

Planning and Quality Assurance Affairs

Form (A)

Course Specifications

General Information

Course name	Invertebrates
Course number	BIOL2305
Faculty	
Department	
Course type	Major Needs
Course level	2
Credit hours (theoretical)	2
Credit hours (practical)	1
Course Prerequisites	

Course Objectives

1 - Knowing the various characteristics of invertebrates and classification.
2 - Knowledge of the construction and cellular differentiation and development of body building of different invertebrates
3 - Knowledge of the pattern of digestion, output, and reproduction in invertebrates.
4 - Study and follow the stages of life and free living of invertebrates.
5 - Know the latest development in the science of invertebrate .

Intended Learning Outcomes

Knowledge and Understanding	<ul style="list-style-type: none"> * Describe common and distinctive features of invertebrate phyla, including poriferans, cnidarians, platyhelminthes, nematodes, molluscs, annelids, arthropods, and echinoderms. * Discuss distinctive features of taxonomic classes within the phyla covered. * Describe important concepts in invertebrate body structure and organization, including body symmetry, cephalization, body cavity, gut formation, segmentation. * Describe important biological processes in invertebrates, including locomotion, body support, reproduction, development, feeding, digestion, excretion, osmoregulation, circulation, respiration, sensory perception, behavior. * Discuss the ecological and economic importance of invertebrates
Intellectual Skills	<ul style="list-style-type: none"> * Recognize and identify the major groups of invertebrates using practical skills. * Appreciate and summarize the evolutionary history of invertebrates. * Outline key morphological innovations of the major invertebrate taxa.
Professional Skills	<ul style="list-style-type: none"> * link between animal and invertebrate organisms eaten by natural enemies and the animal even imagine the importance of ecological balance for life and continuity .

Course Contents

- 1 - Intro to Eukaryotes Protists, Metazoa, Porifera and Placazoa
- 2 - Body plans, symmetry, and development
- 3 - Flatworms and segmented worms Platyhelminthes Annelida Echiura Sipuncula
- 4 - Ribbon worms, horseshoe worms, and lamp shells Nemertea Phoronida Brachiopoda
- 5 - Molluscan body Mollusca
- 6 - Moulting animals and the segmented body plan Cycloneuralia Panarthropoda
- 7 - Introduction to Arthropoda Arthropoda Crustacea, Malacostraca
- 8 - Crustacea, Maxillopoda Hexapoda
- 9 - Myriapoda Chelicerata
- 10 - Chelicerata Deuterostomia, Chordata

Teaching and Learning Methods

- 1 - Lecture supported dialogue and discussion
- 2 - Presentation of samples
- 3 - display using available devices

Teaching and Learning Methods for the Disabled Students

- 1 - Additional lecture
- 2 - Cooperation education

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
First mid-term exam	60minutes	20
Second mid-term exam	60minutes	20
Attendance and discussion		10
Final exam	120minutes	50

Books and References

Course note	Notes prepared by the lecturer
Essential books	Jannet Moor (2006): An introduction to invertebrates 2nd edition new hall, Cambridge