

<b>Semester</b>	<b>5</b>		
<b>Course code</b>	<b>ZOOL 41524</b>		
<b>Course Name:</b>	<b>Insect Systematics and Biology</b>		
<b>Credit Value:</b>	4		
<b>Core/Optional</b>	Core		
<b>Pre requisites</b>	ZOOL 12523		
<b>Co-requisites</b>	<b>None</b>		
<b>Hourly Breakdown</b>	Theory	Practical	Independent Learning
	40	60	100
<b>Course Aim/Intended Learning Outcomes:</b>			
After completion of the course unit, the student will be able to;			
<ul style="list-style-type: none"> <li>➤ describe the morphology of a typical insect,</li> <li>➤ describe diagnostic features of insects belonging to common selected orders,</li> <li>➤ explain structure and functioning of insect organ systems,</li> <li>➤ describe post- embryonic development of insects,</li> <li>➤ classify insects to the relevant orders and selected families,</li> <li>➤ construct insect taxonomic keys, and</li> <li>➤ demonstrate skills in procedures and techniques relevant to insect preservation.</li> </ul>			
<b>Course Content:</b>			
Morphology of a typical insect; Integument and associated structures, Types of antennae, Mouthparts and legs. Morphological features and life history of Thysanura, Blattodea, Mantodea, Neuroptera, Orthoptera, Hemiptera, Coleoptera, Lepidoptera, Thysanoptera, Diptera including chironomidae and simuliidae, Mallophaga, Dermaptera, Phasmatodea, Siphonaptera, Isoptera, Ephemeroptera, Odonata, Plecoptera and Trichoptera. Biological aspects of selected insect families.			
Exoskeleton, Muscular system, Nervous system and perception, Endocrine system, Sound and light producing organs, Digestive system, Nutrition and digestion, Respiratory system, Circulatory system, Excretory system and Reproductive system. Exocrine glands, Insect Pheromones, Insect hormones and their role in metamorphosis and post-embryonic development.			
Practical sessions on; Techniques of collection, preservation and mounting of insects, morphology of adult insects of the above orders and Internal anatomy of selected life stages of insects, Laboratory rearing of insects. Post embryonic development, Use of taxonomic keys to sort insects to order and family levels, Preparation of insect keys.			
<b>Teaching /Learning Methods:</b> A combination of lectures, laboratory and field studies, assignments, self-studies, computer based learning, and small group discussions.			
<b>Assessment Strategy:</b> In-course assessment and end of semester examination.			
Continuous Assessment 10%		Final Assessment 90%	
Details: Practical course work compilation 10%		Theory (%) 65%	Practical (%) 25% Other (%) (specify) NA
<b>Recommended reading:</b>			
<ol style="list-style-type: none"> <li>1. Borror, D. J., C. A. Triplehorn &amp; N. F. Johnson (1989). Introduction to the study of insects. 6th edition. Saunders College Publication.</li> <li>2. Gullan, P.J. &amp; P. S. Crantson (2010). The insects- an outline of entomology, 10th edition, Chapman and Hall, London.</li> </ol>			