



Geology Field Class site

N 32 degrees 13.108

W 111 degrees 00.185

Geology with Dr. Jessica Kapp

Students learn about the geology of Tumamoc and the Tucson Basin, beginning with plate tectonics and volcanoes. They will study rock types (focusing on igneous rocks), and learn to distinguish between intrusive and extrusive rocks. Students will then take this knowledge outside to study the rocks found at Tumamoc, just like real field geologists. Back in the classroom, it's time to study and compare ancient fossils and dinosaur bones.

Access to study site is from the paved road. At the old water tower, students are lead in a single-file line to the study area, where they proceed to examine rocks in this area to determine the rock type.



Field Site – Archaeology Experimental Area

N 32 degrees 13.225

W 111 degrees 00.695

Archaeology & History with Dr. John Madsen

Class focus is on agave plants and how prehistoric Hohokam people used agaves for food and fiber. After a presentation highlighting the different agave plants, and the methods for cooking and creating fiber from agaves, students will visit the historic agave fields and learn about the native people lived on Tumamoc. Students will also try their hands at recreating a rock terrace and agave field, using traditional rock tools just like the native people did.



Field Site – Archaeology Experimental Area

N 32 degrees 13.225

W 111 degrees 00.695

Access to the archaeology experimental area is from the dirt road south of Anklam Road. School vans park in the larger dirt area, as shown in the image above. Students walk along the dirt road, to the Archaeology Experimental Area established by Drs. Paul & Suzanne Fish.

In this area, students use traditional rock tools to create a rock terrace where agaves are then planted. Following each field class, the rock terrace and agave plants are removed.



Cactus Survey Site - 20 meter by 20 meter plots

N 32 degrees 13.418

W 111 degrees 00.137

Students will survey **cactus species** and perform a spatial analysis of the plants. Students will calculate plant densities in plots and analyze their results. This class expands students' biological understanding of life by focusing on the characteristics of living things, the diversity of life, and how organisms and populations change over time. We will also visit Tumamoc study plots and learn about the significance of study areas. (We walk by Venable plots along the dirt road near the boathouse and explain the significance of that research.)

Access to the field class site is along existing dirt road from boathouse. Students are then lead in a single-file line to study area. The 20x20 plot is south of existing saguaro research plots.



Cactus & Perennials Survey - a series of six (6) 5 meter by 5 meter plots along a transect

N 32 degrees 13.43

W 111 degrees 00.166

Students will survey **cactus & perennial shrubs** species and will calculate plant densities in plots and compare results. A soil analysis will be conducted. Students will also determine the slope within their plot and use this information to analyze the vegetation densities within each plot. Students will do an analysis of their data set and look at patterns across the landscape in terms of elevation gradients.

Access to the field class site is along existing dirt road from boathouse. Students are then lead in a single-file line to study area. The 5x5 plots lead up the slope and are located south of existing saguaro research plots.