/ المنصورة
كـــلية / العلـــوم
قـــســـم:علم الحيوان

توصيف مقرر دراسى

١ ـ بيانات المقرر		
الرمز الكودى :Z221	إسم المقرر:Invertebrate & Entomology	المستوى: الثانى (بيولوجي)
التخصص: علوم البيئة	عدد الوحدات الدراسية: ١٢ نظرى ٤ تمارين ٠ عملى ٤	

٢ ـ هدف المقرر:	For students undertaking this course, the aims are to: 1. Provide an understanding of the principles of taxonomy of Coeleomic invertebrates. 2. Develop the basic information of mode of life, structure and function of the systems of animals from different phyla. 3. Develop the knowledge of Invertebrates in the surrounding environment 4. Provide a set of skills that enable the students to understand the general Morphological regions of the insects. 5. Introduce Knowledge modifications of the insect appendages from the typical ones and the relation, in each case, between the structure and function. 6. Provide a definition of the structure of these appendages and their role in the insect life. 7. Provide an understanding of the structure of these appendages and their role in the insect Life.
٣ ـ المستهدف من التدريس المقرر:	
أ ـ المعلومات والمفاهيم:	a- Knowledge and Understanding : On completing this course, students will be able to: a1. Define systematic position of different invertebrate species. a2. Acquire understanding the morphology and anatomy of the studied examples. a3. Define the role of antennae as sensory organs and mouth parts in the insect life. a4. Recognize structure and role of wings and legs as locomotors organ. a5. Explain the role of abdominal appendages which greatly differ between insects. a6. Acquire an understanding of the great variety between insects in morphology, structure and job of these organs which makes these insects to overcome.
ب ـ المهارات الذهنية	b- Intellectual Skills: On completing this course, students will be able to: b 1.Differentiate the structures of different groups b2. Analyze the structure of the organ (system) and its function. b3. Analyze the difference between the studied phyla. Predict the anatomy of invertebrates. b4. Distinguish between insects and other animals. b5. Predict the structure of the appendages of unknown specimens.
ج ـ المهارات المهنية الخاصة بالمقرر:	c-Professional and Practical Skills: On completing this course, students will be able to: c1. Apply identification of invertebrates. c2. Differentiate between specimens of the same phylum.

c3. Compare between different Coelomate phyla. c4. Apply the studied examples on the un known specimens. c5. Differentiate between the different appendages of the same and other insects. c6. Compare between analogous appendages in different insects of different feeding and life habitats. c7. Sketch a labeled diagram for the studied examples.	
d-General and Transferable Skills: On completing this course, students will be able to: d1. Collect and analyze the data obtained from the field. d2. Communicate effectively with others through teamwork interaction. d3. Search for information about other insects other than studied in this course. d4. Work effectively in a team work Those and be able to train of these with the acquired skills.	د- المهارات العامة :
A-<u>Coelomic invertebrates:</u> Introduction & General characters. Phylum: Annellidia , Allolobophora, Nereis , Hirudo- general characters and classification, morphology, anatomy Arthropoda general characters of classification (Dissection, morphology & anatomy). Other crustaceans. Scolopendra, Scorpion (morphology & anatomy). Spider, Ticks & mites Phylum: Mollusca (General characters & Classification) Aplacophora, Monoplacophora, Polyplacophora, Gastropoda, Pelecypoda, Cephalopoda, Anatomy of Chiton, Eremina, Anodonta & Sepia. Phylum: Echinodermata (General characters; Classification) Astropecten anatomy & systems: water vascular system: Reproduction, Tripneustes anatomy & systems: Holothuria anatomy & systems: Heterometra anatomy. B-<u>Morphology of insects:</u> Antennae and different mouth parts Different types of wings and legs Different types of legs. Visceral abdominal segments, visceral abdominal segments.	٤- محتوى المقرر:
4 - Teaching and Learning Methods 4 -١. Lectures (4 hours). 4 -٢. Laboratory Work (4 hours). 4 -٣. Collection from the field. 4 - 4. Preservation of animals.	٥- اساليب التعليم والتعلم:
The same as normal students, only skeletal disabilities are allowed in the Faculty of Science.	٦- أساليب التعليم والتعلم للطلاب ذوى القدرات المحدودة:
	٧- تقويم الطلاب :
Student Assessment Methods Final exam — to assess — a1,a2,a3,a4,a5,6,b1,b2,b3,b4,b5 Oral exam — to assess — a1,a2,a3,a4,a5,a6,b1,b2,b3,b4,b5,d1,d2,d3,d4 Practical — to assess — c1,c2,c3,c4,c5, c6,c7	أ- الأساليب المستخدمة :

exam		d1,d2,d3,d4	

ب- التوقيت :

Assessment Schedule

Assessment 1	Week #	14
Assessment 2	Week #	14
Assessment 3	Week #	13

ج- توزيع الدرجات :

Weighting of Assessments

Final-Term Examination	70
Oral Examination	10
Practical Examination	20
Semester work	0
Other types of assessment	0
Total	100

٨- قائمة الكتب الدراسية والمراجع :

أ- مذكرات:

Course notes issued and authorized by zoology dept.

ب- كتب ملزمة

1- Invertebrate Zoology (part I – part II) Dr. Gamil N. Soliman, The Palm Press, Cairo, 2001

ج- كتب مقترحة :

1- A Manual of Practical Zoology Invertebrates P.S. Verma, S. Chand and Company , New Delhi , 1983.
2- Invertebrate structure and function, E.J.W. Barrington, Nelson , London, 1967.
3- The insects, Gullan, P. J. , Chapman & Hall, London, 1994
1- Entomology . Gillott, Cedric. Springer, 2005.
2- Biology of the invertebrates . Pechenik, Jan A. McGraw-Hill, 2000.
3- Invertebrate Zoology P.S. Dhami – J.K. Dhami, R.Chand, New Delhi, 1992.

د- دوريات علمية أو نشرات..

Different web sites about entomology and invertebrates.

مصفوفة المعارف والمهارات المستهدفة من المقرر الدراسى

المحتويات للمقرر	اسبوع الدراسة	المعارف الرئيسية	مهارات ذهنية	مهارات مهنية	مهارات عامة
A- Coelomic invertebrates: Introduction & General characters.	١	a1,a2	b1,b2		d2,d3
Phylum: Annellidia , Allolobophora, Nereis , Hirudo- general characters and classification, morphology, anatomy	٢	a2	b2,b2,b3		d1, d2
Arthropoda general characters of classification (Dissection, morphology & anatomy). Other crustaceans.	٣	a1, a2	b2,b3		d1, d3
Scolopendra, Scorpion (morphology & anatomy).	٤	a1,a2	b1		d1, d4
Spider, Ticks & mites	٥	a2	b3		d1, d3
Phylum: Mollusca (General characters & Classification)	٦	a1,a2	b1, b3		d2, d4
Aplacophora, Monoplacophora, Polyplacophora, Gastropoda, Pelecypoda, Cephalopoda, Anatomy of Chiton, Eremina, Anodonta & Sepia.	٧	a2	b1,b2		d1,d3,d4
Phylum: Echinodermata (General characters; Classification) Astropecten anatomy & systems: water vascular system: Reproduction, Tripneustes anatomy & systems: Holothuria anatomy & systems: Heterometra anatomy.	٨	a1,a2	b1,b3		d1,d3
B- Morphology of insects: Antennae and different mouth parts	٩,10	a1,a3	b1,b4,b5		d2,d3
Different types of wings and legs	11,12	a4,a5	b1,b4		d1, d4
Different types of legs.	13	a4,a5,a6	b4,b5		d2, d3
Visceral abdominal segments, visceral abdominal segments.	14	a6	b4		d2,d4
Practical according to the course content (Embryology, Physiology & histology)	١١-٢			c1,c2,c3, c4,c5,c6,c7	d1, d2,d3,d4

أستاذ المادة: د./ محمد فتحى عبد العال

رئيس مجلس القسم العلمى: أ.د. هناء على حسن