Course plan: ZOL401MC3- 2017 (K.Gajapathy)

Course title	**Advanced Parasitology and Vector Control**
Course code	**ZOL 401 MC3**
Credit value	03 - (30 hours L and 54 P+F) [**cover the parasitology section 50%= 15h L and 27h P and F**] 60% Theory + 40 % Practical and/ or Field
Prerequisites	ZOL304GC3: Parasitology and Vector Biology
Objectives	This course aims to, • Discuss the adaptations of parasites and their hosts for survival through evolution; • Document Statistics on prevalence and prediction of vector borne diseases; • Outline the principles of different diagnostic techniques for identification of parasitic diseases; • Discuss the objectives and control strategies of various vector borne diseases.
Intended Learning Outcome	Upon the completion of this course unit, the student should be able to; • Categorize the adaptations of the major animal parasites and vectors and their survival strategies • Analyze the survival/ evolutionary significance of these adaptations • Assess the parasitic and vector borne disease epidemiology • Evaluate the major parasitic and vector borne diseases in Sri Lanka • Recommend suitable control strategy to the existing parasitic and vector borne diseases
Course content	Parasite-Host interactions- parasitic adaptations, defense mechanisms of host and parasite; Diagnostic techniques for parasitic diseases- basic laboratory, immunological and molecular biological techniques, Disease control-chemotherapy, vaccine developments, challenges and case studies
Teaching and learning methods	Lecture presentation , tutorial discussion, field based studies, laboratory based experiments, take-home assignments and student presentations
Theory	**Lecture 1 and 2-** Recalling the major parasites and their impact in economy– interactive session with questions and answers. Group discussion on common topics **L3,4,5 and 6-** Identifying the host parasite and environment triad with a specific example. Understand the role of different barriers and factors shaping the relationship among the components of the triad – lectures and assignment (library based; group and needs to be presented) to establish a protocol for the triad interaction in a different parasite other than one studied **L7-** Home prepared presentation will be done by students: Skill development- Reading and independent learning; presentation skill be evaluated and feedback given by peers and resource persons: **ICA 1** **L8 and 9-** Introducing differnet diagnosis methods to identify different parasites - recall and detailed lectures **L10-** Quiz exam- **ICA2** **L11 -** group discussion on challenges in identify a parasite; an example will be given in advance for this or a manuscript in this regard will be disused

Practical	**L12-** group discussion on challenges in identify a parasite; an example will be given in advance for this or a manuscript in this regard will be disused **L13 to 15-** Cases studies (Focusing on Sri Lanka and global) and tutorial discussion **Session 1 and 2- Basic lab techniques in parasitology; diagosis:** Students will be given introduction to diagnosis and lab safety and ethics during this. They will also be learning and practicing different techniques in given live and dead animal samples to identify different parasites. **Session 3 – Parasite identification- Taxonomy** Students will be given a taxonomic key to identify a parasite slide **Session 4 and 5- Field sampling and analysis** Students will go on a field to do a survey and sampling on a specific parasite and they will do the necessary lab analysis to identify the findings. They will be submitting a report which will be marked **(ICA1)**
Evaluation Methods	Theory: In-Course Assessments (30%) End of Course Examination (70%) Practical: In-Course Assessments (30%) End of Course Examination (70%) **Marks obtained in theory component (MT) and practical component (MP) will be computed into Overall Marks as (6MT+4MP)/10**
ECE Exam blue print	The ECE (Theory) will have two questions from any of the following sections; • Parasite-host interaction in a named parasite • Environmental factors shaping the parasite's survival • Different diagnosis method; comparative analysis Practical ECE will be with 4-5 questions with different mark weightage covering all the sessions with hands on experiment which will be assessed on spot. The other questions may include identification, spotting, comment and critique.
References	1. LaMann, GV., (2010) Veterinary Parasitology.Nova Biomedical Press. New York. 2. Mullen, GR and Durden, IA., (es).(2009). Medical and Veetrinary Entomology, 2nd Edition.Academic Press. 3. Gajapathy, K., (2015). Beginners Guide to Sandfly Taxonomy.Lambert Academy Press, Germany. 2015. **4.** Ramasamy, R. and Surendran, SN., (2013).*Global Environment Changes and Salinity Adaptation in Mosquito Vectors*.LAMBERT Academic Publishing. Germany.
Resource person	Professor S.N. Surendran and Dr. K. Gajapathy

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