University: Benha **Faculty of Science**

Course Specifications:

Programme(s) on which the course is given: **Biology**

Major or Minor element of programs: Major

Department offering the program: Zoology

Department offering the course: Zoology

Academic year / Level: 2^{nd} year 2^{nd} term

Date of specification approval: 2008

A- Basic Information

Title: Invertebrate and introduction to Entomology **Code:** 202 Z
Credit Hours: **Lecture:** 3 hrs/week
Tutorial: **Practical:** 4 hrs/week **Total:** 7 hrs/week

B- Professional Information

1. Overall Aims of Course: At the end of this course the student able to:

- Study four phylum of invertebrates (coelomate): annelida & arthropoda Mollusca & echinodermata.
- To study the biological characteristics of some representative example of each insect groups.

2. Intended Learning Outcomes of Course (ILOs)

a- Knowledge and Understanding:

Make student able to:
a1- study all annelids in different classes.
a2- study all arthropoda in different classes and orders
a3- study all mollusca & echinodermata classes
a4- study the biological characteristics and anatomy of representative examples.

b- Intellectual Skills:

Make student able to
b1- Study polychaeta , oligocheata , hirudinea
b2-Analyze arthropoda , paeneus , ticks & mites and other arthropoda
b3- Study all about mollusca & echinodermata
b4- Make Insect collection.

c- Professional and Practical Skills:

Make student able to
c1- study different annelids
c2- study different Arthropods
c3- study all about mollusca & echinodermata
c4- insects structure.

d- General and Transferable Skills

Make student able to

d1- Community linked thinking.

d2- Work in team.

d3- Write reports

3. Contents

Topics	No. of hours	Lecture	Practical
General characters of annelida General characters of insects	3	3	-
Neries & earth worm	14	6	8
Hirudo & Taxonomy of insects	7	3	4
Phylum Arthropoda, example for each class	32	12	20
General characters of mollusca & Morphology of insects	3	3	-
Classes of mollusca and example for each class & insects anatomy	18	6	12
General characters of echinodermata	7	3	4
Total	84	36	48

4. Teaching and Learning Methods

4.1- slides.

4.2- pictures.

4.3- dissection**.**

5. Student Assessment Methods

5.1 Discussions to assess applying and evaluating the information

5.2 Practical to assess the acquired profession skills

5..3 Mid term exam to assess understanding **intellectual** skills

5.4 End of term exam to assess knowledge with understanding

2-Assessment Schedule

Assessment 1: Discussions	Week 1-12
Assessment 2: Essay	Week 3
Assessment 3: Mid term	Week 7
Assessment 4: Final exam	Week 14

Weighting of Assessments

Mid-Term Examination	10%
Final-term Examination	48%
Oral Examination	15%
Practical Examination	25%
Semester Work	2%
Other types of assessment	%
Total	100%

Any formative only assessments

6. List of References

6.1- **Course Notes:** Invertebrate zoology.

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

- Invertebrate (Richard C. Brusca and Gary J. Brusca).
- Practical animal biology part 3 (El-Hussini and Demian)

6.3- **Recommended Books**: An Introduction to the Invertebrates (Moore, J.)

6.4- **Periodicals, Web Sites:** www.gigapedia.org

7. Facilities Required for Teaching and Learning

- Projectors, slides, samples and high magnification student microscopes with digital camera.

Course Coordinator: Dr. / Gehan H. Lashin & Dr.\ Yasser

Head of Department: Prof. Dr. \ M. N. Seddek

Date: / /