

**Institute of Zoology,
Faculty of Life Sciences
University of the Punjab, Lahore
Course Outline**



Programme	BS Zoology	Course Code	ZOOL-302	Credit Hours	1
Course Title	Lab. Entomology				
Course Introduction					
This course provides a comprehensive exploration of insect structure and function. Which include study of anatomical and physiological features of the insects for clear understanding of entomology. It includes study of general characters of insects, coloration, metamorphosis, mouthparts, comparative structures of all systems and reproduction					
Learning Outcomes					
On the completion of the course the student will be able to: 1. Learn the basic and advanced anatomical features of insects including external and internal structures. 2. Explore physiological processes such as digestion, respiration, circulation, excretion and reproduction 3. Understand the ecological roles of insects, including their interactions with other organism and their impact on ecosystem. 4. Investigate the adaptations of insects to exploit diverse environments					
Course Content				Assignments/Readings	
Week 1	Preparation of permanent slides				
Week 2	Preparation of slides of mouthparts of cockroach				
Week 3	Study of mouthparts of Honeybee				
Week 4	Dissection of cockroach digestive system				
Week 5	Study of insect wings				
Week 6	Study of wings, antennae of various insects				
Week 7	Study of antennae of mosquito				
Week 8	Study of sympathetic nervous system of cockroach				
Week 9	Study of different representative members of major orders of insects				
Week 10	Insect collection techniques				
Week 11	Field visits for collection of insects belonging to different orders				
Week 12	Insect Pinning and display learning				
Week 13	Ecological notes on insects of economic importance				
Week 14	Field tour for insect collection				
Week 15	Field visit for crops pest study				
Week 16	Study of different wing cover of insects				
Textbooks and Reading Material					
Textbook 1. General Text Book of Entomology. Imm. Richards and Davies, Vol.1 and Vol II Additional Readings					

2. The Insects: Structure and Function, 2000. Chapman.
3. Insect Physiology. Wiggles Worth.
4. Insect Physiology. Pattons.
5. Insect Ecology. Price.
6. Ecology: The Experimental Analysis Abundance. Krebs.
7. Modern Entomology, 1997. Tembhare.
8. Ecological Methods, 1978. T.R.E. Southood.
9. Elements of Insect Ecology, 1997. S.S. Yasbani and M.L. Agarwal.
10. Entomology and Pest Management, 6th Edition, by Pedigo, L.P. and Marlin

Teaching Learning Strategies

Teaching will be a combination of class lectures, class discussions, and group work. Short videos/films will be shown on occasion.

Assignments: Types and Number with Calendar

The sessional work will be a combination of written assignments, class quizzes, presentation, and class participation/attendance.

Assessment

Sr. No.	Elements	Weightage	Details
1.	Midterm Assessment	35%	Written Assessment at the mid-point of the semester.
2.	Formative Assessment	25%	Continuous assessment includes: Classroom participation, assignments, presentations, viva voce, attitude and behavior, hands-on-activities, short tests, projects, practical, reflections, readings, quizzes etc. class Attendance
3.	Final Assessment	40%	Written Examination at the end of the semester. It is mostly in the form of a test, but owing to the nature of the course the teacher may assess their students based on term paper, research proposal development, field work and report writing etc.