هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

T-104
2022

Course Specification

Course Title:	**Medical and Economic Entomology**
Course Code:	**ZOOL456**
Program:	**Biology**
Department:	**Biology**
College:	**Science**
Institution:	**Jazan University**
Version:	**4**
Last Revision Date:	**18 October 2020**

Table of Contents:

A. General information about the course:

Course Identification					
1. Credit hours:	2				
2. Course type					
a.	University ☐	College ☐	Department☒	Track☐	Others☐
b.	Required ☒	Elective☐			
3. Level/year at which this course is offered: Level 12 – 4th Year					
4. Course general Description ➢ The course provides basic information on insects of medical and economic importance in local environment and the impact of insect pests on various agricultural production systems public health. ➢ Methods ofinsect pest control. Beneficial insects and making use of them.					
5. Pre-requirements for this course (if any): General Entomology ZOOL 356					
6. Co- requirements for this course (if any): None					
7. Course Main Objective(s) *Our successful students after finishing this course will be able:* ➢ To understand Insects of medical importance and their biology and systematic position. ➢ To differentiate between different mechanisms, functions, practices and aspects related to medical and economic entomology. ➢ Define types of Control insects of medical and economic importance. ➢ To apply accepted knowledge in entomology to solve some applied techniques and problems . ➢ To Identify examples of beneficial insects and biological control ➢ Design an entomological experiment and procedures in laboratory or in the field or even theoretically. ➢ To Demonstrate risk assessment & safety and then take the right decision in the various work sites.					

1. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1.	Traditional classroom	33	100%
2.	E-learning	0	0%
3.	Hybrid • Traditional classroom • E-learning	0	0%
4.	Distance learning	0	0%

2. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	Lectures	11
2.	Laboratory/Studio	22
3.	Field	0
4.	Tutorial	0
5.	Others (specify)	0
	Total	33

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	List all characteristics, importance, features, steps related to medical and economic entomology.	K 1-3	Interactive lectures. Classroom discussions Tutorials. Self-learning activities.	MCQs. Short answer questions. True/False.
1.2	Differentiate between different mechanisms, functions, practices and aspects related to medical and economic entomology.	K 2-1	Interactive lectures. Classroom discussions Tutorials. Self-learning activities.	MCQs. Short answer questions. True/False. Compare
1.3	Apply your knowledge in entomology to solve some applied techniques and problems.	K 3-1	Interactive lectures. Classroom discussions Tutorials. Self-learning activities.	MCQs. Short answer questions. True/False.
2.0	Skills			
2.1	Argue different entomological approaches in laboratory or field or even theoretically.	S 2-2	Interactive lectures. Classroom discussions Tutorials. Self-learning activities.	MCQs. Short answer questions. True/False. Quizzes. Midterm. Final.
2.2	Design an entomological experiment and procedures in laboratory or in the field or even theoretically.	S 3-1	Interactive lectures. Classroom discussions Tutorials. Self-learning activities.	MCQs. Short answer questions. True/False. Quizzes. Midterm. Final.
2.3	Communicate effectively orally or written by English language especially in biological terminology.	S 4-1	Interactive lectures. Classroom discussions Tutorials. Self-learning activities.	MCQs. Short answer questions. True/False. Quizzes. Midterm. Final.
3.0	Values, autonomy, and responsibility			

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
3.1	Demonstrate risk assessment & safety and then take the right decision in the various work sites	V3.1	Individual assignments. Group discussion. Lab-work. Self-learning activities. Micro-Project Presentation (individual and teamwork)	Group Assignment. Observation. Group Discussion. Oral exam. Laboratory work.

C. Course Content

No	List of Topics	Contact Hours
1.	Identification medical insects. Types of problems caused by insects.	2
2.	Methods of transmission of pathogens.	2
3.	Life cycle of mosquitoes and diseases transmission	2
4.	Plasmodium life cycle – Mosquito control.	2
5.	Life cycle of Sand fly and medical importance	2
6.	Life cycle of Cockroaches and diseases transmission- Life cycle of lice and medical importance	Self learning
7.	Life cycle of Bugs & fleas and medical importance.	2
8.	Identification economic insects -The agriculture pests in Saudi Arabia.	2
	Identification economic insects -The agriculture pests in Saudi Arabia.	Self learning
	Order Orthoptera - Economic importance and control.	2
	Orders: Isoptera ,Thysanoptera - Economic importance - control.	2
	Order: Lepidoptera – Economic importance - control.	2
	Beneficial insects - Biological control.	2
Total		22

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Theoretical Quiz	4	5
2.	Practical Quiz	5	5

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
3.	Theory Midterm	6	10
4	Theory Homework	7	5
5	Practical Homework	9	5
6	Practical Final	11	20
7	Final exam	12	50

*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	➢ Introduction to Medical and Veterinary Entomology (2015) authored by Dr. Azzam Muhammad Al-Nasser Al-Ahmad - King Saud University Publishing House - Saudi Arabia. ➢ The Agricultural Counselor's Guide (2013): First Edition - Dr. Muhammad Ali Tanani - Dar Al-Batoul for Publishing - Arab Republic of Egypt ➢ المدخل الي علم الحشرات الطبية والبيطرية (2015) تأليف د عزام محمد الناصر الاحمد -دار جامعة الملك سعود للنشر-المملكة العربية السعودية. ➢ دليل المرشـد الزراعي (2013): الطبعة الاولي-د محمد علي طناني –دار البتول للنشر – جمهورية مصر العربية.
Supportive References	➢ - Louis Compton Miall (2017) Injurious and Useful Insects: An Introduction to the Study of Economic Entomology, Leopold Classic Library, Amazon.com. - Mike Service (2012), Medical Entomology for Students (5thed), Cambridge University Press.
Electronic Materials	➢ www. Youtube.com, www. Wikipedia.com, developmental biology, Embryology
Other Learning Materials	➢ Powerpoint presentations given by the instructors practical and theoretical

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	1 Lecture room(s) for groups of 25 students. 1 Laboratory for group of 15 students.
Technology equipment (projector, smart board, software)	Internet connection, data show or smart board
Other equipment (depending on the nature of the specialty)	Light microscopes, microscopic slides for the course subjects, models of embryonic development, consumables, incubators, chemicals and glasswares.

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	Peer to peer Reviewer, students	Indirect (Surveys)
Effectiveness of student's assessment	Program quality committee, Program leader, peer reviewer	Direct (Cross Check), Indirect (Surveys)
Quality of learning resources	Students	Indirect (Surveys)
The extent to which CLOs have been achieved	Course coordinator	Excel sheet of CLOs assessment (direct), Surveys (indirect)
Other		

Assessor (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)
Assessment Methods (Direct, Indirect)

G. Specification Approval Data

COUNCIL /COMMITTEE	BIOLOGY PROGRAM BOARD
REFERENCE NO.	BIO2214
DATE	20/9/2022AD

Course coordinator: **Dr. Usama M. Hassan**

Signature:

Head of Department

Name: **Dr. ABDULLAH YAHYA MASHRAQI**

Signature: