

Geosciences 460/560
Characterization and identification of minerals

Professor Robert T Downs
522/526 Gould-Simpson
626-8092
rdowns@u.arizona.edu
Office hours: anytime

Classes:
Thurs 2-3:15 Thurs in 303 Gould-Simpson
Labs in 526 Gould-Simpson

This course will provide both theoretical and practical training in the procedures of X-ray diffraction, Raman spectroscopy and electron microprobe techniques that are used to characterize minerals and identify unknown samples. Students will learn to use the equipment necessary for these experiments along with the understanding required to properly interpret results.

Students will be taught about the physical properties of crystals and minerals related to the interaction of light and matter. The mathematical treatment of lattices and crystal structure will be presented. The student will learn about sample preparation, instrument functions, analysis of data, and interpretation of results.

Grades will be assigned to students based on lab-based project.