

## **UZO-411      Applied Entomology**

**Cr. 2**

### **Course objective**

1. Knowledge of insect pests of crops, vegetables, fruits, stored grains and household pests.
2. Identification of insect pests, their control methods and pesticide application equipments.

### **Course Learning Outcomes:**

The students would be able to;

1. Acquire knowledge of insect pests of crops, vegetables, fruits, stored grains and household pests.
2. Identification of insect pests, their control methods and pesticide application equipments.
3. Introduction with entomological cottage industries.
4. Enhance the productivity of agricultural crops through insect pest management.

## Course Content:

1. Introduction;
2. causes of success and economic importance of insects;
3. principles and methods of insect control i.e. cultural, biological, physical, mechanical, reproductive, legislative, chemical and bio-technological control
4. introduction to IPM
5. insecticides, their classification, formulations and application equipments
6. identification, lifehistories, mode of damage and control of important insect pests of various crops, fruits, vegetables, storedgrains, household, termites and locust
7. Introduction to entomological industries: apiculture, sericulture and lac-culture.

## 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. Atwal, A.S. 2005. Agricultural Pests of Southeast Asia and their Management. Kalyani Publishers, Ludhiana.
2. Awastheir, V.B. 2009. Introduction to General and Applied Entomology. Scientific Publisher, Jodhpur, India.
3. Duncton, P.A. 2007. The Insect: Beneficial and Harmful Aspects. Kalyani Publishers Ludhiana.
4. Gullan, P. J. and Cranstan, P. S. 2010. The Insects: An Outline of Entomology. 4<sup>th</sup> edition. Wiley-Blackwell. A John Wiley & Sons, Ltd., Publication, UK.
5. Lohar, M. K. 2001. Applied Entomology, 2<sup>nd</sup> Ed. Department of Entomology, Sindh Agriculture University Tandojam Sindh, Pakistan.
6. Mathews, G.A. 2004. Pesticide Application Methods, 3<sup>rd</sup> Ed. John Wiley & Sons, Inc. N.Y.
7. Pedigo, L.P. and Marlin, E. R. 2009. Entomology and Pest Management, 6<sup>th</sup> Edition, Person Education Inc., Upper Saddle River, New Jersey 07458, U.S.A.
8. Pfadt, E.R. 1985. Fundamentals of Applied Entomology, 4<sup>th</sup> Ed. The McMillan Co., N. Y.
9. Robinson, D.H. 2006. Entomology Principles and Practices. Agro-bios.
10. Shah, H.A. and Saleem, M.A. 2002, Applied Entomology, 3<sup>rd</sup> Ed. Izhar Sons Printers, Lahore.
11. Srivastava, K.P. 2005. Text Book of Applied Entomology. Kalyani Publishers, New Delhi.
12. Romoser, W. S. and Stoffolano, J. G. 1998, The Science of Entomology, WCB McGraw-Hill.

## UZO-412 Applied Entomology (Lab.)

Cr. 1

### Course objective

1. Knowledge of insect pests of crops, vegetables, fruits, stored grains and household pests.
2. Identification of insect pests, their control methods and pesticide application equipments.

### Course Learning Outcomes:

The students would be able to;

1. Acquire knowledge of insect pests of crops, vegetables, fruits, stored grains and household pests.

2. Identification of insect pests, their control methods and pesticide application equipments.
3. Introduction with entomological cottage industries.
4. Enhance the productivity of agricultural crops through insect pest management.

### **Course Content:**

1. Collection, identification and mode of damage of insect pests of various crops, fruits, vegetables, stored grains and household
2. insecticide formulations, their dilutions and safe handling
3. use of application equipments, instructions for apiculture, sericulture and lac-culture.

### **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. Atwal, A.S. 2005. Agricultural Pests of Southeast Asia and their Management. Kalyani Publishers, Ludhiana.
2. Awastheir, V.B. 2009. Introduction to General and Applied Entomology. Scientific Publisher, Jodhpur, India.
3. Duncton, P.A. 2007. The Insect: Beneficial and Harmful Aspects. Kalyani Publishers Ludhiana.
4. Gullan, P. J. and Cranstan, P. S. 2010. The Insects: An Outline of Entomology. 4<sup>th</sup> edition. Wiley-Blackwell. A John Wiley & Sons, Ltd., Publication, UK.
5. Lohar, M. K. 2001. Applied Entomology, 2<sup>nd</sup> Ed. Department of Entomology, Sindh Agriculture University Tandojam Sindh, Pakistan.
6. Mathews, G.A. 2004. Pesticide Application Methods, 3<sup>rd</sup> Ed. John Wiley & Sons, Inc. N.Y.
7. Pedigo, L.P. and Marlin, E. R. 2009. Entomology and Pest Management, 6<sup>th</sup> Edition, Person Education Inc., Upper Saddle River, New Jersey 07458, U.S.A.
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11. Srivastava, K.P. 2005. Text Book of Applied Entomology. Kalyani Publishers, New Delhi.
12. Romoser, W. S. and Stoffolano, J. G. 1998, The Science of Entomology, WCB McGraw-Hill.