

GY303 Petrology Lab: Intermediate & Mafic Igneous Rocks

For this lab you will classify five rock samples according to the IUGS classification ternary appropriate for each 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.

(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.

(3) With the IUGS ternary selected in (2), plot the composition with a ink dot on the ternary. Based on the position of the sample, classify the sample. Remember to modify the rock name with accessory minerals  $\geq 10\%$ . Use the following rule to completely name the rock:

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: \_\_\_\_\_