

GL 211 Mineralogy

An Introduction to the Polarizing Microscope

You should have either a thin section of sample 1957 or 1966, from the Snoqualamie batholith in Washington State.

1. Examine the thin section ~~using~~ only plane polarized light and determine how many minerals are present. You should consider color, pleochroism (selective color absorption), grain size and shape, cleavage, relief, and alteration to distinguish one mineral from another. List the properties of each mineral. Calibrate your microscope using the micrometer scale.
2. Examine the same thin section again ~~in cross~~ in cross-polarized light. You now have some additional properties to help distinguish the various minerals. These properties include birefringence (seen as interference colors under the microscope), polysynthetic twinning, extinction angles, and anomalous interference colors. Add these new properties to those listed in question 1 for each mineral.