

## Course Specification

University: Menoufiya

Faculty: Science

Course Specifications:

Program(s) on Which the Course is Given: M.Sc. Zoology (protozoa and invertebrates)

Major or Minor Element of Program: major

Department Offering the Program: zoology

Department Offering the Course: zoology

Academic Year/ Level: postgraduate

Date of Specification Approval: 2012

### **A- Basic Information**

Title: Invertebrates' ontogeny and phylogeny

Code: Z6322

Credit Hours: 3

Lecture: 2

Tutorial: 0

Practical: 0

Total: 2

### **B- Professional Information**

**1- Overall Aims of the Course:** At the end of this course, the student should be able to

\* understand of the principals of systematic and phylogeny of lower and higher using new approaches and modern trends in studying fundamentals of phylogeny.

\* The comparison of different characters, classification, morphology, functional anatomy and biology of various kinds of these invertebrates are also explored.

### **2- Intended Learning Outcomes of the Course (ILOs):**

#### **a- Knowledge and Understanding:**

a1- Demonstrate the general characters of lower and higher invertebrates

- a2- Mention the classification, structure, biology of different larval stages in lower and higher invertebrates.
- a3- Define the distinctive and progressive features of different categories of invertebrate animals from acellular to multicellular animals.

**b-Intellectual Skills:**

- b1- Measure the student capability to identify invertebrate animals belonging to different taxonomic groups.
- b2- Compare among the structure and function of different system of invertebrate animals from acellular to multicellular animals.
- b3- Diagram the different anatomical system and conclude the adaptation to ecological diversity.

**c- Professional and Practical Skills:**

- c1- Demonstrate skills in identification, characterization of different species and genera of invertebrate animals.
- c2- Distinguish between different larval stages.
- c3- Dissect some representative types of invertebrate animals.

**d- General and Transferable Skills:**

- d1- Measure the scientific writing ability.
- d2- Utilize the oral communication skills.
- d3- Adapt the presentation skills.
- d4- Use the appropriate technology such as (Internet) for scientific research.

### 3- Contents:

Topic	No. of Hours	Lecture	Tutorial/ Practical
1- Introduction, classification of animal kingdom and nomenclature	2	1	1
2- Phylum: porifera and its larvae	2	1	1
4- Phylum: coelentrata its larvae	2	1	1
5-Phylum: platyhelminthes its larvae	2	1	1
6-Phylum: ascheminthes its larvae	2	1	1
8-Phylum: annelid its larvae	2	1	1
9- phylum: Crustacea its larvae	4	2	2
10-Phylum: Mollusca its larvae	2	1	1
11- Phylum: Echinodermata its larvae	2	1	1

### 4- Teaching and Learning Methods:

- 4.1-Lectures.
- 4.2-Research assignment.
- 4.3-Oral presentation.
- 4.4- Exams.

### 5- Student Assessment Methods:

- 5.1-Reports to assess collection of course material.
- 5.2- Report oral defense to assess understanding the report.
- 5.3-Mid term exam to assess Mid term performance.
- 5.4-Final term exam to assess end of course performance.

### Assessment Schedule:

- Assessment1 reports Week 1 report every 3 weeks.  
Assessment2 report defense Week every 3 weeks.  
Assessment3 Mid term Week mid term.

Assessment4 final term exam Week final term.

**Weighting of Assessment**

Mid-Term Examination	20 %
Final-Term Examination	40%
Oral Examination	10%
Practical Examination	20%
Semester Work	10%
Other Types of Assessment	0%
Total	100%

Any Formative only Assessment

**6- List of References:**

**6.1- Course Notes**

\*Prepared notes describe the outlines of the course are handed out to the students.

**6.2- Essential Books( Text Books):**

\*Text books of invertebrate zoology.

\*Biology of invertebrates.

**7- Facilities Required for Teaching and Learning:**

\* Lecture room provided with a white board.

\* Dark room equipped with overhead and slide projectors, data show.

\* Lab provided with microscopes, fresh and preserved specimens.

**Course coordinator:** Dr. shereen sheir

**Head of Department:** Prof. Dr. Saber Sakr