BSC 2011L Midterm Exam Study Guide

- Covers the phyla **Porifera** through **Arthropoda I**

Exam format:

- Brief essay questions (e.g. asking for a paragraph explaining a process, describing specialized structures, or comparing and contrasting different organisms)
- Short answer and fill-in the blank (e.g. asking for a proper biological term or taxon (name))
- Drawing or labeling diagrams illustrating a structure, body form, or process
- Matching terms with taxa and true/false questions

Be prepared for questions on the following topics:

- Major divisions of life and their characteristics
- General characteristics of animals
- How animals are grouped together (or set apart)
- Major and diagnostic (unique) characteristics of the phyla covered so far (Porifera to Arthropoda I) and their classes
- Different levels of organization (cellular, tissue, organ)
- Structure of the body cavities of triploblastic animals (acoelomates, pseudocoelomates, eucoelomates)
- Major changes in evolution (e.g. the anus, cephalization, tissues, organs, regional specialization of digestive system…) and why they are important
- Basic body forms (e.g. sac-like body of the cnidarians, metamerism of annelids, tagmatization of arthropods…)
- Different types of symmetry, its role in locomotion, and examples
- How the different phyla solve the problems of sensing their environment, digestion, circulation, excretion…
- Adaptations for different feeding modes (e.g. filter-feeding, prey capture…) and examples
- Adaptations to particular environments (e.g. marine, underground…) and examples
- Different modes of reproduction (e.g. asexual vs. sexual, monoecious vs. dioecious, internal vs. external fertilization…) and examples
- Symbiosis and examples of the 3 types
- Adaptations for a parasitic lifestyle and examples
- Polymorphism and examples (e.g. polyp and medusa body types, colonial polymorphism…)
- Complex lifecycle and examples
- Types of segmentation and examples (proglottids, metamerism, tagmatization…)
- Homology, analogy, and serial homology: definitions and examples