
Chemistry 222 General Chemistry (5 credits) Spring 2020
Lecture CRNs: 40601, 41833 Lab CRNs: 43654, 43655, 43656

Remote Lecture/Lab Instructor: Dr. Beth Manhat **Email:** manhatb@linnbenton.edu

Office Hours: I will have weekly scheduled Zoom office hours. Links on Moodle page.

1) Monday/Friday 10am-12pm: Open Office hour

Many students can join. This is an open time to talk theory, problems, homework, material in general, etc.

2) Tuesday/Thursday 12pm – 2pm & 8pm-9pm: Group Problem Solving

Many students can join and watch problems worked out live. Please bring questions from Lecture Notes, Chapter Study Guides, Labs, or Exam Reviews during this time since everyone has access to these materials.

3) By appointment for one-on-one email or Zoom sessions ([email me to set a day/time](#)).

[Check your Linn-Benton email daily](#). Class communication will happen weekly to keep us all on pace for the term. Everything will be post everything else on Moodle, such as videos, lecture notes, completed lectures, class documents, homework, labs, and updates to the calendar for exams/quizzes dates and times.

I will check email often. Please use appropriate subjects for convenience since we will email often!

Lecture Structure: [Lecture will be asynchronous](#) – I will **NOT** be live at previously scheduled class times. I will post multiple videos of my lectures while I go through the PowerPoints in each chapter. I expect that you will watch these videos and take notes as you would in a face-to-face class. You don't need to download PowerPoint to watch these. Use the other resources I share to prepare yourself as needed.

Workload Expectation: For face-to-face classes, chemistry students are expected to work about 3 hrs per week/credit. Examples of work: reading the text, reviewing lecture materials, practicing problems, performing homework assignments, and completing lab work. [Your time commitment will likely be more like 4-5 hrs per week/credit using strictly online resources.](#)

Required Instructional Materials:

1. *Chemistry: The Molecular Nature of Matter and Change*, 8th Ed., Silberberg (Redshelf). Your textbook is a **Digital Direct Access** text & was included in your tuition unless you opted-out.

2. Knewton Alta Online Homework: Your account from last term will work. (Cost: \$44.95 if you did NOT take previous chemistry at LBCC).

3. Any Scientific Calculator: You need a calculator for practice problems and to complete quizzes or exams. You can use Google calculator, but I don't recommend it.

4. [Download & familiarize yourself with Zoom App \(phone or computer\) and Adobe Scan.](#)

5. You don't need to buy a lab manual.

Optional Materials: Carbonless Notebook for lab material from last term or other notebook. Consider downloading a student version of PowerPoint. It is available free through [LBCC](#).

Course Description: This is the 2nd in a 3-course sequence, and covers atomic structure and periodic law, chemical bonding, intermolecular forces, organic chemistry, and solutions.

Prerequisites: CH 221 General Chemistry with a grade of “C” or better and MTH 111 College Algebra with a grade of “C” or better. Corequisite: CH 222L General Chemistry Lab.

Science Help Desk: Tutors will be available remotely. The schedule will be finalized soon.

Assessment Criteria and Methods of Evaluation: Tentative Grade Distribution

Activity **Percentage**

Homework		15
Lab	(9)	20
Quizzes	(5)	15
Exams	(4)	50

Grading Scale: You are NOT graded on a curve

A = 90% – 100% B = 80% – 89%

C = 70% – 79% D = 60% – 69%

F = below 59%

An incomplete (IN) may be assigned with instructor discretion and if a student is passing.

Homework Online (15%): To succeed in chemistry, you should study and practice on most days.

- Knewton Online homework is assigned for each chapter and is available on Moodle. All single chapter homework is due at 11:59 pm on due dates.
- Late Homework is accepted with a 15% deduction and can be submitted up to 2 weeks late. The last day to submit Knewton homework is the night before the final exam.
- Each homework assignment is worth 100 points. All homework assignments in a chapter will be averaged to determine your homework score for a specific chapter.

Quizzes (15%): Quizzes are designed to help students keep up with material and master important topics prior to the exams. 5 quizzes will be hosted on Moodle and will be open for 24 hrs. You will need to dedicate about 40 mins to complete each quiz within that time.

Exams (50% total): Four-chapter exams will be hosted on Moodle and will be open for 24 hrs. You will need to dedicate about 2.5 hrs to complete exams within that time.

- All exams will cover sectioned material, each having multiple choice & short answer questions.
- Exam reviews with answers will be provided on Moodle.

Make-Up Quizzes and Exams:

If you miss a scheduled quiz or exam, you get **one no-questions-asked rescheduled** quiz or exam. It is your responsibility to coordinate it with me. Subsequent missed quizzes or exams will result in a 0.

****Note about Moodle hosted quizzes/exams**** Quizzes and exams will be open notes and book. Each will contain an academic integrity policy in accordance with LBCC. You will need to acknowledge this for each assessment.

You will need to provide explanations/answers to show your understanding of the material and to earn partial credit. You can either type answers and work into the space provided or write work on scratch paper and submit it, just as you would for an in-class quiz/exam. You can submit a photo (.jpeg) of your work OR as .pdf (See pdf directions below).

Class Participation: It is important to maintain a safe learning environment by showing unconditional respect for others. Engage with the videos, other resources, including your Knewton HW, textbook, lab materials, & each other. There is a forum per chapter for questions that you can answer things for each other, or I will supply answers to questions, as needed. Be courtesy to your classmates online as you would face-to-face.

Labs (20% total)

- Each week's lab experiment will be posted as pdf on Moodle.
- Other resources for each week's lab include videos. A pre-lab talk video is posted for each experiment. **You are required to watch the prelab videos, as I provide lab help and experimental changes from the written procedure.**
- Other videos may include the actual experimental procedure (by me or other lab instructors) or online links to help your understanding. Some labs may have mock-up data for you to use.
- Lab reports will be like those you prepared for CH221. Options include 1.) typing your report (.doc) or writing it in your lab notebook and submitting photos (.jpeg) or a pdf
- Each lab has an assignment box on Moodle to submit your lab report. Ensure your photos or pdf pages are in correct order if you choose those options.
- Labs are due 1-week after materials are available. Late labs will be accepted with a 5% deduction per day (up to 2 weeks late). Not turning in a lab is a missed lab and receives a zero for that lab.

Google Scan (android only) or Adobe Scan (android or iphone) – for quiz/exam short answer questions or lab reports

To use Google Scan: On your android phone or portable device, Open Google Drive App, click the + to Add an item, and Tap Scan (it may have a camera icon). Use your camera to take pictures, and the app will convert it to a pdf.

To use Adobe Scan: On your device, download the app. Open it and create an account. Use your camera to take pictures, and the app will convert it to a pdf.

You can submit these files as attachments to your short answer questions or lab reports.

Academic Integrity:

"An instructor has the right to issue a grade of F for the course in which the instructor has reason to believe the student has cheated. A student has the right to appeal such action in accordance with the Students' Rights, Responsibilities and Conduct Policy." The preceding statement is Administrative Rule No. 7030-01.

Student Learning Outcomes:

1. Solve scientific problems with quantitative methods regarding electromagnetic radiation, chemical bonding, phase changes, and colligative properties.
2. Apply chemical principles related to quantum mechanics, atomic and molecular orbital theory, periodic trends, intermolecular attractions of pure substances and solutions, covalent bond theory, and organic chemistry.
3. Work safely in a laboratory environment while observing and accurately recording measurements related to chemical phenomena.

LBCC Comprehensive Statement of Nondiscrimination:

LBCC prohibits unlawful discrimination based on race, color, religion, ethnicity, use of native language, national origin, sex, sexual orientation, gender, gender identity, marital status, disability, veteran status, age, or any other status protected under applicable federal, state, or local laws.

For further information see [Board Policy BP-1015](#). Title II, IX, & Section 504: Scott Rolen, CC-108, 541-917-4425; Lynne Cox, T-107B, 541-917-4806, LBCC, Albany, Oregon.

To report: linnbenton-advocate.symplcity.com/public_report

Drop/Withdraw Policy:

- To withdraw from class, you must file a Schedule Change Form with Registration or WebRunner. To receive a tuition refund, drop the class by the 2nd Monday of the term and not appear on your transcript. To withdraw from the class, drop the class by the end of the 7th week; in which case, it will record as a "W" on your transcript.

- If you stop interaction in the course and DO NOT formally withdraw, you will accumulate zeroes for assignments not turned in and receive the grade in accordance with work completed.

- If you received financial aid or veteran's benefits, contact the appropriate office to determine what effects occur from dropping a course. Contact the Financial Aid Office by calling (541) 917-4850.

Center for Accessibility Resources:

You should contact your instructor during the first week of class if:

1. You have a documented disability and need accommodations.
2. Your instructor needs to know medical information about you.
3. You need special arrangements in the event of an emergency.

If you have documented your disability, remember that you must make your request for accommodations through the Center for Accessibility Resources Online Services web page every term in order to receive accommodations. If you believe you may need accommodations but are not yet registered with CFAR, please visit the CFAR website www.linnbenton.edu/cfar for steps on how to apply for services, or call 541-917- 4789.

Course Content and Outcome Guide:

<http://linnbenton.smartcatalogiq.com/current/Catalog/Courses/CH-Chemistry/200/CH-222>

LBCC Grading Guidelines

<https://linnbenton.smartcatalogiq.com/en/current/Catalog/Academic-Information-and-Regulations>

Student Code of Conduct/ Rights and Responsibilities

<https://www.linnbenton.edu/current-students/administration-information/policies/students-rights-responsibilities-and-conduct.php>

CH222 Spring 2020 Tentative Online Schedule

Week	Lecture Material Quiz/Exam – Due Thur-Fri	Lab Material Lab reports – Due Mon	Knewton HW Due Wedn
1 04/06 - 04/12	Chapter 7 – Quantum Numbers Review 7.1-7.2, 7.3, 7.4 Chapter 8 – Electron Configuration and Periodic Properties 8.1, 8.2	Review for CH221 material Due Mon 04/13	
2 04/13 - 04/19	Chapter 8 cont. 8.4, 8.5 Chapter 9 – Bonding 9.1, 9.3, 9.4 Quiz 1 Thurs, 04/16 8am – Fri, 04/17 8am	Exp 1. Emission Spectra and Quantum Numbers Due Mon 04/20	CH 7 Knewton Due Wed 04/15
3 04/20 - 04/26	Chapter 9 – cont. 9.5, 9.2 Chapter 10 – Lewis Structures 10.1 Exam 1 (CH 7, 8, 9) Thurs, 04/23 8am – Fri, 04/24 8am	Exp. 2 Periodic Trends Due Mon 04/27	CH 8 Knewton Due Wed 04/22
4 04/27- 05/03	Chapter 10 cont. 10.2, 10.3 Chapter 11 – Covalent Theory 11.1, 11.2 Quiz 2 Thurs, 04/30 8am – Fri, 05/01 8am	Exp. 3 Lewis Structures Due Mon 05/04	CH 9 Knewton Due Wed 04/29
5 05/04 - 05/10	Chapter 11 – cont. 11.3 Chapter 15 – Organic Chem 15.1, 15.2 Quiz 3 Thurs, 05/07 8am – Fri, 05/08 8am	Exp 4 Molecular Modeling Due Mon 05/11	CH 10 Knewton Due Wed 05/06
6 05/11- 05/17	Chapter 15 cont. 15.4 Exam 2 (CH 10, 11, 15) Thurs, 05/14 8am – Fri, 05/15 8am	Exp 5. Organic Structures Due Mon 05/18	CH 11 Knewton Due Wed 05/13
7 05/18- 05/24	Chapter 12 – Liquids 12.3, 12.4 Quiz 4 Thurs, 05/21 8am – Fri, 05/22 8am	Exp. 6 Chromatography Due Mon 05/25	CH 15 Knewton Due Wed 05/20
8 05/25- 05/31	Chapter 12 cont. 12.1, 12.2 Exam 3 (CH 15, 12) Thurs, 05/28 8am – Fri, 05/29 8am	Exp. 7, Enthalpy Vaporization Due Mon 06/01	
9 06/01- 06/07	Chapter 13 – Solutions 13.1, 13.3-.6 Quiz 5 Thurs, 06/04 8am – Fri, 06/05 8am	Exp. 8 Freezing Point Depression Due Mon 06/08	CH 12 Knewton Due Wed 06/03
10 06/08- 06/14	Chapter 13 cont. practice Final (CH 15, 12, 13) Thurs, 06/11 8am – Fri, 06/12 8am		CH 13 Knewton Due Wed 06/10 Knewton Cutoff Wed 06/10

Drop Date: 04/13/20

Withdraw Date: 05/17/20

Flexibility Statement: The instructor reserves the right to modify course content and/or substitute assignments and learning activities in response to institutional, weather or class situations.