



Course Specification

Course title: Insect Physiology (A)

Code: Ent. 341

Program (s) on which the course is given: Entomology (Special)

Element of program : Major - Single ble

Department offering the program: Zoology Department

Department offering the course: Zoology Department

Academic year: 3rd year – 2nd semester

Date of specification approval: 1/2016

A- Basic information

Academic year: 3 rd	Course title: Insect Physiology (A)	Code: Ent. 341
Lecture: 4 hr/wk	Practical: 4 hr/wk	Tutorial: 0 hr/wk
		Total: 8 hr/wk

B- Professional information

1- Overall aims of course	This course aims to provide student with knowledge and understanding of: 1- Normal functions of different body systems and physiological aspects of insects. 2- Dealing with scientific data in Arabic and English. 3- Utilizing scientific facts and theories to analyze and interpret practical data.
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2-Intended learning outcomes of course (ILOs)

a-Knowledge and understanding	By the end of the course, students should be able to: a1. Illustrate the processes and mechanisms supporting the structure and function of insect's systems. a2. Illustrate the physiological aspects of insects in different environments.
b-Intellectual skills	By the end of the course, students should be able to: b1. Analyze data and select the proper mechanism for their setting within a theoretical framework.

	b2. Consider the different basic elements of biochemical and physiological parameters.
c- Professional and practical skills	By the end of the course, students should be able to: c1. Conduct laboratory investigations of living systems in responsible, safe and ethical manner. For example, students must pay attention to risk assessment, relevant health and safety regulation.
d- General and transferable skills	By the end of the course, students should be able to: d1. Share scientific ideas, give oral presentations and work in a group and communicate with others positively.

3- Contents:

Topic	No. Hours/ week			
	Lecture	Practical	Tutorial	Total
1-The integument of insets (structure and chemistry). 2- Physical properties and coloration of insect cuticle. 3- Moulting process and formation of new cuticle. 4- Mechanism of Respiration 5- Difference between respiration in areal, aquatic and endoparasitic insects. 6- Excretion , excretory organs and mechanism of excretion. 7-products of excretion and variation in habitat. 8- Feeding and comparison between different types of insects. 9- Digestion, structure and function of different alimentary canal regions. 10- Absorption and nutrition.	4	4	0	8

4- Teaching and learning methods

4.1. Teaching lectures
4.2. laboratory lessons (practical examination to the biological samples)
4.3. Brainstorming

5- Student assessment:

5.1. Methods	5.1.1. Written exam (short & final)	- To assess: knowledge & understanding - Intellectual skills
	5.1.2. Oral exam	- To assess: knowledge & understanding - Intellectual skills
	5.1.3. Practical exam	- To assess: Professional & practical skills

	5.1.4. Semester work	- To assess: General & transferable skills
5.2. Assessment schedule	Assessment 1: Short exam	- Along the term
	Final written exam	- Week14
	Assessment 2: Oral exam	- Week: 8-9
	Assessment 3: Final lab exam	- Week: 10
5.3. weighting of assessments	Assessment 4: Activities	- Week: 4-8
	Final written exam %	50%
	Final lab exam %	30%
	Semester work & short exam %	11.5%
	Activities	2.5%
	Oral exam %	6%
	Total %	100%

6-List of references

6.1. Course Note (If available)	_____
6.2. Text Book	<ul style="list-style-type: none"> ❖ Chapman, R.F. (Reginald Frederick). The insects: structure and function/ R.F. Chapman. 4th ed. (1988). ❖ Wigglesworth, V.B. (1972). The principles of insect physiology. London: Methuen. ❖ Gerald Thomas books : Chemistry and Physiology of insects.
6.3. Additional References	_____
6.4. Periodical Journals,..... etc.	_____

7- Facilities required for teaching and learning

<p>7.1. different types of microscopes.</p> <p>7.2. whiteboard.</p> <p>7.3. samples loaded onto a glass slide.</p> <p>7.4. course note.</p> <p>7.5. living samples of insects.</p>
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8- Matrix between course specification ILOs and ILOs of Entomology (Special) program

Knowledge and understanding		Intellectual skills		Professional and practical skills		General and transferable skills	
ILOs of course	ILOs of program	ILOs of course	ILOs of program	ILOs of course	ILOs of program	ILOs of course	ILOs of program
a1	A3	b1	B8	c1	C7	d1	D4
a2	A9	b2	B1				

9- Curriculum map

Contents	Weeks	Course ILOs				Teaching & learning methods	Assessment methods	Evidence
		a	b	c	d			
1-The integument of insets (structure and chemistry). 2- Physical properties and coloration of insect cuticle. 3- Moulting process and formation of new cuticle.	1-3	a1 & a2	b2		d1	- Lectures & practical labs	- Short & final written exams - Practical exam - Oral exam - Semester work	- Course file - Exam. on paper
4- Mechanism of Respiration 5- Difference between respiration in areal, aquatic and endoparasitic insects. 6- Excretion , excretory organs and mechanism of excretion.	4-6	a1 & a2	b1	c1	d1	- Lectures & practical labs	- Activities	
7-products of excretion and variation in habitat. 8- Feeding and comparison between different types of insects. 9- Digestion, structure and function of different alimentary canal regions. 10- Absorption and nutrition.	7-10	a1 & a2		c1	d1	- Lectures & practical labs		

Course coordinator:

Name: Prof. Dr. Mostafa Amin Taha

Head of Zoology Department:

Name: Prof. Dr. Zinab Aid