Syllabus for Chemistry 4B: Spring 2024

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Web Sites:

- https://canvas.ucdavis.edu/courses/894432
- Textbook (Free) at https://chem.libretexts.org/Courses/University_of_California_Davis/Chem_4B%3A_General_Chemistry_for_Majors_II_(Larsen)
- Homework (Free): https://ADAPT.libretexts.org

General chemistry course with a more rigorous treatment of material covered in CHE 002B, intended for students majoring in the physical sciences and engineering.

Course Credit Limitation: Only three units of credit for students who have completed CHE 002A; not open for credit for students who have completed CHE 002B or 002BH.

Prerequisites: MAT 021B (can be concurrent); (CHE 004A C- or better or CHE 002AH C- or better); or Consent of Instructor.

Lectures: MWF 12:10 -1:00 (Olson Hall 267)
Class is face to face.

Office Hours:
Delmar Larsen: Mondays, 1:00 - 2:00 PM or by appointment (Chem 214)
Sara Ismet: Wednesdays, 1:00 -2:00 PM (Chem 341)

Homework:
There will be three weekly homework assignments that are due on the Monday, Wednesday, and Friday of each week. These are the access codes for ADAPT (sign up)

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Grade Breakdown:

Midterm I:	15%
Midterm II:	15%
Lab:	10%
Homework (Weekly)	15%
Homework (Daily)	5%
Final Exam:	30%
Group Worksheets in discussion	10% (must participate for credit)

Final Grades:

I grade primarily on a curve where the average is set to a B and approximately each 1/3 of a standard deviation is one notch up or down (e.g., B+ to A-). This is best quantified via a student's z-score (for more detail see https://stats.libretexts.org/Bookshelves/Applied_Statistics/Book%3A_An_Introduction_to_Psychological_Statistics_(Foster_et_al.)/04%3A_z-scores_and_the_Standard_Normal_Distribution/4.02%3A_Z-scores)

For example,

- A student with an average performance (z-score of 0) will get a grade of B.
- A student with a z-score of 1 will have grade of A
- A student with a z-score of 0.333 will have a grade of B+
- A student with a z-score of -0.333 will have a grade of B-
- A student with a z-score of -1 will have a grade of C

I then provide extra credit that adds onto the above breakdown.

The schedules for each section are below:

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- 9:00 AM - 12:00 Tuesday Discussion Laboratory - Chemistry Annex 1475
- 3:10 PM - 4:00 Thursday Discussion Laboratory - Wellman Hall 235

Examinations: There will be no make-up exams and no early or late finals will be given (pending reasonable requests).

- **Exam 1 (Friday): 4/26/2024 (Lectures 1 - 11)**
- **Exam 2 (Friday): 5/17/2024 (Lectures 12 - 18)**
- **Final Exam (Thursday): 6/13/2024 8:00 AM (Lectures 1-26)**

Learning Objectives

Available on the LibreTexts.

Laboratory:

The distribution of points is listed in detail in the 4B Lab Manual. Students must read the laboratory experiment, complete the pre-laboratory assignment, and prepare for the quiz before coming to class. All experimental data and observations will be taken directly into the laboratory notebook. These entries must be initialized by your TA each day before leaving the laboratory. All laboratory work must be turned in during the next normally scheduled laboratory meeting or at the time indicated by the teaching assistant. **Failure to complete even one lab will result in an incomplete or failing grade for the class.**

Chemistry 4B: D.S. Larsen

See separate Lab Syllabus for Detailed Lab Schedule!

WEEK	DATES	EXPERIMENT
1-2	4/4- 4/11	Check-In & Safety; Exp 1 Thermochemistry (TC)
3-4	4/18 - 4/25	Exp 2 Standardization of Acids and Bases (SAB)
5	5/2	Exp 3 Analysis of a Commercial Antacid (ACA)
6	5/9	Exp 4 Determination of Molar Mass by Freezing Point Depression
7	5/16	Exp 5 Le Chatelier's Principle
8	5/23	Exp 6 Determination of Kc for a Complex Ion Formation II
9	5/30	Check out lockers.