هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission
اعتماد
NCAAA
2024
TP-153

Course Specification
(Bachelor)

Course Title:	**Invertebrates**
Course Code:	**BIOL 112**
Program:	**Biology**
Department:	**Biology Department**
College:	**College of Science**
Institution:	**Majmaah University**
Version:	**3rd Version**
Last Revision Date:	**07/10/2023**

Table of Contents

A. General information about the course:

1. Course Identification

1. Credit hours: (3 (2+2))					
Equivalent to ECTS Credit Point: 4.5					
2. Course type					
A.	☐University	☐College	☒ Department	☐Track	☐Others
B.	☒ Required		☐ Elective		
3. Level/year at which this course is offered: 2ed level / 1st year					
4. Course general Description:					
Through this course the student will demonstrate an understanding of taxonomy, morphology, structure and function of the various higher invertebrate animals. In addition to the characteristic features, the form and function of representatives from the phyla: Mollusca, Annelida, Arthropods, Echinodermata, …etc. The role of invertebrates in ecosystems will be also emphasized to prepare students for the broader examination of ecology and population biology.					
5. Pre-requirements for this course (if any):					
BIOL-101					
6. Co-requirements for this course (if any):					
N/A					
7. Course Main Objective(s):					
▪ Provide the student with a solid foundation in the field of invertebrate zoology and all major (monophyletic) groups of invertebrates. ▪ Understanding of invertebrate structure, ecology, life history and evolution. ▪ Describe the Body Plan of each major taxon, the reproductive mode and form of development in each major taxon (e.g., cleavage, gastrulation, larval stages).					

2. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	60	80%
2	E-learning	15	20%
3	Hybrid • Traditional classroom • E-learning		
4	Distance learning		

3. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	**Lectures**	30
2.	**Laboratory/Studio**	30
3.	**Field**	--
4.	**Tutorial**	--
5.	**Others (specify)**	--
Total		60

Workload (based on the academic semester)

No	Activity	Workload (in hours)
1.	Contact Hours	60
2.	Self-study hours or Academic learning hours (Assignment, Quizzes, Reports, Discussions, Library, Research, …)	60
Total Workload		120
Equivalent to ECTS Credit points		4.5

B. Course Learning Outcomes (CLOs), Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
1.0	**Knowledge and understanding**			
1.1	Describe common and distinctive features of invertebrate phyla, including protists, poriferans, cnidarians, platyhelminthes, nematodes, molluscs, annelids, arthropods, and echinoderms.	K1	▪ Lecture Notes ▪ Power Point Presentation ▪ Individual and group discussion.	▪ Assignments ▪ Quizzes ▪ Midterm and final exams
2.0	**Skills**			
2.1	Analyze the distinctive features of taxonomic classes within the phyla covered.	S1	▪ Lecture Notes ▪ Power Point Presentation ▪ Individual and group discussion.	▪ Assignments ▪ Quizzes ▪ Midterm and final exams

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
2.4	Use perfectly the living specimens, slides in practical part.	S4	▪ Practical Notes ▪ Power Point Presentation ▪ Laboratory assignments ▪ Individual and group discussion. Practical works - videos	▪ Assignments ▪ Quizzes ▪ Practical exams Lab reports
3.0	**Values, autonomy, and responsibility**			
3.1	Commit toward group task contributing ideas.	V1	Students will practice as groups (team work)	Assessment of team presentation and reports.
3.2				

C. Course Content

No	List of Topics	Contact Hours
1.	**Course Introduction, Classification, Habitat**	2
2.	**Phylum Protists**	2
3.	**Phylum Porifera**	2
4.	**Phylum Cnideria; Ctenophora**	4
5.	**Phylum Platyhelminthes**	2
6.	**Phylum Nematoda**	2
7.	**Phylum Annelida**	2
8.	**Phylum Arthropoda**	٦
9.	**Phylum Mollusca**	٤
10.	**Phylum Echinodermata**	٤
Total		**30**

Practical content

No	List of Topics	Contact Hours
1	**Phylum Protists**	2
2	**Phylum Porifera**	2
3	**Phylum Cnideria; Ctenophora**	2
4	**Phylum Platyhelminthes**	4
5	**Phylum Nematoda**	4

6	**Phylum Annelida**	4
7	**Phylum Arthropoda** Chelicerata	4
8	**Phylum Arthropoda** Mandibulata__hexapoda	2
9	**Phylum Arthropoda** Mandibulata__crustacea	2
10	**Phylum Mollusca**	2
11	**Phylum Echinodermata**	2
Total		**30**

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Assignments, quizzes and group project	Week 1-15	10 %
2.	Mid-term Exam 1	Week 8	10 %
3.	Mid-term Exam 2	Week 12	10 %
4.	Bb electronic exam	Week 13	10 %
5.	Practical workbook notes	Week 14	10 %
6.	Practical exam	Week 15	10 %
7.	Final Exam	Week 16	40 %

*Assessment Activities (i.e., Written test, oral test, oral presentation, group project, essay, etc.).

E. Learning Resources and Facilities

1. References and Learning Resources

Essential References	– Invertebrates by Richard C. Brusca (2023); Sinauer Associates, Inc. ISBN: 978-1605353753 – Biology of the Invertebrates by Jan Pechenik (2020); McGraw-Hill Science. ISBN: 978-0073524184
Supportive References	– A Basic Glossary of Invertebrate Zoology by Ron Clouse (2016); Create Space Independent Publishing Platform. ISBN: 978-1530670024 – Laboratory Exercises in Invertebrate Zoology by Alan R Holyoak (2016); CreateSpace Independent Publishing Platform. ISBN: 978-1539392408
Electronic Materials	– **Saudi Digital Library**

	https://www.sdl.edu.sa/SDLPortal/Publishers.aspx – https://en.wikipedia.org/wiki/Invertebrate – https://www.britannica.com/animal/invertebrate – https://www.nationalgeographic.com/animals/invertebrates – http://www.ento.csiro.au/education/what_invertebrates.html
Other Learning Materials	Videos, slides and presentations that are available with the instructor.

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	• The number of seats in classrooms and lab. is suitable and no need for extra seats. • The classrooms provided with smart board, and e-podium and laboratories provided with smart board.
Technology equipment (projector, smart board, software)	The classrooms are provided with smart board and e-podium
Other equipment (depending on the nature of the specialty)	Department need a computer room containing at least 30 systems for Bb exams and e-learning.

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	Students	Indirect
Effectiveness of Students' assessment	Program Leaders	Indirect
Quality of learning resources	Faculty	Direct
The extent to which CLOs have been achieved	Program Leaders	Direct
Other		

Assessors (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)

Assessment Methods (Direct, Indirect)

G. Specification Approval

COUNCIL /COMMITTEE	**BIOLOGY DEPARTMENT COUNCIL**
REFERENCE NO.	**7**
DATE	4/4/1446 [07/10/2024]