Biology 204: Human Anatomy & Physiology Review Questions for Midterm I

- 1. What is homeostasis? Why is it so important to A&P? Who was Walter Cannon & what did he contribute to the field? (see article in box outside 405 HT, please return promptly!)
- 2. Give examples of positive & negative feedback.
- 3. What is the relationship between structure & function? Give some examples from molecular, cellular, tissue, organ, system, & organismal levels.
- 4. What is a tissue? What are four basic types of tissue?
- 5. Why have membranes or epithelia?
- 6. What is the function of connective tissue?
- 7. What are the three major components of connective tissue?
- 8. What are the two types of connective tissue proper? How do they differ in structure & function?
- 9. How can blood be considered a connective tissue?
- 10. What are biphasic materials? What are their structural advantages over monophasic materials?
- 11. How does endochondral bone differ from dermal (membrane) bone?
- 12. What is a -blast? -cyte?
- 13. Humans are segmented, chordate, deuterostomes. Explain.
- 14. What are the three primary germ layers & what are their major derivatives?
- 15. What are the three functional classes of joints?
- 16. Compare & contrast fibrous, cartilaginous, & synovial joints with respect to structure & behavior.
- 17. What are the different anatomical layers of the epidermis? What do they do?
- 18. What can a look at a patient's skin tell you as a diagnostician?
- 19. What are the functions of skin?
- 20. Compare & contrast the three muscle types with respect to control, structure, & capabilities.
- 21. What is the hierarchical structure of muscle?
- 22. What is the sliding filament theory? Actin? Myosin? Troponin? Tropomyosin?
- 23. Why is the sarcoplasmic reticulum so important in muscle contraction?
- 24. What is the role of Calcium in muscle contraction?
- 25. What fuels muscle metabolism? What are the pathways for supplying energy?
- 26. What happens at neuromuscular junctions?
- 27. What is a muscular origin? insertion?
- 28. What determines the contractile force of a muscle?
- 29. What is mechanical advantage? Disadvantage? How do these affect performance (e.g., force vs. distance)?
- 30. What have you learned in this section of the course that has had the greatest impact on you & why?

You may also want to try drawing & labeling figures from your book or notes, & making lists of structures & their functions. However, don't spend a huge amount of time on tiny details. Always keep the larger conceptual & functional issues in mind.