

AMERICAN UNIVERSITY OF BEIRUT
Faculty of Arts & Sciences
Department of Biology

BIOLOGY OF INVERTEBRATES

**Syllabus
Fall 2009-2010**

Course number: Biology 241
Number of credits: 4
Meeting time and location: 12 M, W, F; Phys. 217.

Instructor:

Khouzama Knio, PhD
Room 215, Biology Bldg.
Tel.: x 3886
Email: kknio@aub.edu.lb
Office hours: T, Th: 10:30-11:30 am or by appointment

Course objectives: Most of the animal species on planet Earth are invertebrates!
In this course, we study the taxonomy, anatomy, physiology, feeding habits, ecology, behaviour, and reproductive strategies of major invertebrate groups, with the exception of insects. We emphasize the evolutionary relationships between the different invertebrates.

Learning objectives:

- appreciate the importance, value, and diversity of the invertebrates.
- understand the diversity, evolution and relationships between major groups of invertebrates
- knowledge of concepts in animal taxonomy
- study the anatomy and physiology of different invertebrate groups
- understand structure/function relationships
- find out where different animals live and how their body designs evolved to adapt to new environments (marine, fresh water, land)
- identify the major phyla and classes of invertebrates (in the laboratory)
- study the different reproductive strategies of invertebrates
- learn about interesting behaviour of the higher invertebrates

Course outline:

1. Introduction: Earth's major aquatic environments
2. Protozoa
 - flagellates
 - ameboid
 - spore-forming
 - ciliates
3. Sponges
 - asconoid, syconoid, and leuconoid sponges.
 - Classes: Calcarea, Hexactinellida, and Desmospongiae.

4. Cnidarians
 - Hydrozoans, Schiphozoans and Cubozoans, Anthozoans.
5. Ctenophores (combjellies)
6. Bilateral animals: principles and emerging patterns
7. Platyhelminths (flatworms):
 - Turbellarians, flukes, and tapeworms.
8. Nemerteans (ribbon worms)
9. Aschelminths
 - nematodes, rotifers ...
10. Non-segmented coelomate worms
11. Molluscs
 - chitons, gastropods, bivalves, and cephalopods.
12. Annelids
 - polychaetes, oligochaetes, and leeches.
13. Arthropods
 - Principles and emerging patterns.
 - Chelicerates
 - Horseshoe crabs, scorpions, spiders, mites, ticks.
 - Crustaceans
 - Shrimps, crabs ...
 - Myriapods
 - Insects (a very brief introduction).

Grading system:

	<u>% of final grade</u>	<u>Date</u>
quiz I	20%	Monday November 9 at 6 pm
quiz II	20%	Monday December 14 at 6 pm
lab.	25%	
final	35%	

Policies:

Students are required to take all exams at the scheduled time and date.

No make-up exams will be given (unless you have a valid medical excuse from the infirmary).

Class attendance is highly recommended. Absence of a student does not exempt him/her from the responsibility of the work done or from any announcements made during the missed session.

Attendance of all lab sessions is obligatory. You cannot attend a lab section other than yours.