

## Practice exam session #1

### GROUP 1:

Explain the role of water in weathering processes?

### GROUP 2:

A company is considering establishment of a mountain bike trail in a humid region with annual precipitation of 1,200 mm (similar to Vancouver). They are considering two potential sites for this mountain bike trail, and those sites have a similar topography but very different soil textures. **Site A** is characterized by textural class of loamy sand, while **Site B** has textural class that is clay loam.

Focusing on the textural classes and their implications for other soil properties of relevance for a biking trail establishment and use, compare these 2 sites and provide your recommendation on which one is better suited for the mountain bike trail. Briefly explain your answers.

### GROUP 3:

How are soil aggregates formed, and which constituents and processes are responsible for their stability? Explain.

### GROUP 4:

List and briefly describe the key effects of 5 factors of soil formation on soils at UBC campus.

Hint – information about this can be found in APBI 200 lab manual (p. 6-8) posted at

<https://wiki.ubc.ca/Course:APBI200>

### GROUP 5:

Two soil samples with similar texture are placed in close contact; one has a matric potential [ $\psi_m$ ] of  $-1$  m and the second  $-0.01$  m. Which soil likely has the higher water content ( $\theta$ )? In which direction will water move and why? Explain.

### GROUP 6:

The forestry company you work for has asked you to assess the potential impact of heavy machinery on a forest landing (areas where harvested trees are processed and loaded onto trucks). The soil at your site is a well aggregated clay. How would you expect the bulk density & pore size distribution to change due to use of the heavy machinery? What are the potential implications for soil water movement?