Lab Exam 3 (week of December 5):

The LAST lab exam will begin at the start of lab.

The exam will be on:

Metamorphic Rocks (Ch. 5)

Given a metamorphic rock sample*, you should be able to answer the following:

- Is the rock foliated or non-foliated?
- You must be able to identify 1 or more coarse grained mineral(s) in the rock
- You must be able to give an appropriate parent rock (see table 5.2 in your manual)

The samples you will have are **only of the rock names you saw in lab** (not all of table 5.2).

***Note**: You should be able to answer these questions for any metamorphic rock we give you, even if you've never seen that particular rock sample before. The samples for this portion of the exam will not necessarily be exactly the same as the ones you saw in lab.*

Dating and Geologic Time (Ch 13):

- You should be able to determine the relative timing of geologic events (including deposition of sedimentary rocks, igneous intrusions, folding, faulting and erosion).
- Know the three types of unconformities that we learned about in lab and lecture (See Figure 13.6 A, B, and D on page 147).
- Know what a half-life is, how to calculate a daughter/parent ratio, and how to read a graph showing the number of half lives that have elapsed vs. the daughter/parent ratio (Figure 13.11 on p.148c). You should also be able to calculate the age of a rock when given the daughter/parent ratio, the half-life, and the above mentioned graph.

Geologic Structures and Maps (Ch 14 & 15):

- Folds and faults are types of geologic structures. Know the difference between plunging/nonplunging anticlines and synclines. What is an asymmetrical fold look like?

- Be able to complete diagrams similar to Figure 14.12 (p. 164a) and Figure 14.13a and b only (p. 164b).
- Understand and be able to apply the concept you learned in Part II of the Structure Lab. Part II included problems 3 and 4 in your lab manual (the very last problem of the lab -- the syncline block diagram).
- Be able to identify normal & reverse faults, hanging wall vs. footwall, and the stresses that produce each of these.
- Determine the direction of dip of a layer giving a "V" pattern on a topographic-geologic map (see p. 181, Fig. 15.8 a-d).
- Know the basic relationships produced when inclined and folded sedimentary layers are eroded (p. 176; Fig. 15.3, p. 177 Fig. 15.4 and **summary points 1-4 top right of p. 177**).