J.S. University, Shikohabad

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VALUE ADDED COURSE

"Insect Biology and Morphology: Understanding Insect Anatomy, Physiology, and Life Cycles"

Faculty of Agricultural Science

	J.S. University, Shikohabad Faculty of Agricultural Sciences	Value Added Course
		AGVAC-12

"Insect Biology and Morphology: Understanding Insect Anatomy, Physiology, and Life Cycles"

Learning Objectives:

This value-added course will provide students with a comprehensive understanding of insect biology and morphology, including the anatomy, physiology, and life cycles of insects. Students will learn how insects are adapted to their environments and how they interact with other organisms. The course will also cover the principles of insect classification and identification, and introduce students to the major groups of insects.

Course Outcomes:

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

1. Understand the anatomy, physiology, and life cycles of insects
2. Identify and classify major groups of insects
3. Analyze insect behavior and interactions with other organisms
4. Evaluate the economic and ecological impacts of insects
5. Develop 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 Biology and Morphology

- Overview of insect diversity and importance
- Principles of insect classification and identification
- Insect anatomy and physiology

Module-2

Insect Life Cycles and Development

- Insect metamorphosis and development
- Reproduction and mating behavior
- Factors affecting insect life cycles

Module-3

Insect Behavior and Ecology

- Feeding behavior and interactions with plants
- Social behavior and communication
- Insect-plant and insect-predator interactions

Module-4

Insect Pests and Their Management

- Overview of insect pests and their economic impacts
- Principles of integrated pest management
- Sustainable strategies for insect control

Module-5

Insect Diversity and Adaptations

- Major groups of insects and their characteristics
- Insect adaptations to different environments
- Insect evolution and diversity

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Assessment:

- Weekly quizzes and assignments
- Final project on designing and implementing insect biology and morphology 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 Biology: A Textbook of Entomology by P. J. Gullan and P. S. Cranston
2. Principles of Insect Morphology by R. E. Snodgrass
3. Insects: Their Natural History and Diversity by S. L. Marshall and S. A. M. H. Anderson
4. The Insects: An Outline of Entomology by P. J. Gullan and P. S. Cranston

Course Coordinator
Mr. Swadesh Kumar

Dean
Dr. A Khilari

Dean
Dr. R. A. Kushwaha

(Name of Faculty) Course Coordinator	J.S. University, Shikohabad Faculty of Agricultural Sciences	**Value Added Course** AGVAC-12

	(Name of Faculty) Dean of Faculty J.S. University, Shikohabad Faculty of Agricultural Sciences	**Value Added Course** AGVAC-12

	(Name of Faculty) Director General J.S. University, Shikohabad Faculty of Agricultural Sciences	**Value Added Course** AGVAC-12