

Instrumental Analysis Laboratory – Chemistry 341

Spring 2020

Weekly Schedule

This schedule is subject to change

Week	Date	Activity
1	Jan 16	Readings: Chapter 6,13,14 (SHN) Activity: <i>Introduction to Emission and Absorption Spectroscopy: Line spectra, continuous spectra, spectroscopes, spectrophotometers</i>
2	Jan 23	Readings: Chapter 6,13,14 (SHN) Analysis: Electronic Spectroscopy I <i>Determination of the Formula of a Complex by the Method of Continuous Variations</i> Additional Investigation: <i>Determination of Formula and K_f of the Cu-en complex: Does Job's method work?</i>
3	Jan 30	Readings: Chapter 6,13,14 (SHN) Analysis: Electronic Spectroscopy II <i>Spectrophotometric Analysis of a Complex Mixture</i> Additional Investigation: <i>Simultaneous Determination of Aspirin, Acetaminophen, & Caffeine: Is it Feasible?</i>
4	Feb 6	Readings: TBA A Separation Science Interlude Analysis: <i>Determination of Simple Sugars by HPLC-ELSD After Desalting by SPE</i>
5	Feb 13	Readings: TBA Analysis: TBA
6	Feb 20	Readings: Chapter 15 (SHN) Analysis: Fluorescence Spectroscopy <i>Determination of the CMC of Sodium Dodecyl Sulfate Using a Fluorescent Probe</i> Additional Investigation: <i>Comparison of Two Instruments for Spectra, Detection limit, Signal-to-Noise, and Results of the CMC determination</i>
7	Feb 27	Readings: TBA A Second Separation Science Interlude Analysis: Gas Chromatography-Mass Spectrometry
8	Mar 5	SPRING BREAK
9	Mar 12	Readings: Chapter 7-9 (SHN) Analysis: Flame Atomic Absorption Spectroscopy and Introduction to Automation <i>Determination of Ni by standard additions</i>
10	Mar 19	Analysis: Graphite Furnace Atomic Spectroscopy <i>Determination of Cu by direct calibration</i>

11	Mar 26	Readings: TBA Analysis: TBA
12	Apr 2	Readings: Chapter 16,17 (SHN) Analysis: Vibrational Spectroscopy Fourier Transform Infrared Spectroscopy – FT-IR
13	Apr 9	Readings: Chapter 19 (SHN) Analysis: Nuclear Magnetic Resonance Spectrometry I: Proton NMR
14	Apr 16	Readings: Chapter 19 (SHN) Analysis: Nuclear Magnetic Resonance Spectrometry II: Carbon NMR
15	Apr 23	Readings: TBA Analysis: TBA
16	Apr 27	Finals Week

You are allowed to one (1) drawer for personal storage. You may store your books, lab coat, samples for analysis, or whatever, but you may have only one (1) drawer. There will also be a shared cabinet for desiccators and other larger equipment for your use.

You must practice good housekeeping in the laboratory since there will be many users in the laboratory besides yourselves. The lab instructor and/or TA and/or Stockroom Staff will "clean up" unlabeled, unattended, or otherwise messy areas (you have been warned). Proper labeling and storage techniques will be observed.

Replacement "unknowns" will cost 10% of the report score for that analysis unless otherwise notified.