جامعة البحرين
University of Bahrain
مركز ضمان الجودة والاعتماد الأكاديمي
Quality Assurance and Accreditation Center

# Academic Course Specification Form

## استمارة توصيف المقرر الأكاديمي

**القسم الخاص بالطالب**
**Section Concerning the Student**

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| **1. Course Code:** | BIOLS233 | **1. رمز المقرر:** |
| **2. Course Title** | Invertebrate Zoology | **2. اسم المقرر:** |
| **3. College:** | Science | **3. الكلية:** |
| **4. Department:** | Biology | **4. القسم:** |
| **5. Academic Program:** | Bachelor of Science in biology | **5. البرنامج الأكاديمي:** |
| **6. Course Credits:** | 2-2-3 | **6. عدد الساعات المعتمدة:** |
| **7. Course NQF Level:** | 6 | **7. مستوى المقرر وفقا للإطار الوطني للمؤهلات:** |
| **8. Notional Hours:** | 127 | **8. عدد الساعات الافتراضية:** |
| **9. NQF Credits:** | 13 | **9. عدد الساعات المعتمدة للمقرر وفقا للإطار الوطني للمؤهلات:** |
| **10. Prerequisite:** | BIOLS103 | **10. المتطلب السابق للمقرر:** |
| **11. Lectures Timing & Location:** | | **11. وقت المحاضرة ومكانها:** |
| **12. General Mode of Teaching and Learning** | Traditional تقليدي | **12. النمط العام للتعليم والتعلّم:** |

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| **13. Course Coordinator:** | | **13. منسّق المقرر:** |
| **14. Course Instructor:** | | **14. مدرّس المقرر:** |
| **15. Office Hours and Location:** | | **15. الساعات المكتبية ومكانها:** |
| **16. Instructor's Email:** | | **16. البريد الإلكتروني لمدرّس المقرر:** |
| **17. Academic Year:** | | **17. السنة الأكاديمية:** |
| **18. Semester:** | | **18. الفصل الدراسي:** |

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| **19. Textbook(s):** | **19. الكتب الدراسية للمقرر:** |
| Integrated Principles of Zoology 19th edition by Hickman et al 2024 | |
| **20. References:** | **20. المراجع:** |
| **1.** References form the library (http://www.ac-knowledge.net/uobv3/):<br>Invertebrate zoology : a functional evolutionary approach *7th ed.*<br>Ruppert, Edward E, 2004 : QL362 .R76<br>Progress in invertebrate zoology<br>Mani, M. S., 2004 : QL362 .M36<br>Invertebrates : protozoa to echinodermata<br>Verma, Ashok, 2005: QL362 .V46<br>Ruppert, Fox and Barnes (2004) Invertebrate Zoology, 7th edition, Thomson, Brooks/Cole.<br>Anderson (2002), Invertebrate Zoology, 2nd edition, Wallace and Taylor.<br>Invertebrate zoology : a laboratory manual *5th ed.* Wallace, Robert L., 1997 : QL362.W33 | |
| **2. Other Learning Resources Used (e.g. e-learning, field visits, periodicals, software, etc.):** | **21. مصادر التعلّم الأخرى (مثال: التعلّم الإلكتروني، زيارات ميدانية، دوريات، برمجيات، إلخ....)** |
| Field trips if possible<br>Videos<br>Access to invertebrate zoology course related to the textbook<br>Digital Zoology online by Jon Houseman version 2 and access the same online. | |
| **3. Course Description (as published in the College Catalogue):** | **22. توصيف المقرر (حسب ما ورد في دليل الكلية):** |
| **Classification, biology, diversity, structural features and phylogeny of both lower and higher taxonomic groups of invertebrates.** | |
| **4. Course Intended Learning Outcomes (3 to 5 CILOs):** | **23. مخرجات التعلّم للمقرر (CILOs) (3 إلى 5 مخرجات تعلّمية):** |
| 1. Identify the major groups of invertebrates, including the parasites. | |
| 2. Critically classify major phylogenetic groups of invertebrates. | |
| 3. Discuss the core principles of functional, physiological, and reproductive biology, and ecological importance of the major invertebrate phyla. | |

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| 4. Conduct microscopic examinations and dissections of structural features identified in the pre-prepared histological slides. | |
| 5. Identify the structural features of live specimens of major lower and higher invertebrate groups. | |

| **5. Course Assessment Percentages (as per Regulations of Study and Examination at the University of Bahrain):** | | **24. أساليب التقييم ونسبها المئوية (بحسب نظام الدراسة والامتحانات في جامعة البحرين):** | |
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| **Assessment**<br>**التقييم** | **Type**<br>**النوع** | **Percentage**<br>**النسبة** | **Assessment Date**<br>**تاريخ التقييم** |
| *Midterm-I* | Individual<br>فردي | *15%* | |
| *Midterm-II* | Individual<br>فردي | *15%* | |
| *Lab exam- I* | Individual<br>فردي | *15%* | |
| *Lab exam-II* | Individual<br>فردي | *10%* | |
| *Lab Quiz* | Individual<br>فردي | *5%* | |
| *Theory Quiz* | Individual<br>فردي | *5%* | |
| ***Final*** | Individual<br>فردي | *40%* | |
| **Total** | **100%** | | |

| **6. Description of Topics Covered** | **25. وصف الموضوعات التي ينبغي تناولها:** |
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| ***Topic Title***<br>***(e.g. chapter/experiment title)***<br>**الموضوع** | ***Description***<br>**التفصيل** |
| **1-Introduction to Invertebrate Phyla** | Invertebrate diversity and an overview of the phylogeny and body plans which exhibit at least 30 organizational levels ranging from simple to complex. |
| **2-Invertebrate Phyla and Phylogeny** | Classification and phylogeny including representative of non-coelomate and coelomate phyla; nonsymmetrical, radially symmetrical, and bilaterally symmetrical phyla; protostomes and deuterostomes. A brief note on the phylogenetic consequences |
| **3-Phylum: Porifera** | Unique features of the phylum; Animals that are sessile, at the cellular level of organization, having epithelial without basement membranes; a canal system of body plan; classification of the phylum, morphology, physiology and general biology including ecological interaction and importance. |
| **4- Phylum: Cnidaria** | Diploblastic metazoans with radial symmetry and tissue level of organization. Unique features of the phylum; |

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| | Classification of the phylum, morphology, physiology and general biology including ecological interaction and importance. |
| **5- Phylum: Ctenophora** | Diploblastic metazoans with bi- radial symmetry and tissue level of organization; Unique features of the phylum; Classification of the phylum, morphology, physiology and general biology including ecological interaction and importance. |
| **6- Phylum: Platyhelminthes** | Bilaterally symmetrical animals, Triploblastic Acoelomate, free living or parasitic worms; Unique features of the phylum; Classification of the phylum, morphology, physiology and general biology including ecological interaction and importance. As parasites of humans and other domestic animals are also covered including their lifecycles and hosts. |
| **7- Pseudocoelomate Protostome Phylum Acanthocephala and Phylum Rotifers** | This group of invertebrates comprise different phyla sharing a number of common characters. Unique features of the phylum; Classification of the phylum, morphology, physiology and general biology including ecological interaction and importance as parasites of humans and other domestic animals are covered. |
| **8- Pseudocoelomate Ecdysozoa Phylum Nematodes** | Un-segmented parasitic as well as free living worms. Unique features of the phylum; Classification of the phylum, morphology, physiology and general biology including ecological interaction and importance as parasites of humans and other domestic animals are covered. |
| **9- Annedlida and its relatives: Phylum: Sipuncula** | Bilaterally symmetrical, coelomate un-segmented marine worms. Unique features of the phylum; Classification of the phylum, morphology, physiology and general biology including ecological interaction and importance. |
| **10- Annedlida and its relatives: Phylum: Annelida** | Metamerically segmented coelomate. Unique features of the phylum; Classification, morphology, physiology and general biology including ecological interaction and importance. |
| **11-Phylum: Mollusca: Gastropoda** | Unsegmented coelomate with haemocolic body cavity, head foot and other unique features such the presence of shell. This phylum constitutes one of the most conspicuous of the invertebrates with over 70,000 species.<br>The major division of the phylum identified and classified in all unique features of each class with emphasis on detail biology of the |

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| | following classes: Bivalvia, Gastropoda and Cephalopda.<br>The unique evolutionary features and classification of the Gastropods. Morphological, Physiological processes and ecological importance are covered. |
| **12-Phylum: Mollusca:<br>Bivalvia** | The unique evolutionary features and classification of the Bivlavia. Morphological, Physiological processes and ecological importance are covered. |
| **13-Phylum Mollusca:<br>Cephallopoda** | The unique evolutionary features and classification of the Cephalopoda. Morphological, Physiological processes and ecological importance are covered. |
| **14- Introduction to the Arthropoda** | Animals that have exoskeleton, jointed segmented appendages among other unique features. The phylum sub-phyla and classes are covered in terms of the diversity. The sub-phyla included: Hexapoda; Myriapoda; Crustacea and Chelicerata. |
| **15- Phylum: Arthropoda<br>Subphylum: Crustacea** | Marine arthropods with biramous limbs and other unique features. This subphylum is very large (75, 000 species) and evolutionary they are considered at a higher level of organization. Unique features of the sub-phylum; Classification, morphology, physiology and general biology including ecological interaction and importance |

**7. Weekly Schedule** **26. الجدول الأسبوعي**

| Week<br>الأسبوع | Date<br>التاريخ | Topics Covered<br>الموضوعات المتناولة | CILOs<br>مخرجات التعلُم للمقرر<br>(CILOs) | Teaching/Assessment Mode and Method<br>منهجية ونمط<br>التدريس/التقييم |
|---|---|---|---|---|
| **1** | | Introduction to Invertebrate Phyla | *1,2 and 3* | Traditional تقليدي |
| **2** | | Invertebrate Phyla and Phylogeny<br><br>Lab | *1,2 and 3* | Traditional تقليدي |
| **3** | | Porifera<br>Lab | *1,2, 3 and 4* | Traditional تقليدي |
| **4** | | Cnidaria and Ctenophora | *1,2, 3 and 4* | Traditional تقليدي |
| **5** | | Cnidaria and Ctenophora<br>Lab | *1,2, 3 and 4* | Traditional تقليدي |

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| **6** | | Platyhelminthes Lab | *1,2, 3 and 4* | Traditional تقليدي |
| **7** | | Pseudocoelomate Protostomes , Acanthocephala and Rotifers Lab | *1,2, 3 and 4* | Traditional تقليدي |
| **8** | | Pseudocoelomate Ecdysozoa, Nematodes Lab | *1,2, 3,4 and 5* | Traditional تقليدي |
| **9** | | Annelida and their relatives: Sipuncula Lab | *1,2, 3,4 and 5* | Traditional تقليدي |
| **10** | | Annelida and their relatives: Annelida Lab | *1,2, 3,4 and 5* | Traditional تقليدي |
| **11** | | Mollusca Lab | *1,2, 3,4 and 5* | Traditional تقليدي |
| **12** | | Mollusca | *1,2, 3,4 and 5* | Traditional تقليدي |
| **13** | | Mollusca | *1,2, 3,4 and 5* | Traditional تقليدي |
| **14** | | Introduction to Arthropod phyla Lab | *1,2, 3,4 and 5* | Traditional تقليدي |
| **15** | | Introduction to Arthropod phyla Lab | *1,2, 3,4 and 5* | Traditional تقليدي |
| **16** | | | | |

| **8. Academic Integrity Statement** | **27. بيان النزاهة الأكاديمية** |
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| Students are to observe the highest level of honesty and academic ethics in pursuit of their academic goals as per UOB Regulations of Student Conduct and Academic Integrity, Anti-plagiarism Policies, and Students' Rights and Responsibilities Handbook. The consequences for cheating, plagiarism, unauthorized collaboration, and other forms of academic dishonesty can be very serious and will be dealt with as per the aforementioned policies and regulations. | يتعيّن على الطلبة الالتزام بأعلى مستويات الصدق والأمانة والأخلاق الأكاديمية في سعيهم لتحقيق أهدافهم الأكاديمية وفقًا للوائح سلوك الطلاب والنزاهة الأكاديمية، سياسات مكافحة الانتحال، ودليل حقوق الطلبة وواجباتهم، المعمول بها في جامعة البحرين. يمكن لعواقب الغش والسرقة الأدبية والتعاون غير المصرح به وغيرها من أشكال عدم الأمانة الأكاديمية أن تكون خطيرة للغاية وسيتم التعامل معها وفقًا للسياسات واللوائح المذكورة آنفا. |
| **9. Attendance and Absence Regulations** | **28. نظام الحضور والغياب** |
| Students are required to adhere to regular attendance for class lectures and practical sessions, as determined by the nature of the course, as per Article (33) of Regulations of Study and Examination at the University of Bahrain. | يجب على الطلبة الالتزام بالحضور المنتظم للمحاضرات الصفية والعملية، حسبما تحدده طبيعة المقرر الدراسي، ووفقا للمادة (33) من نظام الدراسة والامتحانات في جامعة البحرين. |