**Muscular Tissue**

**Chapters 10 and 11**

1. **Functions**

**A. Movement**

**B. Stability**

**C. Control of Body Openings and Passages**

**D. Heat Production**

**E. Glycemic Control**

1. **Universal Characteristics**
2. **Excitability**
3. **Conductivity**
4. **Contractility**
5. **Extensibility**
6. **Elasticity**
7. **Skeletal Muscles**
8. **Shapes**
9. **Fusiform**
10. **Parallel**
11. **Triangular**
12. **Pennate (uni-, bi-, multi-)**
13. **Circular**
14. **Compartments**
15. **Attachments**
16. **origin**
17. **insertion**
18. **Actions**
19. **Prime Mover**
20. **Synergist**
21. **Fixator**
22. **Antagonist**
23. **Gross Anatomy/Structure**
24. **Fascia**
25. **Epimysium**
26. **Perimysium**
27. **Endomysium**
28. **Skeletal Muscle Cells**
29. **Muscle Fiber (cell)**
30. **Sarcolemma**
31. **Sarcoplasm**
32. **Glycogen**
33. **Myoglobin**
34. **Sarcoplasmic reticulum**

**d. Myofibrils**

Myofibrils

Sarcomere

Z discs

Myofilaments

Thick filaments

Thin filaments

Elastic filaments

Myofibrils

Sarcomere

Z discs

Myofilaments

Thick filaments

Thin filaments

Elastic filaments

1. **Thick filaments**
   * 1. **Thin filaments**
     2. **Elastic filaments**

**e. Sarcomere**

1. **Nerve-Muscle Relationship**

1. **Motor Neuron and Motor Units**
2. **Motor Neurons**
3. **Motor Unit**
4. **The Neuromuscular Junction**
5. **Anatomy**
6. **Synaptic knob**
7. **Synaptic vesicles**
8. **Acetylcholine(ACh)**
9. **Synaptic cleft**
10. **ACh Receptors**
11. **Acetylcholinesterase(AChE)**

**V. Behavior**

1. **Excitation**
2. **Excitation-Contraction Coupling**
3. **Contraction**

**Sliding Filament Theory**

1. **Relaxation**

**VI. Muscle Metabolism**

1. **Glycolysis ATP synthesis**
   * + 1. **anaerobic fermentation**
       2. **aerobic respiration**
2. **ATP sources**
3. **Immediate Energy**
4. **Short-Term Energy**
5. **Long-Term Energy**

**VII. Muscle Tissue**

* 1. **Skeletal**
  2. **Cardiac**
  3. **Smooth**