# Spring 2024 Chemistry 223 *with* Dr. Michael A. Russell

*For Section 01, Section H1 and Section W1*

*CH 223, Mt. Hood Community College, Gresham, Oregon, USA 97030*

*Office:* **AC 2568** *Phone:* **(503) 491-7348**

*Email:* **mike.russell@mhcc.edu** *or* **mike.russell@mhchem.org**

*Office Hours:* **Held in AC 2568 and,** *if possible***, on Discord (https://discord.gg/fwhD9tf)** *every* **MW 10 AM - 11** *and* **MW noon - 1 PM** *and* **F 8 AM - 9**

*Chemistry 223 website:*
**http://mhchem.org/223**

***Required/Recommended Materials****:*
* "Chemistry" *by* The OpenStax College (978-1-947172-62-3),
*available here for free:* **http://mhchem.org/text/OpenStaxChem.pdf**
* *The* **Chemistry 223 Companion**, *purchase here:* **http://mhcc.edu/bookstore**
* *Scientific calculator with at least EXP/EE and ln and log (ideally)*

**Course Description**: This course offers the fundamental basis of chemistry for science, pre-professional, and chemical engineering majors. A strong emphasis is placed on a mathematical approach. The third term covers equilibrium, introduction to acids and bases, spontaneity of reactions, ionic equilibria, oxidation/reduction and electrochemistry. ***Prerequisites****:* RD090, WR090 and MTH020, each with a grade of "C" or better, or placement above stated course levels; and CH222 with a grade of "C" or better.

**Course Philosophy**: To be successful, students enrolled in a 200 level chemistry course should complete all assignments before coming to class, attend classes regularly, participate in discussions, and think critically. Homework assignments represent the *minimum* requirement for understanding the principles of chemistry. It is assumed that A and B students will perform enough *unassigned* exercises to master key concepts. I encourage questions in this class, and I expect a considerable amount of work. If you contact me by email, I will respond to you normally within 24 hours; phone messages are discouraged due to the virus.

**The Honor Principle**: All students will be expected to behave with the highest moral and academic integrity while enrolled in this class. Plagiarism, cheating or sharing information on tests or laboratory reports, disruptive behavior, and other related offenses will be dealt with according to the directives stated in the current *Mt. Hood Community College Student Guide*. Offering, asking for, giving or receiving help from a person or website without instructor consent is cheating. Copying and/or sharing any course materials outside this class is not allowed and illegal due to copyright laws.

| **Grading:** | | | |
|---|---|---|---|
| | Midterm Exams (2 total, 140 points each) | 280 points | *28% of total* |
| | Quizzes (6 total, lowest quiz dropped, 20 points each) | 100 points | *10%* |
| | Lecture Final Exam | 200 points | *20%* |
| | Final Lab | 80 points | *8%* |
| | Class Presentation | 100 points | *10%* |
| | Problem sets, worksheets, reserve CP topic | 50 points | *5%* |
| | Nine lab experiments (20 points each) | 180 points | *18%* |
| | Lab Completion Bonus | 10 points | 1% |
| | **Total points:** | **1000** points | ***100%*** |

**Tentative grading distribution:** **A**: 90-100% **B**: 80-89% **C**: 70-79% **D**: 60-69% **F**: less than 60%
Opportunities for extra credit are available and explained in the "Extra-Credit Guide" handout.

**Exams and Quizzes** will be completed exclusively in class (sections 01 and H1) or exclusively online (section W1.) Sections 01 and H1 must turn in assignments in person to avoid a point penalty. Section W1 assignments must be submitted via email to the instructor in a suitable format, and Section W1 must show work on all problems to get full credit.

**Labs and Problem Sets** will be submitted on campus (sections 01 and H1) or via email (section W1) depending on the student's enrolled section.

Each student will submit a **Class Presentation** this term - see the "Class Presentation FAQ" for more information.

Details regarding grading will be discussed during the first week of the term.

# "What's Due This Week" Schedule for CH 223 Spring 2024

***All assignments** can be found on our **website** (http://mhchem.org/223)*

***Assignments are different for section W1 and sections 01 and H1** - contact the instructor if you are unsure which applies to you*

- **Sections 01 and H1** *must bring a printed copy of the lab on the specified day, then turn it in on the deadline during class. Problem sets will be turned in during class; quizzes and exams will be completed during class time. Emailed assignments from Section 01 and H1 students will incur a point penalty, no exceptions.*
- **Section W1** *will **email** all assignments to the instructor as a single PDF file.*

| Week | Date | Assignment |
|---|---|---|
| 1 | 4/1 - 4/5 | Introduction *to the course* |
| | | **01/H1** *Lab:* "Introduce Yourself (in class)" (Lab #1) *due next week in recitation* |
| | | **01/H1** *Lab:* "Determination of an Equilibrium Constant (in class)" (Lab #2) *due next week in recitation* |
| | | **W1** *Lab:* "Introduce Yourself (online)" (Lab #1) *due Friday, April 5 by 9 AM via email* |
| | | **W1** *Lab:* "Determination of an Equilibrium Constant (online)" (Lab #2) *due Wednesday, April 10 by 11:59 PM* |
| 2 | 4/8 - 4/12 | *Due:* Problem set #1 *Chapter 13;* **01, H1:** *due in recitation;* **W1:** *due 4/10 by 11:59 PM via email* |
| | | *Due:* Quiz #1; **01, H1:** *take in recitation;* **W1:** *due 4/12 by 9 AM via email* |
| | | **01/H1** *Lab:* "Le Chatelier's Principle (in class)" (Lab #3) *due next week in recitation* |
| | | **W1** *Lab:* "Le Chatelier's Principle (online)" (Lab #3) *due Wednesday, April 17 by 11:59 PM* |
| | | **April 12, 9 AM:** *Last chance to reserve a Class Presentation topic* |
| 3 | 4/15 - 4/19 | *Due:* Problem set #2 *Chapter 14 & 15;* **01, H1:** *due in recitation;* **W1:** *due 4/17 by 11:59 PM* |
| | | *Due:* Quiz #2; **01, H1:** *take in recitation;* **W1:** *due 4/19 by 9 AM* |
| | | **01/H1** *Lab:* "Titration Calculations (in class)" (Lab #4) *due next week in recitation* |
| | | **W1** *Lab:* "Titration Calculations (online)" (Lab #4) *due Wednesday, April 24 by 11:59 PM* |
| 4 | 4/22 - 4/26 | *Due:* Problem set #3 *Chapter 14;* **01, H1:** *due in recitation;* **W1:** *due 4/24 by 11:59 PM* |
| | | *Due:* Quiz #3; **01, H1:** *take in recitation;* **W1:** *due 4/26 by 9 AM* |
| | | *Due:* **Class Presentation Rough Draft Paper***;* **01, H1**: *due in recitation;* **W1:** *due 4/24 by 11:59 PM* |
| | | **01/H1** *Lab:* "Acid and Base Titrations (in class)" (Lab #5) *due next week in recitation* |
| | | **W1** *Lab:* "Acid and Base Titrations (online)" (Lab #5) *due Wednesday, May 1 by 11:59 PM* |
| 5 | 4/29 - 5/3 | **EXAM #1** - *Chapters 13-15;* **01, H1***: take in recitation;* **W1***: due 5/3 by 9 AM* |
| | | *Due:* "Exam Prep I" *;* **01, H1**: *due in recitation;* **W1:** *due 5/1 by 11:59 PM* |
| | | **01/H1** *Lab:* "Titration of Weak Acids (in class)" (Lab #6) *due next week in recitation* |
| | | **W1** *Lab:* "Titration of Weak Acids (online)" (Lab #6) *due Wednesday, May 8 by 11:59 PM* |
| 6 | 5/6 - 5/10 | **CLASS PRESENTATIONS WEEK** |
| | | **01/H1:** *Class Presentation paper due at time of presentation during recitation* |
| | | **W1:** *Class Presentation paper and video due Wednesday, May 8 by 11:59 PM* |

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|---|---|---|
| 7 | 5/13 - 5/17 | *Due:* Problem set #4 *Chapter 15 & 16;* **01, H1:** *due in recitation;* **W1:** *due 5/15 by 11:59 PM*<br><br>*Due:* Quiz #4; **01, H1:** *take in recitation;* **W1:** *due 5/17 by 9 AM*<br><br>**01/H1** *Lab:* "Determination of $K_{sp}$, $\Delta G°$, $\Delta H°$ and $\Delta S°$ for $Ca(OH)_2$ (in class)" (Lab #7) *due next week in recitation*<br><br>**W1** *Lab:* "Determination of $K_{sp}$, $\Delta G°$, $\Delta H°$ and $\Delta S°$ for $Ca(OH)_2$ (online)" (Lab #7) *due Wednesday, May 22 by 11:59 PM*<br><br>**May 17:** *Last day to drop or change grade status* |
| 8 | 5/20 - 5/24 | *Due:* Problem set #5 *Chapter 16* & 17*;* **01, H1:** *due in recitation;* **W1:** *due 5/22 by 11:59 PM*<br>**Take Home Quiz #5** *released on website, check email. Sections 01 and H1* ***must*** *print Quiz #5 and turn it in on Wednesday. Quiz 5 due dates:* **01:** *due in lecture on Wednesday, May 22 at 9 AM;* **H1:** *due in recitation on Wednesday, May 22 at 1:10 PM;* **W1:** *due 5/24 by 9 AM*<br><br>**01/H1** *Lab:* "QA Group I" (Lab #8) *due next week on Wednesday 5/29: Sec 01: 9 AM in AC 1303; Sec H1:1:10 PM in AC 2501*<br><br>**W1** *Lab:* "Exam Prep Calculations (online)" (Lab #8) *due Wednesday, May 29 by 11:59 PM* |
| 9 | 5/27 - 5/31 | **EXAM #2** *(Chapter 15-17);* **01:** *take on 6/3, 1:10 PM in AC 2501 (Memorial Day)*; **H1***: take on 5/29, 1:10 PM in AC 2501;* **W1***: due 5/31 by 9 AM*<br><br>*Due:* "Exam Prep II" *;* **01:** *due 5/29 at 9 AM in AC 1303;* **H1**: *due 5/29 at 1:10 PM in AC 2501;* **W1:** *due 5/29 by 11:59 PM*<br><br>**W1** *Lab:* "Special Lab (online)" (Lab #9) *due Wednesday, June 5 by 11:59 PM* |
| 10 | 6/3 - 6/7 | *Due:* Problem set #6 *Chapter 18 & 19;* **01:** *due 6/5 at 9 AM in AC 1303;* **H1:** *due 6/5 at 1:10 PM in AC 2501;* **W1:** *due 6/5 by 11:59 PM*<br>**Take Home Quiz #6** *released on website, check email. Sections 01 and H1* ***must*** *print Quiz #6 and turn it in on Wednesday. Quiz 6 due dates:* **01:** *due in lecture on Wednesday, June 5 at 9 AM in AC 1303;* **H1:** *due in recitation on Wednesday, June 5 at 1:10 PM in AC 2501;* **W1:** *due 6/7 by 9 AM via email*<br><br>*Due:* "Final Exam Prep Worksheet"*;* **01:** *due 6/5 at 9 AM in AC 1303;* **H1:** *due 6/5 at 1:10 PM in AC 2501;* **W1:** *due 6/5 by 11:59 PM*<br><br>**01/H1** *Lab:* "QA Group III" (Lab #8) *due same day during lab,* **01:** 6/3 after Exam II (Memorial Day); **H1**: 6/5 at 1:10 PM<br><br>*All extra credit closes Friday, June 7 at 9 AM* |
| 11 | 6/10 - 6/12 | **Take Home Lab Final** *released by 9 AM Monday, 6/10 for all CH 223 sections. Sections 01 and H1* ***must*** *print the Take Home Lab Final and turn it in on Wednesday.*<br><br>*Section 01: Take* **Lecture Final** *tentatively* on Wednesday, June 12 at 8:45 AM in AC 1303. *Due:* **Take Home Lab Final**<br><br>*Section H1: Take* **Lecture Final** *tentatively* on Wednesday, June 12 at 1:10 PM in AC 2501. *Due:* **Take Home Lab Final**<br><br>*Section W1: Due:* **Lecture Final** *(available Monday June 10)*, and **Take Home Lab Final** *on* Wednesday, June 12 by 11:59 PM |

# Getting Started in Chemistry 223

**Welcome to Chemistry 223!** I am glad to have you enrolled in CH 223! Here are some hints on how to get started in the class:

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- First, **know that I am here to help you succeed in this class**. If you have any questions, please email me (mike.russell@mhcc.edu) or stop by the Discord server (https://discord.gg/fwhD9tf) during office hours. I try to respond to student inquiries within 24 hours.

- There are **three sections of CH 223** this quarter, namely **section 01** (which meets twice a week on campus), **section H1** (which meets only once a week) and **section W1** (which is completely online). Sections 01 and H1 will have similar schedules, but section W1 will exhibit some differences. Your experience in this class will depend on which section you are in, so email the instructor (mike.russell@mhcc.edu) if you have any questions about anything, ok?

- **Purchase the Chemistry 223 Companion from the MHCC Bookstore**. The MHCC Bookstore (http://mhcc.edu/bookstore) will ship you a printed copy of this necessary information; alternatively, you can print the document (on our website), but I do not recommend it due to the size of the Companion. You will need access to printed materials this quarter!

- The **"What's Due This Week" Schedule for CH 223** located on page 2 of your syllabus **lists all the problem set due dates, assignment deadlines, labs performed, exam/quiz dates, and related information for this term**. You can plan your term by referencing this handout.... follow it closely and you will do well in CH 223!

- **Check your email often during Chemistry 223**. I will be sending weekly reminders as to "what is due this week" in CH 223 as well as returning some assignments, etc. If you would prefer that I use a non-saints email address to communicate with you, let me know - this is easy to set up!

- The **Chemistry 223 website** is worth exploring. The Chemistry 223 website has a host of learning opportunities waiting for you. You can download and/or print copies of the syllabus, lecture notes, labs, quiz answers, and more; plus there are opportunities for extra credit available. To get started, send your web browser to:

  **http://mhchem.org/223**

  You should see the CH 223 website on your screen.

- Check out the **Chemistry 223 Chapter Guides** by selecting "**Chapter Guides**" from the upper left hand corner of the CH 223 website. The Chapter Guides offer a detailed approach for studying the course material through a series of online and textbook lessons. **Read Lesson Zero**, the "Intro to the Chapter Guides System," to understand how they work.

- Start thinking about a **Class Presentation Topic**. You will be giving a five-minute presentation this term on a **topic in science that interests you**, and you must reserve your topic choice with me ***BY THE END OF THE SECOND WEEK!*** A written paper also accompanies the presentation on your compound. To reserve your topic, email the instructor, or go here:

  **http://mhchem.org/cp223**

  The "**Class Presentations FAQ**" (available in the syllabus or here: **http://mhchem.org/cp223info**) has more information.

- The **Chemistry 223 Textbook** is **free** and **legal to download** from our website: http://mhchem.org/text/OpenStaxChem.pdf

- Section W1 students: I highly recommend you check out the **CamScanner** app (http://camscanner.com) in order to send your work to me as a PDF file over email. CamScanner is free and easy to use.... but there are other options besides CamScanner, use the method best for you. Section 01 and H1 students must submit their work on paper for full credit.

- Many opportunities for **extra credit** exist in this class…. see the Extra Credit Guide for more information: **http://mhchem.org/xc**

- You can **download** the entire **Microsoft Office** suite of programs (Word, Excel, PowerPoint, etc.) **for free**… see this link for information: **https://mhcc.edu/OfficeInstall/**

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Again, welcome to Chemistry 223! Let me know if I can make your learning experience better in any way, and I look forward to working with you this term! Peace, Dr. Michael Russell (mike.russell@mhcc.edu, 503.491.7348, AC 2568)

# CH 223 CLASS PRESENTATIONS FAQ

*FAQ = Frequently Asked Questions*

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*When:* **Monday May 6 (section 01) or Wednesday May 8 (sections H1 & W1)**

*What:* A chance to share knowledge with your classmates and the MHCC community

*Who:* ***Everyone*** **enrolled in CH 223 (All Sections)**

*What topic should I pick?* For CH 223, the topic will be **a topic in science that interests you**. Find a research-quality scientific topic to investigate and complete a report on the topic. All topics ***must*** be approved by Dr. Russell using the online form at **http://mhchem.org/cp223**

Once your topic has been approved and reserved, begin researching interesting information on the topic using the library, internet, etc. You will be preparing a paper on your topic and presenting your work to the class in a short (five minute) presentation.

If you need to change your class presentation topic after the second week of class for any reason you will be penalized 20 points; hence, it's best to reserve a topic early and start researching promptly. Also, if you still have not reserved a topic by the end of the third week, you will be penalized 20 points for tardiness.

*What should I know when writing the paper?* Prepare a paper that is at least **five full pages** of text on your reserved topic. Diagrams, pictures, and other graphics are wonderful, but you will need five full pages of writing for complete credit.

The paper should include a separate **cover sheet** with the title of your presentation and your name. The paper must be neat, typed, referenced, and interesting to read; spelling and grammar will count. The paper must use a **"reasonable" font and font size** (Times New Roman, Arial, etc. with size 12 or less); in addition, use **1" margins or less** *(I will measure!)* and **no more than "one and a half" spaced type** (less than double spaced.) If unsure, ask the instructor.

The paper should also include a separate page at the end with a **list of references**. References within the paper and at the end should adhere to the "**Class Presentations Citation Guide**" (*found here*: **http://mhchem.org/cg**) For an *example* paper, see: http://mhchem.org/expaper

*What is a peer reviewed scientific article?* An important aspect of this assignment is to ensure scientific relevancy. To this end, **find two peer reviewed scientific articles published within the last ten years** that include a reference to your topic. **Include the abstracts of these papers with your final Class Presentation paper.**

*How do I find my two peer reviewed scientific articles?* A sure-fire way to access **peer-reviewed scientific articles** is through the MHCC library's article databases. Go here (**https://libguides.mhcc.edu/chemistryguide** - you may have to enter your MyMHCC username and password if you are off campus). Select **Articles (**on the left), then select **ScienceDirect College Edition** (under "Chemistry Databases") or **Academic Search Complete** (under "General Databases"), then search for your topic. ***Remember***, your article citation should include the author(s), year of publication, journal title, title of paper, page number(s), volume of journal, etc. and you will need to include the abstract from the peer reviewed article (but not the entire article!) in your report.

Once you conduct a search for your presentation topic, you will likely have a mix of citation/abstract-only and citation/abstract + full-text (whole article) results. You ***only*** need the abstract for your paper - do not include the full article. Here is an **example** of a **peer-reviewed scientific paper with an abstract**: http://mhchem.org/abstr

*Tell me about the Class Presentation Rough Draft Paper* During the fourth week, you will be submitting a rough draft of your class presentation paper to the instructor. Ideally this will be the paper in a mostly complete format, but at the very least, two typed pages of text should be submitted.

The rough draft should include at least one peer reviewed scientific paper abstract (with its citation) as well as the **Rough Draft Class Presentation form** (http://mhchem.org/rd3) The Class Presentation Rough Draft paper is worth 20 points (out of 100 total.)

*What should I know when preparing for the presentation?*

You will be creating a five-minute **presentation** on your chosen subject. Sections 01 and H1 will give their presentation during a lab period to their peers; Section W1 will record themselves and upload the video to YouTube for the instructor to view. The presentation must be well prepared and interesting; sloppy preparation shows in the presentation portion. Students can use videos, presentation software (PowerPoint, etc.), posters and chalk to enhance their presentation. Presentation software users will be limited to a maximum of six slides; more invokes a penalty.

**Section W1:** I encourage students to record themselves on their phone, then upload the video to YouTube, etc. You can send the link (to an **unlisted** video, not private) to me for watching later. I need to see **you** for 90% or more of the presentation for full credit.

Please note that using your paper (or a *copy* of your paper) during the presentation will result in a ten point penalty. This will prevent you from "reading" your presentation to the audience.

*How will I be graded?*

There are 100 points total for this project. 40 points will reflect the work presented in the paper, 40 points will reflect the work done in the presentation and 20 points will be given for completing the Rough Draft Class Presentation paper.

In addition, failure to turn in the "Class Presentation Reviewer Guide" to the instructor at the end of the day of presentations will result in a ten-point penalty. You will be completing the Reviewer Guide while others are giving their presentations. If curious, you can view this guide on our website (http://mhchem.org/cp221info). *This applies to Sections 01 and H1 only.*

Late class presentations will result in a five-point penalty *per day*. The paper and the presentation must be completed for credit on this assignment. Plagiarism discovered from any source will result in a **total** Class Presentation grade of zero.

A sample **Class Presentation Grading Rubric** is available for viewing on the CH 223 website (http://mhchem.org/cgr3). The rubric will allow you to look at the items deemed most important when grading your Class Presentation.

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*How do I get started?*

*Step 1: Reserve your Class Presentation Topic*

Decide on a scientific topic that interest you, then email the instructor or complete the online web form to reserve your topic: **http://mhchem.org/cp223**

You should receive a response from Dr. Russell within 48 hours after the beginning of the second week of class; if you do not, email him directly at mike.russell@mhcc.edu. Be sure to include alternate topics in case your first choice has already been claimed; he can also pick one for you if you are uncertain which topic to pick. Reserve your class presentation topic by the end of the second week, **April 12** at **9 AM**. You can see which topics are still available here: **http://mhchem.org/223av**

*Step 2: Turn in the Class Presentation Rough Draft Paper*

The Class Presentation Rough Draft paper should include at least two typed pages and one peer reviewed scientific article and include the handout (http://mhchem.org/rd3) at the beginning of your paper. Deadline: **Mon., April 22 (01)** or **Wed. April 24 (H1 & W1)**

*Step 3: Give the Class Presentation and turn in your final Class Presentation paper*

Section 01 and H1: Bring your final Class Presentation paper and give your presentation during lab. *Section 01:* **Monday, May 6.** *Section H1:* **Wednesday, May 8.**

Section W1: At the time of your Class Presentation, turn in your final Class Presentation paper and a video recording of your presentation (YouTube link, etc.) **by Wed., May 8, 11:59 PM.**

Before you present and submit your paper, check out the reminders contained within the "**Class Presentation 'Last Minute' Checklist**", found here: http://mhchem.org/cpcs Note that you must both present your work and submit your paper to receive *any* points on this assignment. Also, you cannot "re-use" a Class Presentation topic from CH 221 or CH 222 in CH 223…. these topics must be original for full credit. All presentations over ten minutes in length and all papers with more than 10 pages of writing will suffer a point penalty.

**Name:** _____

# CH 223 CLASS PRESENTATIONS ROUGH DRAFT PAPER

*Staple this form to the **top** of your Rough Draft Class Presentation Paper for full credit*

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**Lab Section:**

**Reserved Topic:**

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*Directions:*

- This assignment is worth 20 points out of the 100 points assigned to the Class Presentation assignment.
- *Include* at least two typed pages of your Class Presentation report with this form (more is fine!)
- *Include* at least one abstract from a peer reviewed scientific article with a proper citation included (more is fine!)
- This page should be stapled to the **top** of the other pages in this assignment to avoid a five-point penalty

*Helpful Resources:*

- The CH 223 Class Presentation Frequently Asked Questions handout: **http://mhchem.org/faq3**
- The CH 223 Citation Guide: **http://mhchem.org/cg**

*Class Presentation Rough Draft Paper Due Dates:*

- **Section 01:** **April 22 at 1:10 PM**
- **Section H1:** **April 24 at 1:10 PM**
- **Section W1:** **April 24 at 11:59 PM**

**Section 01**: *The final Class Presentation paper is due at the time of your presentation on Monday, May 6.*

**Section H1**: *The final Class Presentation paper is due at the time of your presentation on Wednesday, May 8.*

**Section W1:** *The final Class Presentation paper and recorded presentation will be due by 11:59 PM on Wednesday, May 8.*

## Staying Connected in Chemistry 223 This Quarter

Success in Chemistry 223 often depends on staying connected with the flow of the course... here are some suggestions on how to be aware of what is happening each week:

- **Discord** is a wonderful medium for keeping students connected while in this class. Our Discord server will offer weekly assignment updates (with links to labs, problem sets, etc.) as well as links to video lectures, tips and hints from the instructor on how to conquer difficult problems, and more! Joining Discord is easy and free; go here (**https://discord.gg/fwhD9tf**) and join the CH 223 server to get started.

- I'd be honored if you would subscribe to me on **YouTube**! (**http://youtube.com/marsmars2**) I create videos for more than just chemistry classes... :)

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## Additional Syllabus Materials for Chemistry 223 Available on the Internet

Some or all of these materials might prove useful to you in our class. All of them are available on the Chemistry 223 website under "Class Information".

**To access these materials** (and more!), go to our website (**http://mhchem.org/223)** and select "**Class Information**" from the upper left corner. Additional materials include:

- The "**How to Join the Chemistry at MHCC Podcast**" guide, which includes step-by-step instructions for joining the class lecture Podcast for this quarter. It also gives information on accessing closed-captions, when available.

- The **Extra-Credit Guide** - a helpful guide containing some of the extra credit options available to you in this course

- **Learning Outcomes for CH 223** - a list of "what you will learn" this quarter

- **MHCC College Information** - key information that you, as a student at Mt. Hood Community College, might wish to know, including the **Student Code of Conduct** and **Internet Privacy Policy**

- A **Printable Periodic Table** – this periodic table from ScienceNotes.org will certainly be useful in this course, and you will be able to use this type of periodic table on exams and quizzes.

In addition, the website has a plethora of other "goodies" which may be of assistance to you throughout this quarter... feel free to browse, and if you have questions, please do not hesitate to contact me.

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Have a great quarter! Peace,

Michael A. Russell, Ph.D. (he/him/his)
mike.russell@mhcc.edu
(503) 491-7348, AC 2568 (office on campus)
mhchem.org/223