CALIFORNIA STATE POLYTECHNIC UNIVERSITY, POMONA
CHM 424, Organic Analysis, Fall 2017

Lectures: MW 12:00–12:50 pm Room 9-277 Secn 01, CRN 72113
424L Lab: MW 3:00–5:50 pm Room 8-312 Secn 01, CRN 72114

Instructor: **Dr. Laurie S. Starkey** Room 4-1-428 Phone: (909) 869-3670
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Office Hours (Room 4-1-428) **Mon/Wed** 1-2 pm **Tue/Thu** 10:45-11:45 am (or by appointment)

Textbook & Materials:

Lecture: Phil Beauchamp, "Advanced Organic Spectroscopy Beginning Spectroscopists" (available at Bronco Bookstore and Amazon.com)

Lab: Students must have GOGGLES, a LAB COAT, and a LABORATORY NOTEBOOK (alternating colored duplicate pages).

Prerequisites: One year of Organic Chemistry (lecture & lab), Quantitative Analysis (CHM 221/221L).

Learning Objectives for CHM 424 Lecture:

On successful completion of this course, students will be able to:

1) Describe the theory of spectroscopy and how various spectroscopic methods are used to determine the structure of organic compounds.
   (a) IR spectroscopy
   (b) ^{1}H NMR spectroscopy
   (c) ^{13}C NMR spectroscopy, including DEPT
   (d) Advanced NMR experiments (*e.g.*, HETCOR, COSY, HMBC, NOESY)
   (e) Mass spectrometry
2) Explain the correlation between a given structure and its spectral data.
3) Predict what a spectrum (*e.g.*, IR, NMR, HETCOR) would look like for a given structure.
4) Interpret spectroscopic data (typically provided as a set of spectra) to determine the structure of unknown organic compounds.
5) Analyze and predict optical activity data for stereochemical analysis.
6) Interpret results from classical chemical tests.

Grading of 424 Lecture			
	200 pts	quizzes, homework & problem sets	
	100 pts	midterm exam	**Date TBA**
	200 pts	final exam	**Wednesday, 12/6, 11:30 am – 1:30 pm**
	500 total points		

Free Access to Educator.com

- Includes organic chemistry lectures for the entire lecture sequence (CHM 314-316), as well as lectures on IR & NMR spectroscopy and Mass Spectrometry (for 424 and 317L-319L labs).
- You are able to view lectures on any other topics at the Educator.com website, including math, physics, etc.
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