

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.