APPH 4600/6600 Exam 1 2013 Name:_____

Section 1: 10 pt each

1. Sketch a sarcomere and identify significant structures and constituent proteins.
2. Compare and contrast primary and secondary myogenesis?
3. Sketch a muscle spindle organ and identify prominent features.
4. What is a motor unit?
5. How does fiber length relate to muscle function? ie: what's different between "long fiber" and "short fiber" muscles?
6. How is the arrangement of mitochondria in muscle fibers different from non-muscle cells?

Section 2: 5 pt each

7. Describe one linkage between the sarcomere and the extracellular matrix. A cartoon/sketch will probably be helpful.
8. Explain one piece of evidence that tells us myoblasts identify their target muscles from their environment.
9. Explain one piece of evidence that tells us motorneurons identify their target muscles intrinsically.
10. Identify a myogenic regulatory factor and explain its role in myogenesis.
11. Sketch a triad and identify significant structures.
12. How is the myotendinous junction specialized for force transmission?
13. Scup (fish) have separate populations of superficial muscles used for slow swimming and deep muscles used for fast swimming. What is the functional advantage of this arrangement?
14. Select one of the structures within the nucleus and explain the specialized biochemistry associated with it.