Course Syllabus

*This is a tentative syllabus. With the changes being made because of COVID-19, there may be significant changes throughout the semester.

Syllabus for Chem 1B: General Chemistry Reedley College

Section: 55095/55096

Term: Spring 2021

Course Information

Lecture: Online (asynchronous)

Required Books and Materials:

- Chemistry: A Molecular Approach, Nivaldo J. Tro
 - 3rd to 5th editions are acceptable. Newer editions will match the lectures most closely. Homework has been selected for each edition (posted on Canvas).
- The lab manual will be provided as a free download from Canvas. Experiments and worksheets must be printed out and brought to class.
- Composition Notebook for Lab.
- Lab coat and goggles for face-to-face labs.
- Scientific calculator (I recommend the TI-36X Pro)

Faculty Information

Instructor: Kirk Kawagoe

Office and phone: Zoom! I may not be in my office this semester.

Cell phone: (559) 393-2121 (**text only**, this is the best method of contacting me). I will usually

get back to within the hour (or faster).

email: Use the canvas e-mail system. I will get back to you within 24-hours. Do not

use my RC email.

Office hours: M, T 1:00 - 2:30 PM; W, Th 11AM-12:30 PM; F11AM-1PM

Help Session Links and Full Schedule

Statement on Academic Dishonesty:

Academic Dishonesty

Accommodations

It is our policy not to discriminate against any student. If you suspect that you have any type of physical disability or learning disability that is relevant to your performance in the course, please stop by the disabled student services office and discuss it with them as they may be able to provide services and support that could help you succeed.

If you have a verified need for an academic accommodation or materials in alternate media (i.e., Braille, large print, electronic text, etc.) per the Americans with Disabilities Act (ADA) or Section 504 of the Rehabilitation Act, please contact me as soon as possible.

Attendance

This is an online class. Class attendance will be monitored via assignments turned in.

- Students who have not contacted me or have not turned in the first assignment by 1/16 (Saturday),
 will likely be dropped.
- Students who do take the first quiz or do not turn in 70% of assignments as of 2/6 (Saturday) may also be dropped. Exceptions can be made if students have contacted me and worked out a plan to successfully catch up before 3/14.
- I require one zoom check in per week during office hours or other arranged zoom meeting.

Important dates

- 1/18/21 Martin Luther King Day
- 1/31/21 Last day to drop without a W on your transcript (via WebAdvisor)
- 3/12/21 Last day to drop without a W
- 3/29-4/1/21 Spring Break!
- Final Exam
 - 55095 Thursday, May 10, 2 PM-3:50 PM: Face-to-Face Final exam (Covid conditions permitting)
 - 55096 Wednesday, May 9, 2 PM-3:50 PM: Face-to-Face Final exam (Covid conditions permitting)

Exams

Five multiple choice exams will be given in this class. In chemistry, topics build on one another; therefore, all exams are comprehensive. Make up exams will generally not be given. Certain constants, conversion factors and equations will be provided on exams. Examples of information given can be found on Canvas. You are allowed to use your text book during the exam, but the exams will be difficult to complete if you have to look up additional information during the exam.

Course Student Learning Outcomes and Objectives

Extra Credit

Extra credit assignments will not be given.

Grading

A summary of your grades, including a projected course grade, is available on Canvas. To receive a passing grade, you must have at **least a 70% lab average and a 65% exam average** regardless of your success in the rest of the course.

The grading scale will be based on a straight percentage:

- A = 90% 100%
- B = 80% 89%
- C = 70% 79%
- D = 60% 69%
- F = 0% 59%

The final grade will be calculated using weighted categories:

- 10% Homework
- 25% Lab reports/worksheets. You must receive at a 70% average in lab to pass the course.
- 45% Chapter Quizzes. Your Quiz average must be at least 65% to pass the class with a grade of C or better.
- 20% Final Exam

Homework

Here's a general outline of how you should work out homework problems involving calcuations:

- 1. Find what you are looking for and the givens.
- 2. Determine how the values are related. (i.e. conversion factors or equations)
- 3. Write what you are looking for on the left of the equal sign
 - If there are conversions, show each conversion factor with its units. Cancel units.
 - If its an equation, solve the equation for the variable you are looking for.
- 4. Carry out conversions or plug values into equations making sure that units match.

Example:

Calculate the volume, mL, of 35.3 g of mercury at 25°C. (d = 13.593 g/cm³)

Looking for mL Hg.

Given: 35.3 g and $d = 13.593 \text{ g/cm}^3$

Plan:

$$g \xrightarrow{d=13.593 g/cm^2} cm^3 \xrightarrow{lcm^2=lmL} mL$$

Work shown:

$$volume(mL) = \frac{35.3 \text{ g}}{13.593 \text{ g}} \times \frac{1 \text{ cm}^3}{13.593 \text{ g}} \times \frac{1 \text{ mL}}{1 \text{ cm}^3} = 2.5969 \text{ mL} = 2.60 \text{ mL}$$

Homework is due following the completion of the chapter and graded according to the following scale:

- 60% Showing work for questions requiring work.
- 20% Providing accurate answers.
- 20% Organization and significant figures.

Lab

Lab work will follow as closely as possible the material discussed in the lectures. There is no published lab manual for this course. All the lab assignments and experiments are available on Canvas.

For Face-to-Face labs there are **two different prelab assignments**. Both need to be completed **before coming to** *class* to do an experiment.

- If there is a prelab video, you need to watch it and complete a quiz before coming to class.
- Prelab Worksheets These are found in the lab instructions you download from Canvas. Most of
 the questions can be answered by reading the experiment or the introduction to the experiment.
- Notebook You need to write out the following in your notebook before you come to class. Use a
 pen!
 - Purpose
 - Materials
 - Hazards
 - Procedure (For Chem 1A, you are allowed to bring a copy of the procedure at the beginning of the semester, but you must work from the procedure in your notebook. If important information is missing, you can refer to and supplement your prelab notes).
 - You should also leave space in your notebook for recording data. We will discuss this more in class.

If the notebook work is not done before class, you will not be allowed to do your experiment for the day. You will receive a zero for that day.

For online/video experiments:

- Download the experiment file
- · Complete the prelab assignment as if it were face-to-face

- · View the video
 - Record the data into your notebook
- Complete and postlab calculations and assignments.
- Submit the file back to the assignment link by the due date.

Late Work

Points are deducted for each day the assignment is late up to 50% (5% per day). Assignments can be turned in at any time during the semester but will have a grade of zero until they are graded. Late assignments run the risk of not being graded if too many are turned in at the end of the semester.

Success in Chemistry

- Do not underestimate the time required for this class.
- Do not fall behind. Chemistry is cumulative and builds upon earlier concepts.
- Try and read ahead of the class schedule. Work through the examples in the text. Take notes while watching lecture videos.
- · Check in EVERY DAY.
- Study for understanding. Critical thinking is a requirement for success in Chem 3A.
- · Always show your work, including all units and considering significant figures.
- Complete and turn in all assignments. Work extra problems.
- Consider forming a study group.
- Ask for help. Text or email me with questions any time (literally). I will reply at my earliest convenience.

Tentative schedule

	Lecture Check Canvas for specific exam dates and times	Important Assignments (For due dates, check canvas calendar) (homework is listed separately)
Week 1 1/10/21	Syllabus Lecture: §15.1-4 (Chapter 15 Part 1) • Week 1	 OL Laboratory Safety Lecture <u>Lab Safety</u> OL Chem 1B Math Review Worksheet <u>Math Review Worksheet</u> OL Safety Quiz 1A Materials to Rememorize Practice 1A Memorization Quiz (Does not count toward grade) Introductions Week 1 Discussion
		OL Exp 0a – Laboratory Techniques Review (Exp 0a -

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Week 2 1/17/21	Lecture: §15.5-15.7 (Chapter 15 Part 2) • Week 2	 Laboratory Notebook) OL Memorization Quiz (1A Memorization Quiz) Practice Uploading Documents Quiz Lab Days Survey (Section 55095) Lab Days Survey (Section 55096) Week 2 Discussion
Week 3 1/24/20	Lecture: §16.1-16.3 (Chapter 16 Chemical Equilibrium Part 1) • Week 3	 OL Exp 15A lodine Kinetics (<u>Exp 15a - Iodine Kinetics</u>)) OL Worksheet: Chapter 15 Review (<u>Worksheet 15 Chemical Kinetics Review</u>)
Week 4 1/31/21	Lecture: §16.6-9 (Chapter 16 Chemical Equilibrium Part 2) • Week 4 • Chapter 15 Quiz	OL Ex 16a - Chemical Equilibria
Week 5 2/7/21	Lecture: §17.1-7 (Chapter 17 Part 1 - Acids and Bases) • Week 5	 FF Exp 1b – Introduction to Measurements OL Exp 16b - Online OL Worksheet 16 - Chemical Equilibrium
Week 6 2/14/21	Lecture: 17.8-11 (Chapter 17 Part 2 - Acids and Bases) • Week 6 • Chapter 16 Quiz	FF Exp 18b - Molar Solubility of Calcium lodate
Week 7 2/21/21	Lecture: §18.1-18.4 (<u>Chapter 18</u> Part 1 - Aqueous Equilibria) • Week 7	Lab to be announced
Week 8 2/28/21	Lecture: §18.5-18.8 (Chapter 18 Part 2 - Solubility and Complex Ions) • Chapter 17 Quiz • Week 8	 FF Exp 18a (Gen Chem)- Unknown Weak Acid OL Worksheet 17 - Acids and Bases
		FF Continue Exp 18a

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Week 9 3/7/2`	Lecture: §19.1-19.10 (Chapter 19 Thermodynamics)	Last day to Drop (Friday)
Week 10 3/14/21	Week 9Chapter 18 QuizWeek 10	OL Worksheet: Chapter 18 Review
Week 11 3/21/21	Lecture: §20.1-20.9 (Chapter 20 Electrochemistry) • Week 11	OL <u>Exp 18a (Gen Chem)- Solubility & Thermodynamics</u>
3/29-4/3	Spring Break!!	
Week 12 4/4/21	Chapter 19 QuizWeek 12	• FF Lab: 21 Electroplate LQ.pdf
Week 13 4/11/21	Lecture: §21.1-21.8 (<u>Chapter 21</u> <u>Nuclear Chemistry</u>)	 FF Exp 17b (Gen Chem)- Qualitative Analysis (practice day) OL Worksheet: Chapter 19 Review
Week 14 4/18/21	Chapter 20 QuizWeek 14	 FF Exp 17b (Gen Chem)- Qualitative Analysis (Lab Practical) OL Worksheet: Chapter 20 Review
Week 15 4/25/21	Lecture: §24.1-24.2, 26.3-5 (Chapter 26 Transition Metals) Week 15	
Week 16 5/2/21	Chapter 21 QuizWeek 16	 Lab Cleaning Day. Exp 17b makeup day. (Tuesday Only)
Week 17	Review for Final (1A & 1B)	Final Exam Review Materials

5/9/21	Chapter 24/26 Quiz/Group Assignment	
	Week 17	
Week 18 5/16/21	Finals Week Week 18	Face-to-Face: Comprehensive 1A - 1B final. Do not meet for lab.

^{*}Exp 1b will be done when we know we can have face-to-face labs.

Course Summary:

Date	Details	
Wed Sep 23, 2020	Exp 20b Electrochemistry Online Version (https://scccd.instructure.com/courses/61965/assignments/1482044)	due by 11:59pm
Wed Jan 13, 2021	☐ Introductions (https://scccd.instructure.com/courses/61965/assignments/1482005)	due by 11:59pm
Fri Jan 15, 2021	Lab Safety Contract (https://scccd.instructure.com/courses/61965/assignments/1482046)	due by 11:59pm
1 11 Jan 13, 2021	Lab Safety Quiz (https://scccd.instructure.com/courses/61965/assignments/1482003)	due by 11:59pm
Sat Jan 16, 2021	Week 1 Discussion (https://scccd.instructure.com/courses/61965/assignments/1553792)	due by 11:59pm
	1A Memorization Quiz (https://scccd.instructure.com/courses/61965/assignments/1482006)	due by 11:59pm
	Lab Days Survey (Section 55095) (https://scccd.instructure.com/courses/61965/assignments/1482002)	due by 11:59pm
Wed Jan 20, 2021	Practice Uploading Documents Quiz (https://scccd.instructure.com/courses/61965/assignments/1482048)	due by 11:59pm
	Lab Days Survey (Section 55096) (https://scccd.instructure.com/courses/61965/assignments/1552284)	due by 11:59pm

Date	Details	
Thu Jan 21, 2021	Week 2 Discussion (https://scccd.instructure.com/courses/61965/assignments/1553794)	due by 11:59pm
	Chapter 15 Homework Part 1 (https://scccd.instructure.com/courses/61965/assignments/1482007)	due by 11:59pm
Fri Jan 22, 2021	Math Review Worksheet (https://scccd.instructure.com/courses/61965/assignments/1482047)	due by 11:59pm
	Exp 0a - Laboratory Notebook (https://scccd.instructure.com/courses/61965/assignments/1482037)	due by 11:59pm
	Chapter 15 Homework Part 2 (https://scccd.instructure.com/courses/61965/assignments/1482008)	due by 11:59pm
Fri Jan 29, 2021	Worksheet 15 Chemical Kinetics Review (https://scccd.instructure.com/courses/61965/assignments/1482052)	due by 11:59pm
Tue Feb 2, 2021	Exp 15a - Iodine Kinetics (https://scccd.instructure.com/courses/61965/assignments/1482038)	due by 11:59pm
Fri Feb 5, 2021	Chapter 15 Quiz (https://scccd.instructure.com/courses/61965/assignments/1482009)	due by 11:59pm
T 111 GD 3, 2021	Chapter 16 Homework Part 1 (https://scccd.instructure.com/courses/61965/assignments/1482011)	due by 11:59pm
Sat Feb 6, 2021	Chapter 15 Quiz Written (https://scccd.instructure.com/courses/61965/assignments/1482010)	due by 1am
Tue Feb 9, 2021	Ex 16a - Chemical Equilibria (https://scccd.instructure.com/courses/61965/assignments/1482036)	due by 11:59pm
Wed Feb 10, 2021	Grubbs' test for outliers on class data: (https://scccd.instructure.com/courses/61965/assignments/1482004)	due by 11:59pm
Fri Feb 12, 2021	Chapter 16 Homework Part 2 (https://scccd.instructure.com/courses/61965/assignments/1482012)	due by 11:59pm

Date	Details	
	Worksheet 16 - Chemical Equilibrium (https://scccd.instructure.com/courses/61965/assignments/1482053)	due by 11:59pm
Sun Feb 14, 2021	Data for Experiment 1B (https://scccd.instructure.com/courses/61965/assignments/1523435)	due by 11:59pm
Tuo Fob 16, 2021	Exp 16b - Online (https://scccd.instructure.com/courses/61965/assignments/1482039)	due by 11:59pm
Tue Feb 16, 2021	Exp 1b (face-to-face) (https://scccd.instructure.com/courses/61965/assignments/1482043)	due by 11:59pm
Fri Fab 40, 2024	Chapter 16 Quiz (https://scccd.instructure.com/courses/61965/assignments/1482013)	due by 11:59pm
Fri Feb 19, 2021	Chapter 17 Homework Part 1 (https://scccd.instructure.com/courses/61965/assignments/1482015)	due by 11:59pm
Sat Feb 20, 2021	Chapter 16 Scratch Paper (https://scccd.instructure.com/courses/61965/assignments/1482014)	due by 1am
Tue Feb 23, 2021	Exp 18b - Molar Solubility of Calcium Iodate (https://scccd.instructure.com/courses/61965/assignments/1482040)	due by 11:59pm
Fri Feb 26, 2021	Chapter 17 Homework Part 2 (https://scccd.instructure.com/courses/61965/assignments/1482016)	due by 11:59pm
FII Feb 26, 2021	Worksheet 17 - Acids and Bases (https://scccd.instructure.com/courses/61965/assignments/1482054)	due by 11:59pm
Fri Mor F 2024	Chapter 17 Quiz (https://scccd.instructure.com/courses/61965/assignments/1482017)	due by 11:59pm
Fri Mar 5, 2021	Chapter 18 Homework Part 1 (https://scccd.instructure.com/courses/61965/assignments/1482019)	due by 11:59pm
Sat Mar 6, 2021	Chapter 17 Scratch Paper (https://scccd.instructure.com/courses/61965/assignments/1482018)	due by 1am

Date	Details	
Fri Mar 12, 2021	Chapter 18 Homework Part 2 (https://scccd.instructure.com/courses/61965/assignments/1482020)	due by 11:59pm
111 Wai 12, 2021	Wks 18 - Aqueous Ionic Equilibria (https://scccd.instructure.com/courses/61965/assignments/1482049)	due by 11:59pm
Tue Mar 16, 2021	Exp 18a Unknown Weak Acid (face-to-face) (https://scccd.instructure.com/courses/61965/assignments/1482041)	due by 11:59pm
Fri Mar 19, 2021	Chapter 18 Quiz (https://scccd.instructure.com/courses/61965/assignments/1482021)	due by 11:59pm
Sat Mar 20, 2021	Chapter 18 Scratch Paper (https://scccd.instructure.com/courses/61965/assignments/1482022)	due by 1am
Fri Mar 26, 2021	Chapter 19 Homework (https://scccd.instructure.com/courses/61965/assignments/1482023)	due by 11:59pm
FII Wai 20, 2021	Wks 19 - Thermodynamics (https://scccd.instructure.com/courses/61965/assignments/1482050)	due by 11:59pm
Tue Apr 6, 2021	Exp 19a Solubility & Thermodynamics Online Version (https://scccd.instructure.com/courses/61965/assignments/1482042)	due by 11:59pm
Fri Apr 9, 2021	Chapter 19 Quiz (https://scccd.instructure.com/courses/61965/assignments/1482024)	due by 11:59pm
Sat Apr 10, 2021	Chapter 19 Scratch Paper (https://scccd.instructure.com/courses/61965/assignments/1482025)	due by 1am
Fri Apr 16, 2021	Wks 20 - Electrochemistry (https://scccd.instructure.com/courses/61965/assignments/1482051)	due by 11:59pm
111 Αρι 10, 2021	Chapter 20 Homework (https://scccd.instructure.com/courses/61965/assignments/1482026)	due by 11:59pm
Fri Apr 23, 2021	Chapter 20 Quiz (https://scccd.instructure.com/courses/61965/assignments/1482027)	due by 11:59pm

Date	Details	
Sat Apr 24, 2021	Chapter 20 Scratch Paper (https://scccd.instructure.com/courses/61965/assignments/1482028)	due by 1am
Tue Apr 27, 2021	Experiment: Electroplating (https://scccd.instructure.com/courses/61965/assignments/1482045)	due by 11:59pm
Fri Moy 7, 2021	Chapter 21 Homework (https://scccd.instructure.com/courses/61965/assignments/1482029)	due by 11:59pm
Fri May 7, 2021	Chapter 21 Quiz (https://scccd.instructure.com/courses/61965/assignments/1482030)	due by 11:59pm
Sat May 8, 2021	Chapter 21 Scratch Paper (https://scccd.instructure.com/courses/61965/assignments/1482031)	due by 1am
Fri May 14, 2021	Chapter 26 Homework (https://scccd.instructure.com/courses/61965/assignments/1482032)	due by 11:59pm
Thu May 20, 2021	Curved Final Score. (https://scccd.instructure.com/courses/61965/assignments/1482035)	due by 3pm
Thu May 20, 2021	Chapter 26 Quiz (https://scccd.instructure.com/courses/61965/assignments/1482033)	due by 11:59pm