Study Guide for Biology 1413: Zoology
Exam III

This is a guide to HELP you prepare for the Exam. It is not the exam. It does't include all the material that might be on the exam. It is only a guide to help you assess how well you have prepared for the upcoming exam. Do not waste the majority of your study time "looking up the answers" to these question and then studying only them - you might do good if any of these questions happen to appear on the test, but you will miss everything else that we might also have talked about.

The best way to study for any exam is to take good lecture notes and then study the heck out of them; make your own outlines, make up your own questions, etc. Once you feel you know the material then see if you can answer these questions. If you can't answer them all then put these away and go back and study some more - you don't know the material well enough yet. If you can answer them all, then you probably also know most of the *other* material that will be in the exam as well.

1. List and describe the general and the distinctive characteristics of Molluscs

2. Describe the structure and the function of the head, foot, mantle and shell in each of the major classes of mollusks

3. List and describe the three layers of most mollusk shells

4. How is a pearl made.

5. What is the difference in the way most bivalves feed compared to the way most gastropods feed

9. Describe some of the significant ecological and human impacts of the Molluscs

10. Concisely define the following terms**: eucoelomate, mesoderm, protostomes, deuterostomes, planktonic, trochophore, radula, glochicia, operculum, slug, tortion, chromatophores, spermatophores,**

11. List and describe the general and the distinctive characteristics of Annelids.

12. Contrast the anatomy and the ecology of the three major classes of Annelids; Polychaetes, Oligochaetes and Hirudinea.

13. Describe the process of reproduction in polychaetes.

14. What are **parapodia** and what are some of their uses in polychaetes?

15. Describe 3 examples of symbioses between annelids and other organisms.

16. What is a **typhlosole** and why is it significant?

17. Describe the process of reproduction in earthworms.

18. Describe specifically how some leeches are adapted to parasitism.

19. Describe some of the significant ecological and human impacts of the Annelids.

20. Concisely define the following terms: **metamerism, septae, setae, parapodia, cephalization, cuticle;, gizzard, crop, chloragogue cells, nephridia, calciferous glands, beard worms**

21. List and describe the major distinctive characteristics of the Arthropod phylum.

22. How is the **cuticle** of annelids different than the **cuticle** of arthropods?

23. What are the advantages and the disadvantages of the arthropod exoskeleton, be specific?

24. What is the difference between **chelicerae** and **mandibles**? Name two subphyla that use chelicerae for feeding and two subphyla that use mandibles as their primary feeding appendages.

25. What exactly is a **cephalothorax**? How does it differ from a **carapace**? Provide examples of arthropods; a. with a cephalothorax but no carapace, b. with a cephalothorax and a carapace, c. with no cephalothorax or carapace.

26. Compare and contrast the characteristics and ecology of the 5 subphyla of Arthropods and give a specific example of each.

27. How specifically do centipedes differ from millipedes in anatomy and ecology?

28. Describe a specific example of courtship and reproduction in each of the 4 living subphyla of arthropods.

29. What specific anatomical characteristics allowed arthropods to be the first and most successful land animals? Which specific subphylum and class were the first animals to move onto land?

30. Name and briefly describe the three major classes of Chelicerates and give an example of each.

31. What are the two most dangerous spiders in the U. S. and what is the most dangerous arachnid in the world, why specifically

32. What is the value of "silk" in chelicerates and in hexapods?

33. Name and describe five different kinds of arachnids

34. List three of the major classes of Crustacea, briefly describe their characteristics and name two examples of each.

35. Describe the biology of a parasitic crustacean.

36. Provide some specific reasons why Insects (Hexapods) are the most successful and diverse of any group of animals on earth. As successful as insects are, why are there so few marine insects?

37. Describe specific examples of how insects communicate with each other.

38. What is the difference between complete and incomplete metamorphosis? Name an example of each.

39. Describe a specific example of symbiosis between an insect and a. plants, b. fungi, c. protozoa, and d. bacteria

40. Describe three different sensory structures found in each of the 4 living subphyla of the arthropod phylum.

41. List and describe some of the significant ecological and human impacts of each of the living subphyla of arthropods.

42. Concisely define the following terms: **molt, apodemes, nauplius, book gills, cephalothorax, telson, gnathobases, pedipalps, pectines, viviparous, pedicel, book lungs, tracheae, malpighian tubules, keratin, sessile, zooplankton, haemocoel, parthenogenesis, krull, pill bugs, entomology, spiracles, typanum, pheromones**

43. Describe the advantages and the disadvantages of a closed versus an open circulatory system and give an example of an animal with each kind

44. Compare and contrast the major phyla discussed in this section (Annelids, Molluscs, Arthropods) in terms of each major organ system: **skin** (body wall), **support**, **digestive**, **respiratory** and **nervous** systems.

45. Compare and contrast the sense organs in annelids, molluscs and arthropods

46. Describe two specific examples of defensive strategies in molluscs, annelids and in arthropods