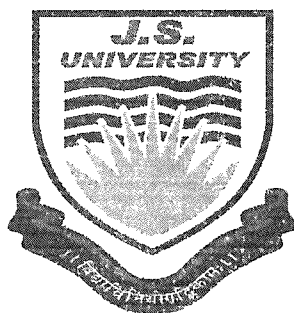


J.S. University, Shikohabad

Established by UP Govt. Act No. 07 of 2015

Recognized by U.G.C. under section 2 (f) of Act-1956



VALUE ADDED COURSE

"Insect Ecology and Behavior: Studying Insect Interactions with Crops and Ecosystems"

Faculty of Agricultural Science



J.S. University, Shikohabad
Faculty of Agricultural Sciences

Value Added Course

AGVAC-13

"Insect Ecology and Behavior: Studying Insect Interactions with Crops and Ecosystems"

Learning Objectives:

This value-added course will provide students with a comprehensive understanding of the ecology and behavior of insects, with a focus on their interactions with crops and ecosystems. Students will learn about the ecological roles of insects, their interactions with other organisms, and the factors that influence their behavior. The course will also cover the impacts of insect populations on crop productivity and ecosystem functioning, and introduce students to the principles of insect management.

Course Outcomes:

Upon completion of this course, students will be able to:

1. Understand the ecological roles of insects in crops and ecosystems
2. Analyze the interactions between insects and other organisms
3. Evaluate the factors that influence insect behavior
4. Assess the impacts of insect populations on crop productivity and ecosystem functioning
5. Develop sustainable management strategies for insect pests

Duration: 8-10 weeks (depending on the pace of the student)

Intake: 60 students



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Course Modules (Syllabus):

Module-1

Introduction to Insect Ecology and Behavior

- Overview of insect diversity and importance
- Ecological roles of insects in crops and ecosystems
- Factors affecting insect behavior

Module-2

Insect-Plant Interactions

- Feeding behavior and interactions with plants
- Insect-induced plant responses
- Plant defenses against insect herbivores

Module-3

Insect-Predator Interactions

- Prey-predator interactions
- Parasitism and disease in insect populations
- Biological control of insect pests

Module-4


Insect Populations and Ecosystem Functioning

- Impacts of insect populations on crop productivity
- Effects of insect populations on ecosystem processes
- Biodiversity and ecosystem functioning

Module-5

Insect Management Strategies

- Principles of integrated pest management
- Sustainable strategies for insect control
- Challenges and opportunities for insect management

	J.S. University, Shikohabad Faculty of Agricultural Sciences	Value Added Course
		AGVAC-13

Assessment:

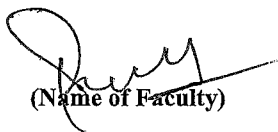
- Weekly quizzes and assignments
- Final project on designing and implementing insect ecology and behavior plan.

Prerequisites:

The course is designed for undergraduate and graduate students with a background in biology, entomology, or related fields. Some knowledge of biology and ecology is recommended. Prior coursework in entomology or related fields is also beneficial.

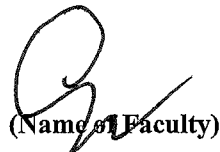
Reference books:

1. Insect Ecology: An Ecosystem Approach by T. D. Northfield, G. E. Heimpel, and A. J. Ragsdale
2. Insect-Plant Biology by L. E. Ehrlich and P. H. Raven
3. Insect Conservation Biology by A. J. Davis
4. Handbook of Biological Control: Principles and Applications of Biological Control by T. S. Bellows and T. W. Fisher
5. Integrated Pest Management: Principles and Practice by D. Pimentel and D. Peshin


 (Name of Faculty)

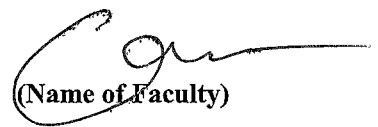
Course Coordinator

Sachin Bellik
 Dr. Yashade


 (Name of Faculty)

Dean of Faculty

Dr. Akhilesh


 (Name of Faculty)

Director General

Dr. Ganu Vash



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