

Semester:	01		
Course Code:	ZOOL 31713		
Course Name:	Entomology and Pest Management		
Credit Value:	03		
Status:	Optional		
Pre-requisite:	ZOOL 12703		
Co-requisite:	None		
Hourly Breakdown:	Theory	Practical	Independent Learning
	30	45	75

Intended Learning Outcomes:

After completion of this course unit, the student will be able to:

1. explain the economical, ecological and scientific importance of insects,
2. describe major morphological features of acarine and selected insect orders,
3. explain impacts and economic importance of members of acarine and selected insect orders
4. explain the causes for pest outbreaks,
5. discuss the concepts of insect pest management and pest management methods
6. identify and describe the life histories, symptoms of damages and control methods of major insect and acarine pests of selected agricultural crops in Sri Lanka,
7. describe the life histories and impact of common household and medically important insect and acarine pests in Sri Lanka,
8. demonstrate practical skills in basic entomological techniques, and
9. recommend suitable management measures for acarine and insect pests of agricultural/medical importance.

Course Content:

Introduction to Entomology. Major morphological features of acarine and selected insect orders: Acari, Thysanura, Odonata, Orthoptera, Phasmatodea, Isoptera, Blattodea, Hemiptera, Thysanoptera, Pthiraptera, Coleoptera, Neuroptera, Hymenoptera, Lepidoptera, Siphonaptera, Strepsiptera, and Diptera. Impacts and economic importance of members of these Orders. Concepts in insect pest management: General Equilibrium Level, Economic Threshold Level and Economic injury Level, Insect pest outbreaks, cultural, mechanical, physical, biological, and chemical control of insect pests. Host plant resistance to insects and Integrated pest management.

Life history, symptoms of damages and management of major insect and acarine pests of rice, coconut, tea, sugarcane and selected fruit and vegetable crops and stored products in Sri Lanka. Life history and management of selected medically important insect vectors and household insect pests of Sri Lanka.

Practical sessions on general morphology of insects, Entomological techniques in collecting, rearing, preserving, mounting and displaying of insects. Symptoms of damages caused by phytophagous insects. Identification of adult and immature stages of economically important insect pests in selected Orders and their impacts. Identification of life stages and damage symptoms of major insect and acarine pests of rice, coconut, tea, sugarcane, selected vegetables, fruits and stored products. Life history of selected medically important insect vectors and household insect pests. Insecticides and their application equipment.

Teaching /Learning Methods:

A combination of lectures, laboratory and field studies, quizzes and assignments, self-studies, computer based learning, and small group discussions.

Assessment Strategy:

In-course assessment, quizzes, practical examinations, end of semester examination. Percentage given for each sub-component indicates the percent contribution to the final marks.

Continuous assessment 30 %		Final Assessment 70 %		
Details:		Theory	Practical	Other (specify)
Quizzes	10 %	50 %	20 %	-
Assignments	10 %			
In class practical test	10 %			

Recommended Readings:

1. Triplehorn, C. & N. F. Johnson (2006). Borror and Delong's Introduction to the Study of Insects, 7th Edition, Thomson Publishers, USA.
2. Gullen, P.J. & P.S. Cranston (2014). The Insects, an outline of Entomology, 5th Edition, Blackwell Science.
3. Pedigo, L.P. & M. Rice (2015). Entomology and Pest Management Pearson, 6th Edition NJ, USA.
4. Rechcigl, E. & N. A. Rechcigl (2015). Insect Pest Management. Techniques for Environmental Protection. Lewis Publishers.