CHEM 220 Fall 2023 Schedule

\*Dates and topics subject to change as needed. Last Updated Nov. 15, 2023

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| **Week** | **Reading** | **Video** | **Lab (Wednesday)** | **Lecture (Thursday)** | **Assignment Due (MONDAY)** |
| 1 | [Ch 1. Introduction to Analytical Chemistry](https://chem.libretexts.org/Courses/University_of_San_Diego/USD_CHEM_220%3A_Fall_2022_(Gillette)/01%3A_Introduction_to_Analytical_Chemsitry) (sections 1-4) | Quantitative Basics for Analytical Chemists | 8/30 Density | 8/31 Intro and Simple Stats | Density Calculations |
| 2 | [Ch 2. Equilibrium and Activity](https://chem.libretexts.org/Courses/University_of_San_Diego/USD_CHEM_220%3A_Fall_2022_(Gillette)/02%3A_Equilibrium_and_Activity) | (Optional)Equilibrium Review  (Required) Activity and Ionic Strength | 9/6 pH | 9/7 Activity and Ionic Strength, Accuracy and Precision | pH calculation corrections |
| 3 | [Ch. 4 Titrations and Working with Standards](https://chem.libretexts.org/Courses/University_of_San_Diego/USD_CHEM_220%3A_Fall_2022_(Gillette)/04%3A_Titrations_and_Working_with_Standards) | (optional)Titrations Review  (Required) Polyprotic Titrations | 9/12 Buffers | 9/14 Titration data Processing | Titration Calculations |
| 4 | [Ch 3. Quality Assurance/Quality Control](https://chem.libretexts.org/Courses/University_of_San_Diego/USD_CHEM_220%3A_Fall_2022_(Gillette)/03%3A_Quality_Assurance_Quality_Control) (3.1 – 3.4 + 1.5 and 1.6) | Making Decisions with Data | 9/19 Titrations and Indicators | 9/21/2023 Statistical Data Processing | Indicator calculations |
| 5 |  | None | 9/27 Titrations Dry Lab | **9/28 Quiz 1** | **Seawater pH Report** |
| 6 | [Ch. 5 Atomic Emission Spectroscopy](https://chem.libretexts.org/Courses/University_of_San_Diego/USD_CHEM_220%3A_Fall_2022_(Gillette)/05%3A_Atomic_Emission_Spectroscopy) | Atomic Emission Spectroscopy | 10/4 ICP-OES | 10/5 External Standards | ICP-OES organized data |
| 7 |  | Linear Regressions & Error Propagation | 10/11 Linear Regression Dry Lab | 10/12 Error Propagation in ICP-OES data | ICP-OES calculations |
| 8 | [Ch. 6 Molecular Spectroscopy](https://chem.libretexts.org/Courses/University_of_San_Diego/USD_CHEM_220%3A_Fall_2022_(Gillette)/05%3A_Atomic_Emission_Spectroscopy/5.01%3A_Overview_of_Spectroscopy) | Molecular Spectroscopy | 10/18 Molecular Spectroscopy | 3/23 Standard Addition and Error Progagation | Standard Addition Calculations |
| 9 |  | Reaction Kinetics | 10/25 Kinetics | **Quiz 2** | **Metals Analysis Report** |
| 10 | [Ch. 7 Electrochemistry](https://chem.libretexts.org/Courses/University_of_San_Diego/USD_CHEM_220%3A_Fall_2022_(Gillette)/07%3A_Electrochemistry) | Introduction to Electrochemistry | 11/1 Echem - acetaminophen | 11/2 Electrochemistry | Echem calculations |
| 11 | [Ch. 8 Chromatography](https://chem.libretexts.org/Courses/University_of_San_Diego/USD_CHEM_220%3A_Fall_2022_(Gillette)/08%3A_Chromatography) | Chromatography Basics | 11/8 HPLC Part I | 11/9 Chromatography | None (calculations are part of next week's prelab) |
| 12 |  | Internal Standards | 11/14 HPLC NSAIDS II | 11/16 Internal Standard Calculations |  |
| 13 | **Thanksgiving - NO CLASS 11/22 – 11/24** | | | | |
| 14 |  |  | 11/28 Projects I | **11/29 Quiz 3** | HPLC Calculations |
| 15 | Supplement – Mass Spec Reading | Mass Spec Basics | 12/5 Projects II | 12/6 Mass Spec | **NSAID Report** |
|  | **Project Presentations - 8 - 10 am December 14th** | | | |  |