td>Parimah Aminfar 28</td>
<td>Oluwatobi Oyebanji 32</td>
<td>Aditi Kanwar 36</td>
<td>Chanaka Nawarthna 40</td>
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<tr>
<td>12 PM</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 PM</td>
<td>Weekly Meeting</td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>2 PM</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 PM</td>
<td>Emily Khusainov 6</td>
<td>Feng Shi 9(87)</td>
<td>Sho Fujita 13 (89)</td>
<td>Gotame Yam 17(91)</td>
<td>Alireza Tehrani 21(93)</td>
</tr>
<tr>
<td>4 PM</td>
<td>Viveka Kulkarni 7</td>
<td>Tina Tabrizadeh 10</td>
<td>Raymond (Ziruo) Lai 14</td>
<td>Rory McEwan 18</td>
<td>Liam Varvaris 23</td>
</tr>
<tr>
<td></td>
<td>Yushi Liang 8</td>
<td>R Michael Ylagon 11</td>
<td>Oluwatobi Oyebanji 15</td>
<td>Marina Tintor 19</td>
<td>Rahul Kumar 24</td>
</tr>
<tr>
<td>5 PM</td>
<td>Dianne Lee 5 (85)</td>
<td>Parimah Aminfar 12</td>
<td>Yu Wu 16</td>
<td>Aditi Kanwar 20</td>
<td>Chanaka Nawarthna 22</td>
</tr>
</tbody>
</table>
Intended Student Learning Outcomes and methods of assessment

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 calculate 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.

Students will be assessed using a variety of methods. There will be regular quizzes given roughly every two weeks based on the previous modules. There will be virtual labs and lab reports, both of which will result in a grade. On-line homework will be assigned weekly for marks as well as for practice. Keep up with the work. Finally, there will be a culminating project for both the fall and the winter semester. These will replace the more traditional midyear and final exams.
Course materials/Readings and timeline.

The course textbook is Petrucci 11e. There is also on-line assignments using the Mastering Chemistry system from Pearson Canada, so you will need to purchase the access code for Mastering Chemistry and the text book can be either a hard copy or a virtual text. They come together if you purchase the complete package from the bookstore, or you can purchase the access codes directly from the Pearson site (by clicking on the Pearson Mylab and Mastering link on the onQ CHEM112 home page).

Grading Scheme

Culminating projects:
- Fall 20%
- Winter 20%

Labs:
- Virtual lab score 10%
- Written Lab reports 15%
- Quarterly quizzes (every 2nd tutorial week) 15%
- Tutorials 10%
- Homework (Mastering Chemistry) 10%
Completion of First year Planning module 01% bonus.
Total 100%

Grading Method

All components of this course will receive numerical percentage marks. 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

<table>
<thead>
<tr>
<th>Grade</th>
<th>Numerical Course Average (Range)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>90-100</td>
</tr>
<tr>
<td>A</td>
<td>85-89</td>
</tr>
<tr>
<td>A-</td>
<td>80-84</td>
</tr>
<tr>
<td>B+</td>
<td>77-79</td>
</tr>
<tr>
<td>B</td>
<td>73-76</td>
</tr>
<tr>
<td>B-</td>
<td>70-72</td>
</tr>
<tr>
<td>C+</td>
<td>67-69</td>
</tr>
<tr>
<td>C</td>
<td>63-66</td>
</tr>
<tr>
<td>C-</td>
<td>60-62</td>
</tr>
<tr>
<td>D+</td>
<td>57-59</td>
</tr>
<tr>
<td>D</td>
<td>53-56</td>
</tr>
<tr>
<td>D-</td>
<td>50-52</td>
</tr>
<tr>
<td>F</td>
<td>49 and below</td>
</tr>
</tbody>
</table>
Late Policy

Late Homework assignments will receive a zero for any portion of the homework that is late. All portions that are completed prior to the deadline will be graded.
Weekly quizzes must be completed in the time given. Without specific academic accommodations, late quizzes will receive a zero.
Labs and lab reports must be done on time. Both of these will receive a deduction of 1% per hour late.
If for any reason beyond your control, you cannot make one of these deadlines, please see the section below Academic Considerations for Students in Extenuating Circumstances.

Academic Integrity

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 http://www.queensu.ca/artsci/academic-calendars/regulations/academic-regulations/regulation-1), on the Arts and Science website (see https://www.queensu.ca/artsci/students-at-queens/academic-integrity), 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.

- Plagiarism –
  - Please note that we have had issues in the past with unintended plagiarism in this course. Regardless of how and where you retrieve information, the principles of academic integrity apply. Please visit these helpful websites to help you make sure that you are able to write things in your own words: https://www.queensu.ca/academicintegrity/students/avoiding-plagiarismcheating https://integrity.mit.edu/handbook/academic-writing/avoiding-plagiarism-paraphrasing http://writing.wisc.edu/Handbook/QPA_paraphrase.html

  - You are permitted to work with a partner or in groups of 3 to encourage collaboration, cooperation, and collective learning on lab assignments. You MUST, however, not copy assignments or labs in part or in whole even between you and your partners. You are not permitted to share answers among large groups or as a tutorial group. You must work independently on quizzes.

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 the **Casio 991 series calculator** is permitted and is the only approved calculator for Arts and Science students.”

**Technology**

Students should be encouraged when possible to work with the most recent versions of software including web browsers, Java, Flash and Adobe Reader.

*This course will use the following online tools:*

- Perusall.com (no additional cost)
- Labster (no additional cost)
- Mastering Chemistry (access codes purchased with textbook)
- Zoom (no additional cost)

**Audio/Visual**

The following technology may be necessary to attend virtual office hours and tutorial sessions

- Desktop computer, laptop, or tablet
- Microphone (external or integrated into a computer)
- Webcam (not required to turn on your webcam)

**Internet Speed**

While wired internet connection is encouraged, we recognize that students may be relying on a wireless connection. A minimum download speed of 10 Mbps and up to 20 Mbps for multimedia is recommended. To test your internet speed, [https://www.speedtest.net/](https://www.speedtest.net/)

For technology support ranging from setting up your device, issues with onQ to installing software, contact ITS Support Centre [https://www.queensu.ca/its/itsc](https://www.queensu.ca/its/itsc)

**Web Browsers**

onQ performs best when using the most recent version of the web browsers, Chrome or Firefox. Safari and Edge are strongly discouraged as these web browsers are known to cause issues with onQ.

**Copyright of Course Materials**

All material presented in this course is copyrighted and owned by the professors. You do not have permission to upload any portion of this material to the web, or to anyone not associated directly with this course as an instructor or student. Anyone who uploads this material to the web is in violation of both copyright laws and the Academic Integrity rules.
Privacy Statement for Instructors Who Use External Software in Their Course

This course makes use of Crowdmark and Turnitin for grading and checking assignments, Pearson’s Mastering Chemistry for homework and some practice problems. Be aware that by logging into any of these sites you will be leaving onQ. Your independent use of that site, beyond what is required for the course (for example, purchasing the company’s products), is subject to their terms of use and privacy policy. You are encouraged to review these documents, using the link(s) below, before using the site.

Links to the most common websites used in this course are listed below:
- Crowdmark - https://crowdmark.com/privacy/queens/

Acknowledgment of Territory

Queen’s University is situated on traditional Anishinaabe and Haudenosaunee Territory. https://www.queensu.ca/encyclopedia/t/traditional-territories

Accommodations for Disabilities

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 of their academic activities. The Senate Policy for Accommodations for Students with Disabilities was approved at Senate in November 2016 (see https://www.queensu.ca/secretariat/sites/webpublish.queensu.ca.uslcwww/files/files/policies/senate-andtrustees/ACADACCOMMPOLICY2016.pdf). 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 at: http://www.queensu.ca/studentwellness/accessibility-services/

Academic Considerations for Students in Extenuating Circumstances

Queen's University is committed to providing academic consideration to students experiencing extenuating circumstances that are beyond their control and are interfering with their ability to complete academic requirements related to a course for a short period of time. The Senate Policy on Academic Consideration for Students in Extenuating Circumstances is available at http://www.queensu.ca/secretariat/sites/webpublish.queensu.ca.uslcwww/files/files/policies/senateandtrustees/Academic%20Considerations%20for%20Extenuating%20Circumstances%20Policy%20Final.pdf

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 at: http://www.queensu.ca/artsci/accommodations. 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:
Instructor/Coordinator Name: Michael Mombourquette
Instructor/Coordinator email address: mjm5@queensu.ca

Communication

The university communicates with students via Queen’s email. Please check your email regularly to ensure you do not miss important information related to your course. Many of these emails will originate as announcement postings in this onQ course site. You need to change your own personal settings for the course to ensure you receive the notifications in the format you wish (email, text message, etc.). Click on your name on the top left of the course home page to set this up. Do it now, so you do not miss anything important. You can change things any time to customize what kind of notifications you receive.

Discussion Guidelines

University is a place to share, question and challenge ideas. Each student brings a different lived experience from which to draw upon. To help one another learn the most we can from this experience please consider the following guidelines.

1. Make a personal commitment to learn about, understand, and support your peers.
2. Assume the best of others and expect the best of them.
3. Acknowledge the impact of oppression on the lives of other people and make sure your writing is respectful and inclusive.
4. Recognize and value the experiences, abilities, and knowledge each person brings.
5. 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.
6. It is ok to disagree with ideas, but do not make personal attacks.
7. Be open to being challenged or confronted on your ideas and to challenging others with the intent of facilitating growth. Do not demean or embarrass others.
8. Encourage others to develop and share their ideas.