CHEM 391 ADVANCED LABORATORY I

General Information

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Required and Suggested Materials

- *Spectrometric Identification of Organic Compounds*, Seventh Edition by R. Silverstein and F. Webster and D. Kiemle (ISBN 0-471-39362-0)
- Calculator and access to Excel
- Method of handling and organizing a large number of spectra (folders, binders, etc.)

Course Description

CHEM 391: 1 s.h. Advanced Laboratory I: Application of advanced techniques… with major emphasis on advanced spectroscopic methods of characterizing organic compounds. 3 hours lecture/lab. Offered in fall. Prereq: CHEM 265, 232.

Course Objectives

At the completion of CHEM 391, you should be able to:

- Interpret IR, MS, 1H (1D and 2D) and 13C NMR spectra
- Obtain and manipulate spectra on departmental instrumentation

Topics

I. Advanced Infrared Spectroscopy
II. Advanced Mass Spectrometry
III. Advanced H-1 NMR
IV. Advanced C-13 NMR
V. Correlation Spectroscopy including
VI. Complete Spectral Assignments and "proof" of structure

Course Evaluation

Final grades are based on midterm and final exams, problem assignments, and competency in obtaining and interpreting spectra on the department's instrumentation.