

Experimental Labs

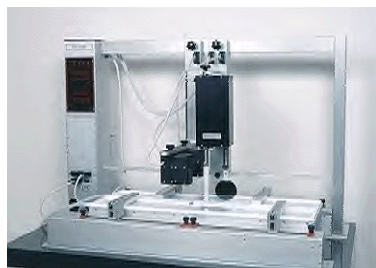
The experimental portion of Chem. 334 focuses on spectroscopy, kinetics and microscopy. Students are required to prepare samples and to collect data (make samples such as thin films, record spectra and images to analysis later etc ...). Important calculated quantities such as dipole moments of a solvent, hyperfine constant of powder crystals, image of surfaces and energies values will be obtained. It stresses the importance of sample preparation to obtain good quantitative results.

To achieve this goal numerous instruments are available to students. These instruments are Infrared, UV-Vis, Raman, EPR and Spectrofluorometer spectrometers, SEM/EDS, atomic force microscope (AFM), variable capacitor device and Langmuir Blodgett balance (LB), DSC and TGA instruments. Students operate them and collect data on their own. These data are then analyzed and reported.

These labs are designed to expose students to important and modern techniques by learning the basic theory associated with each technique and provide a general idea of their usage. The data analysis portion of the lab course will introduce students to modern software (SPIP, MathCAD etc...) to perform more complicated analysis and calculations.



EPR Spectrometer



LB Balance



IR Spectrometer



SEM-EDS