

Course Objectives:

Maintenance and measurement of a biotic factors (temperature, humidity, light, wind etc) with different instruments; population sampling, estimation and construction of life tables.

Learning Objectives:

1. Identify and analyze key concepts in insect ecology.
2. Identify biotic and abiotic ecological forces that drive insect behavior.
3. Discuss responses of insects to ecological stimuli.
4. Describe how insects acquire and allocate resources.
5. Identify principles of insect population and community structure and function, systems, and dynamics.
6. Describe the role of insects in populations, communities, and ecosystems, including intra and interspecific interactions and trophic dynamics.
7. Explain how insects are associated with herbivory, seed predation and dispersal, pollination, and decomposition.
8. Discuss how insect populations can be managed.

LEARNING OUTCOMES:

The students should be well versed with the basic concepts of insect ecology, succession, population, ecosystem and insect-ecosystem interactions.

Course contents

Overview of insect ecology; divisions of ecology; habitat and niche; intra and interspecific interactions; natural and agro-ecosystems; flow of energy in ecosystem; trophic relations: food chain, food web and food mesh concepts; ecological succession; population and its characteristics like natality, mortality, migration, dispersal, key factors, density dependent and density independent factors, introduction to life tables and diversity indices.

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

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

Assessments and Examination

Sessional Work:	25 marks
Midterm Exam:	35 marks
Final term Exam:	40 marks

RECOMMENDED BOOKS:

1. Schowalter, T.D. (2016). *Insect Ecology: An Ecosystem Approach*. Academic Press.
2. Price, P.W., Denno, R.F., Eubanks, M.D., Finke, D.L., and Kaplan, I. (2012). *Insect Ecology: Behavior, Populations, and Communities*. Cambridge University Press.
3. Speight, M.R., Hunter, M.D., & Watt, A.D. (2008). *Ecology of Insects: Concepts and Applications*. Wiley-Blackwell.

UZO-510 Insect Ecology

Cr. (2)

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1. Sampling methods
2. Diversity Indices
3. Density estimates
4. Field surveys

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