Lecture 15: Active Learning Questions

1. What is a *T-tubule* and what is its *function*? What structure *abuts the T-tubule* deep within a skeletal muscle myocyte? Where is *calcium* stored in myocytes?

2. Identify 2 *regulatory proteins* within a skeletal muscle fiber. What do they do, that is, what is the *function* of each? What is *calcium's role* in skeletal muscle *contraction*?

3. At the *myocyte* or cellular level, what *2 steps* are required for *muscle relaxation* to take place? Ultimately, what *energy source* is required for both of these steps?

4. What is *muscle hypertrophy*? What happens to *myofibrils* when a muscle hypertrophies due to *strength training*? What does *strength training* impact *mitochondria*? How does *endurance training* impact the *immediate energy system*?

5. What is *muscle atrophy*? What happens to the *myofibrils* when a muscle *atrophies* due to space flight (an anti-gravity environment) or being bedridden or immobile for extended periods?