**EEB 3240**
**Study guide for assessment 1 scheduled**
**during lab period on Wed. March 1st at 1.30PM.**

**Lectures covered: 1–7, and this includes the lecture material as well as the reading and exercise 1.**

**Memorization**
You should be able to draw a life cycle of a bryophyte, using names and no drawings of any part. You should know what stages are unicellular and multicellular, and why bryophytes are Embryophytes.

You should be able to define what makes a plant a bryophyte; what are the diagnostic traits shared by all bryophytes versus other land plants.

You should be able to define what makes a plant a hornwort, a liverwort or a moss. You should have composed a table (or Venn diagram) contrasting their traits, which includes traits that are unique to each of them, or traits shared by any two of them. We have covered at least 15 traits that be scored for each lineage.

You should be able to describe and contrast the development of the diploid generation for each of the three lineages of bryophytes.

You should be able define what peristomes are, how they differ, how they develop and what their function may be. E.g., questions: Contrast and compare the arthrodontous and nematodontous peristome, or the haplolepideous and diplolepideous alternate peristomes.

You should be able to discuss – in general terms - the evolutionary significance of a peristome.

What is a calyptra?

Where is the placenta in bryophytes?

Describe and discuss the evolution, function and traits of mucilage clefts.

What tissues of bryophytes hold stomata?

**Comprehension and application of acquired knowledge:**

Discuss how bryophytes acquire the substrates for photosynthesis?

How do bryophytes acquire other nutrients? Do mosses and liverworts differ in their modes of acquisition?

Based on what features are mosses/liverworts primarily classified into major higher rank taxa? (think about the summary phylogenies presented in lecture for mosses and liverworts).

Describe what is meant by reversal evolution and provide an example based on either bryophytes or lichens. Discuss why reverse evolution may actually occur? (why would the loss of a trait be selected for?)

The peristome is potentially formed by 95% or so of mosses. Briefly discuss why this could be seen as a key innovation.

Discuss the evolution of stomata in bryophytes.

Describe the functionS of the archegonium during the life cycle of a moss.

How does the life cycle of a bryophyte reflect maternal care or matrotrophy?

Describe the function of stomata in bryophytes.