

GY303 Igneous & Metamorphic Petrology Lab Test I: Felsic to Ultramafic Igneous Rocks

For this lab test you will classify five rock samples according to the IUGS classification ternary appropriate for each sample. This will be 80% of lab test 1. The other 20% will consist of an in class test on mineral formulas and plotting given compositions on an IUGS ternary, and fully describing the hypothetical sample. For each sample complete the following tasks:

(1) Visually determine the type and percentages of the minerals in the rock. Fill in the table below with the five most common minerals with estimated percentage. Note that some samples may have fewer than five recognizable minerals. List the minerals in order of decreasing abundance. **(8 points per sample)**

(2) With the percentages determined in (1) above, select the correct IUGS ternary based on the three most common minerals. Recalculate the percentages of only these three minerals to determine ternary percentages for plotting. **(4 points per sample)**

(3) With the IUGS ternary selected in (2), plot the composition with a ink dot on the ternary **(4 points per sample)**. Based on the position of the sample, classify the sample. Remember to modify the rock name with accessory minerals  $\geq 10\%$ . Follow the naming convention in order of:

color, texture, alteration (if any), accessory minerals, and root name  
(Example: pink porphyritic medium-grained biotite granite)

Label the dot with the sample number. Plot all samples on the ternary diagrams supplied.

sample	mineral 1%	mineral 2%	mineral 3%	mineral 4%	mineral 5%	total

(1) Sample \_\_\_\_\_ classification: \_\_\_\_\_

(2) Sample \_\_\_\_\_ classification: \_\_\_\_\_

(3) Sample \_\_\_\_\_ classification: \_\_\_\_\_

(4) Sample \_\_\_\_\_ classification: \_\_\_\_\_

(5) Sample \_\_\_\_\_ classification: \_\_\_\_\_