



MSc IN MEDICAL ENTOMOLOGY AND APPLIED PARASITOLOGY

PROSPECTUS 2022/2023

DEPARTMENT OF ZOOLOGY

FACULTY OF NATURAL SCIENCES

THE OPEN UNIVERSITY OF SRI LANKA



PROSPECTUS 2022/2023

This Prospectus provides useful information to students about the Master of Science Degree Programme in Medical Entomology and Applied Parasitology offered by the Department of Zoology, Faculty of Natural Sciences, The Open University of Sri Lanka (OUSL).

Please read this prospectus carefully and keep it as a source of reference throughout your studies with the OUSL, as it provides essential information about student life at OUSL.

Thank you for choosing the OUSL for your postgraduate studies and we warmly welcome you as part of our student community.



**MSc in Medical
Entomology and Applied
Parasitology**

**The Open University of
Sri Lanka**



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Welcome to The Open University of Sri Lanka





The Open University of Sri Lanka

The Open University of Sri Lanka (OUSL) is one of the national universities in Sri Lanka established in 1980 under the Universities Act no. 16 of 1978. This is the only state university in Sri Lanka where students may pursue further education solely through the Open and Distance Learning (ODL) mode. The OUSL has the same legal and academic status as any other national university in Sri Lanka.

As per the public administration circular no. 16/92, dated 13.03.1992 issued by the Ministry of Public Administration, Provincial Councils, and Home Affairs, the degrees awarded by the OUSL are treated as equivalent to degrees awarded by the other universities under the purview of the University Grants Commission.

Vision

“To attain excellence in life-changing education by providing equitable learning opportunities

Mission

“To provide lifelong learning opportunities through Open, Distance and Flexible Education with a commitment to excellence in teaching and research”



OUSL at a glance..

All our programmes have been developed complying with guidelines specified in the Sri Lanka Qualification Framework (SLQF).

The teaching methodology and infrastructure of the OUSL have enabled it to provide opportunities for a large number of students scattered throughout the island.

FACULTIES



Natural Sciences
Engineering Technology
Education
Management Studies
Health Sciences
Humanities and Social Sciences

ACADEMIC PROGRAMMES



Certificate programmes
Diplomas
Degrees
PG Diplomas
Masters Degrees
Master of Philosophy (MPhil)
Doctor of Philosophy (PhD)

CURRENT STUDENTS



Around 40,000 students

REGIONAL CENTRES



9 Regional Centers
19 study Centers



Colombo (CRC) Nawala
Kandy (KRC)
Matarara (MRC)
Kurunegala (KuRC)
Batticaloa (BRC)
Anuradhapura (ARC)
Badulla (BaRC)
Rathnapura (RRC)
Jaffna (JRC)

THE OPEN UNIVERSITY
OF
SRI LANKA



MSc in Medical Entomology and Applied Parasitology

General Description

Master of Science Degree in Medical Entomology and Applied Parasitology [MSc in (Medical Entomology and Applied Parasitology)] is a programme of study offered by the OUSL. It is designed to meet the growing need to develop knowledge and skills in vector-borne disease control and vector control.

MSc in Medical Entomology and Applied Parasitology will be offered as a Distance Learning Programme of study.

This programme is offered by the Department of Zoology, Faculty of Natural Sciences, OUSL. It is a 60-credit programme, made up of 30 credits of course work at levels 8 and 9 (first year) and 30 credits at level 10 (second year) from course work (12 credits) and a research project (18 credits).

Aims of the Programme

- ❖ Enable personnel employed in the health sector to obtain specialized knowledge in fields related to vectors, pathogens, and their control.
- ❖ Expand opportunities for postgraduate studies in the field of Medical Entomology and Applied Parasitology.
- ❖ Promote research in areas relevant to Medical Entomology and Applied Parasitology

Programme Learning Outcomes (PLOs)

PL01: Knowledge -Demonstrate advanced theoretical and practical knowledge on current vector-borne diseases with respect to their causative pathogens, vectors of diseases, epidemiology, public health issues, social factors and disease control strategies.

PL02: Creativity & Problem solving - Analyse vector-borne disease issues by applying relevant laboratory and field techniques and find sustainable solutions.

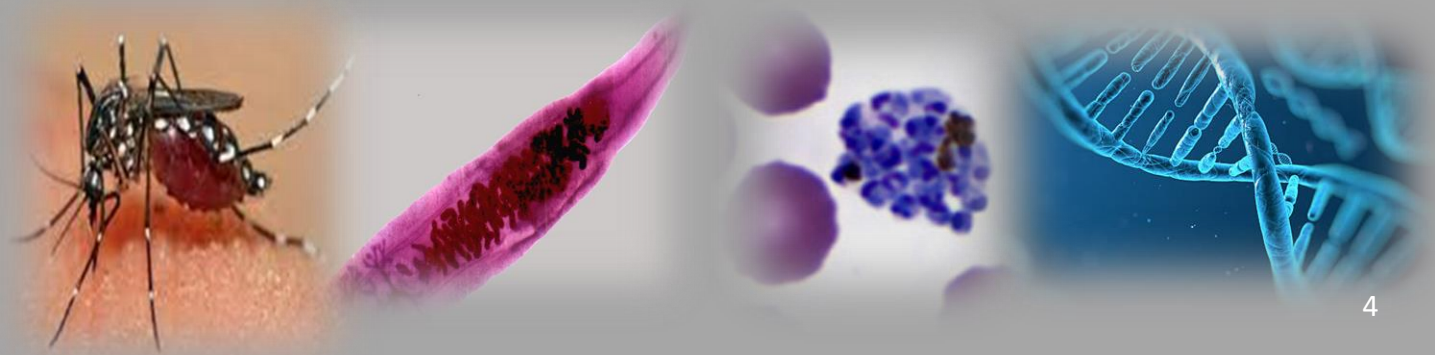
PL03: Information usage and Management- Demonstrate abilities to gather in-depth knowledge in any area of specialization and to logically present findings in written and oral form.

PL04: Teamwork and Leadership – Work effectively within teams of experts, the general public and other relevant stakeholders to create a positive change towards prevention and control of vector-borne diseases.

PL05: Innovation through Scientific inquiry - Contribute to the development of new knowledge in relevant areas of specialization by conducting independent and pure research studies.

PL06: Communication-Disseminate research outcomes to a variety of audiences using well developed written and oral communication skills.

PL07: Attitudes, values, professionalism and Lifelong learning - Exhibit professionalism in dealing with different aspects of vector borne disease control



MSc in Medical Entomology and Applied Parasitology



Admission Requirements

- ❖ Bachelor's Degree in Science (Biological Science) from a recognized University, or
- ❖ Bachelor's Degree in Veterinary Science from a recognized University, or
- ❖ Bachelor of Medicine and Bachelor of Surgery (MBBS) from a recognized University, or
- ❖ Equivalent or higher qualification acceptable to the Senate of the OUSL



Duration

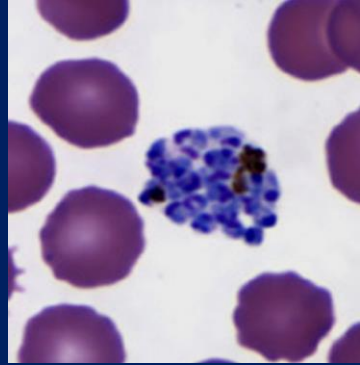
The minimum period of this programme is two (02) academic years

The maximum period of six (06) consecutive academic years from the date of first registration



Frequency of Programme Offering

This programme will be offered once every two academic years



Study System at OUSL

Mode, Levels, credit rating, and workload of the programme

Mode of Study

The study system of the OUSL is based on open and distance learning methods. It is different from the conventional study system that most of you are familiar with. Regular attendance at the university is not required and is therefore well suited for those employed or engaged with other commitments.

Levels of Study

MSc in Medical Entomology and Applied Parasitology offers courses at Levels 8, 9 and 10 of the SLQF.

Credit Ratings

This programme has course units of credit rating ranging from 3 to 18 credits.

Total credits – 60 credits

1st year 30 credits

2nd year 30 credits

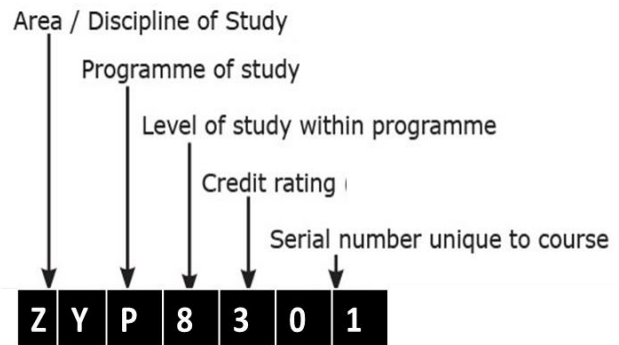
Workload

A course having a credit rating of 3 will require 150 hours of notional study time for going through the self-study course material, doing the self-assessment activities, and recommended reading in the course material.

Course Code

7 alphanumeric characters

Each course is identified by a course code. A course code reflects the level of study and the academic value of the course referred to as the credit rating.



Courses and Prerequisites

Year	Course Code	Credits	Course Title	Pre-Requisites
Year 1	Level 8			
	Discipline based Courses – Compulsory			
	ZYP8301	3	Arthropods of Medical and Veterinary Importance	None
	ZYP8302	3	Human Parasites	
	ZYP8603	6	Introduction to Immunology & Molecular Biology	
	Level 9			
	Discipline based Courses – Compulsory			
	ZYP9304	3	Host Parasite Interactions	None
	ZYP9605	6	Epidemiology and Control of Vector-borne Diseases	
	ZYP9306	3	Diagnostic Parasitology	
ZYP9307	3	Practical Techniques in Medical Entomology		
ZYP9308	3	Public Health – Issues and Policies		
	30	Total credits in Year 1		
Year 2	Level 10			
	Discipline based courses			
	Compulsory courses			
	ZYPAI09	18	Research Project	At least grade “C” for 30 credits at Levels 8 and 9 courses
	Elective courses (Select only 12 credits of following courses)			
	ZYPA410	4	Defense Mechanisms in Vectors and Parasites	CR / EL for 30 credits at Levels 8 and 9 courses
	ZYPA411	4	Molecular Biology of Vectors and Parasites	
	ZYPA412	4	Control of Arthropod Vectors of Diseases	
	ZYPA413	4	Clinical Aspects of Vector-borne Diseases	
		30	Total credits in Year 2	
Continuing Education courses				
Compulsory course				
ZYEA314	3	Research Methodology and Communication Skills	CR / EL for 30 credits at Levels 8 and 9 courses	

Programme Delivery

Course Material



- ✓ Students will learn using specially prepared distance learning course material, available as printed material and online content.
- ✓ You will be able to collect printed material after you register for the programme of study.
- ✓ You will be provided access to OUSL's Learning Management System (LMS) to access these material when academic activities begin.
- ✓ Course material are written in simple English. You are required to read and understand the content of the course material on your own.
- ✓ Self-assessment activities in the printed text and online material will provide you with opportunities to test your knowledge.
- ✓ Interaction with your teachers online, will provide you with an opportunity to clarify your difficulties in the instructional materials.

Day Schools



- ✓ Learning will be further facilitated by face-to-face discussion classes. You will have the opportunity to clarify your problems in the instructional material at these discussion classes.
- ✓ Discussion classes will be held **only in the Colombo Regional Centre (CRC) or via the zoom platform on Fridays and weekends.**
- ✓ You will receive a schedule for academic activities, once you register for the programme of study. Attendance at these day schools is very useful.

Laboratory Classes



- ✓ Laboratory/Field practical sessions for two compulsory courses in the first year (levels 9) will be conducted in the laboratories of the Colombo Regional Centre and nearby field sites.
- ✓ Laboratory sessions will be scheduled on some weekdays and weekends.
- ✓ There will be practical assignments to do on your own and submit reports.

Description of Courses



ZYP8301- Arthropods of Medical and Veterinary Importance

Course Aims

The course aims to provide learners with knowledge and understanding about Characteristic features of harmful arthropods followed by Morphology, classification, bionomics, vector status, vector distribution, medical importance and control methods considering examples of insects and arachnids vectors and/ or venomous forms.

Learning Outcomes

At the completion of this course student will be able to

- ❖ *Classify* genera/ species of harmful insect and arachnid vectors, their global/local distribution, morphology, life cycle and bionomics
- ❖ *Analyse*, vector status of insect and arachnid species and transmission of infections to vertebrate hosts
- ❖ *Propose* possible methods of control based on information on vector biology and bionomics *Interpret* data and information and compile reports on entomological aspects that contribute to vector borne disease transmission
- ❖ *Present* findings, participate in discussions and debate on topics related vectors of diseases.

Teaching and Learning Methods

Self-learning/independent learning

- Course material in print (17 sessions) that require minimum 5 hrs of independent learning: activities are incorporated in the text as a mean of self-assessment to provide opportunity to actively participate in learning process
- Online learning activities like AV, quizzes, exercises, assignments (some activities will contribute towards OCAM)
- Additional reading materials/ recommended reading, texts books, online and journal articles

Contact sessions

- Day Schools/ discussion classes (non-compulsory)

Assessments

Overall CA mark (OCAM): 40 %	Final Assessment: 60 %
-2 CATs - 2 NBTs [each of 1.5 hrs in duration]- MCQ/Structured questions -Online assessment OCAM computation: 60% best NBT + 40% Online assessment	Theory: 100 % One written paper of 3 hrs duration Structured/Essay type; required to answer 4 out of 5 questions

- ❖ Level 8
- ❖ Core Course
- ❖ 3 credits

Course Content

Harmful Arthropods and their salient features

- Harmful arthropods and Classification.
- Hematophagy, nutrition and reproduction
- transmission of parasitic infections
- Vector behaviour and vector - host interactions
- Sibling species of hematophagous arthropods.

Insects and Arachnids of medical & veterinary importance

- Mosquitoes
- Mosquitoes Anophelines
- Mosquitoes Culicines
- Sand flies
- Sand flies, Biting midges & Black flies
- Horse flies and Tsetse flies
- Cylcophorans - House flies, stable flies, Screw worm flies, green bottle lies and blue bottle flies;
- Cimicid and Triatominae bugs
- Lice and fleas
- Soft ticks, hard ticks and mites.
- Venomous insects & arachnids

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ZYP8302-Human Parasites

Course Aims

The overall aim of the *Human Parasites* course is to *provide* knowledge, understanding and critical judgment required to work as a parasitologist or in a related field

Learning Outcomes

At the completion of this course student will be able to

- ❖ *Demonstrate* detailed knowledge and understanding of the morphology, life cycles, clinical symptoms, epidemiology, control and diagnosis of luminal, blood and tissue dwelling parasites of humans
- ❖ *Distinguish* between the different groups of luminal, blood and tissue dwelling parasites by identifying the variations in the patterns of life cycles and morphology
- ❖ *Review* the adaptations exhibited by the human parasites for their mode of life
- ❖ *Analyse* factors that contribute to the geographical distribution, prevalence and transmission of human parasitic diseases by discussing the epidemiological aspects of the infections
- ❖ *Apply* knowledge of the life cycle and epidemiology to design, communicate and conduct control programmes and activities against human parasitic infections.
- ❖ *Propose* effective methods for the laboratory diagnosis of infection and *assess* the diagnostic tools currently available

Teaching and Learning Methods

Self-learning/Independent learning

- Course material in Print (18 sessions) that require minimum 5hrs of independent work/each session; Sessions inform the expected learning outcomes; Activities are incorporated into the text as a means of *self-assessment* to provide opportunity to participate actively in the learning process and guide to a clear understanding of the subject
- Online learning activities: Online component on Moodle Learner Management System (LMS) consolidate learning, and guides and motivates students to keep up with studies on a weekly **basis**. There are online quizzes, exercises and assignments for students to attempt
- Recommended readings

Contact sessions

- Presentation seminars (Compulsory contact sessions) - Students will be given assignments to read up and gather information on emerging parasite diseases/current topics in parasite infections and make a presentation for the class
- Day schools/Discussion class- (Non-compulsory contact sessions)

Assessments

Overall CA Mark (OCAM): 40%	Final Assessment: 60 %
- 1 CAT: 1 NBT of 1½ hrs in duration - MCQ/Structured questions	Theory: 100 %
- 02 online assessments- Marks from online assignments and online quizzes will contribute to each online assessment	One written paper of 3 hrs duration Structured/Essay type; required to answer 4 out of 5 questions
OCAM computation: 60% NBT + 40% Online assessments	

- ❖ Level 8
- ❖ core course
- ❖ 3 credits

Course Content

Luminal parasites of humans

Introduction to lumen dwelling, blood and tissue parasites: intestinal protozoa, lumen dwelling helminths, blood and tissue dwelling protozoa, blood and tissue inhabiting helminths

- Protozoans-*Entamoeba histolytica*; *Giardia lamblia*
- Digeneans - *Paragonimus westermani*; *Clonorchis sinensis*; *Fasciolopsis buski*
- Cestodes - *Taenia* sp.; *Hymenolepis nana*
- Nematodes- *Ascaris lumbricoides*; Hookworms; *Trichuris trichiura*; *Enterobius vermicularis*; *Strongyloides stercoralis*

Blood and Tissue parasites

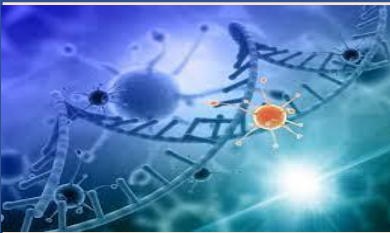
Focus is on protozoans, flatworms and nematodes that invade the tissues or blood stream of humans. Individual sessions specifically deal with the following.

- Protozoans-*Plasmodium*; *Trypanosoma brucei*; *Leishmania*
- Digenean - *Schistosoma*
- Nematode- *Wuchereria bancrofti*

Some of the parasites not covered in sessions (for eg, *Cryptosporidium*, *Toxoplasma*, etc) will be covered through assignments and in the online component

Teaching Staff

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ZYP8603-Introduction to Immunology and Molecular Biology

Course Aims

The course aims to explain the concepts and principles in Immunology and Molecular Biology that will be useful for learners in understanding the complex pathogen and arthropod vector interactions with their hosts, their environment and with each other during vector borne diseases transmission & their management

- ❖ Level 8
- ❖ Core course
- ❖ 6 credits

Course Content

Basic concepts in Immunology

- Introduction to immunology and nonspecific immunity
- Acquired immunity (humoral and cellular)
- Primary interaction with antigen
- Antibodies
- Antibody formation
- Cell mediated immunity
- The role of major histocompatibility complex (MHC)
- Complement mediated immune reaction and immune regulation
- Immunity to infections, immunization and vaccines
- Hypersensitivity, tolerance and auto immunity

Basic concepts in Molecular biology

- Cellular organelles in eukaryotic and prokaryotic cells
- Difference between Eukaryotic and prokaryotic cell structures
- DNA replication, perpetuation, mutation and repair
- Transcription, Protein synthesis
- Regulation of gene expression
- Viral and bacterial genomes
- Manipulation of genes- recombinant DNA technology
- Overview of basic techniques about molecular cloning strategies, electrophoresis, blotting and transformation of E.coli
- DNA modifying enzymes
- Gene Libraries
- Analysis of cloned DNA through sequencing
- hybridization and PCR
- Ethics in gene manipulation
- Applications of recombinant DNA technology (as a diagnostic tool, different drugs and drug therapies for genetic diseases and GMOs)

Learning Outcomes

At the completion of this course student will be able to

- ❖ *Describe* the different types of immune responses and their underlying mechanisms involved in the development and regulation of parasites.
- ❖ *Discuss* the ways in which defects in the immune system can lead to diseases such as allergy and auto-immunity.
- ❖ *Describe* the terminology and concepts of Molecular biology, and on the recombinant DNA
- ❖ technology and its variety of applications
- ❖ *Comment* on application of recombinant DNA technology as a diagnostic tool or therapy against parasitic diseases.
- ❖ *Interpret* the complex interactions of pathogens and vectors with their hosts using immunological and molecular biological knowledge obtained in this course.

Teaching and Learning methods

Self-learning/independent learning

- Course material in print (20 sessions) and PPTs (10 sessions) that require minimum 5 hrs of independent learning; activities are incorporated in the text and PPT as a mean of self-assessment to provide opportunity to actively participate in learning process
- Additional reading materials/ recommended reading, text books, journal articles

Contact sessions

- Day School/Discussion classes (Non-compulsory)

Assessments

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Overall CA Mark (OCAM): 40 %	Final Assessment: 60 %
-2 CATs- 2 NBTs (each of 1.5 hrs in duration) MCQs/structured questions OCAM computation: 60% of best NBT + 40% other NBT	Final Evaluation Theory: 100% 3 hour written paper Structured/Essay type; required to answer 4 out of 5 questions

ZYP9304-Host Parasite Interaction

Course Aims

To provide a concise account on interactions that have evolved between parasites and their hosts, for the successful survival of within their hosts with an emphasis to morphological, biochemical, immunological adaptations exert by both parasite and their hosts to thrive in and continue the parasitic life cycle.

Learning Outcomes

At the completion of this course, students will be able to

- ❖ *Describe* the basic concepts of host-parasite interaction, different types of interactions, and different habitats in hosts and how parasites have adapted to enter and establish within the host and transmission.
- ❖ *Review* the morphological, biochemical and immunological adaptations exert by parasites for survival within the host and evolutionary adaptation for successful parasitism.
- ❖ *Comment* on the constraints in developing effective chemotherapy and vaccines against parasites based on the knowledge of host-parasite interaction.
- ❖ *Develop* skills in independent learning through reading and writing of novel findings of host-parasite interaction and their application in developing therapeutic interventions.
- ❖ *Interpret* how knowledge on host-parasite interactions can be applied in designing effective interventions against the parasitic diseases

Teaching and Learning Methods

Self-learning/independent learning

- Course material in print (13 sessions) that require minimum 5 hrs of independent learning: activities are incorporated in the text as a mean of self-assessment to provide opportunity to actively participate in learning process
 - Self-instructional manual (6 manuals) that require minimum of 4 hrs independent learning
 - Online learning activities (AV, quizzes, exercises, assignments)
 - Additional reading materials/ recommended reading; Text books, journal articles
- Contact sessions
- Day Schools/ discussion classes (non-compulsory)

Assessments

Overall CA Mark (OCAM): 40%	Final Assessment: 60 %
<ul style="list-style-type: none"> - 2 CATs - 2 NBTs [each of 1.5 hrs in duration] MCQ/Structured questions - Online assessments-(online quizzes, assignment) - OCAM computation: - 60% of best NBT + 40% Online assessments 	<p>Theory: 100%</p> <p>One written paper of 3 hrs duration</p> <p>Structured/Essay type; required to answer 4 out of 5 questions</p>

- ❖ **Level 9**
- ❖ **Core Course**
- ❖ **3 credits**

Course Content

Introduction to Host-Parasite Interactions

- Basic concepts of host-parasite interaction
- Different types of interactions
- Aspects of the transmission,
- , nutrition and energy metabolism of parasites
- Ecological, the physiological and biochemical perspective of parasitic diseases
- Protective measures taken by hosts
- Counter mechanisms of parasites to ensure their survival

Host-parasite interactions among Parasitic Protozoans

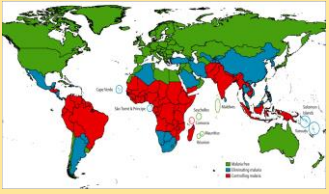
- Transmission, establishment, nutrition, and energy metabolism of parasitic protozoans
- Parasitic adaptation of protozoans
- Immune mechanisms of protozoans and host defense against protozoans

Host-parasite interactions among Parasitic Helminths

- Transmission, host location, the establishment of parasitic helminths
- Nutrition and energy metabolism of parasitic helminths
- Pathology of host parasitic interaction of helminths
- Evolutionary aspects of host-parasite interactions of flatworms
- Immune mechanisms of host-parasite interaction of parasitic helminths

Teaching Staff

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- ❖ Level 9
- ❖ Core Course
- ❖ 6 credits

ZYP9605-Epidemiology and Control of Vector borne Diseases

Course Aims

This course aims to provide learners a basic understanding and knowledge about the distribution and determinants of common vector borne diseases such as malaria, filariasis, dengue, Leishmaniasis and Japanese Encephalitis (JE) along with the treatment, management of diseases and vector control programmes that have been launched against these diseases for reduction or elimination of health problems or their consequences and promote health and wellbeing of the society

Learning Outcomes

At the completion of this course students will be able to

- ❖ *Explain* the transmission dynamics of vector and parasites; parasitic factors, vector factors, human factors, social/ economic factors affect the incidence, distribution of major vector-borne diseases in Sri Lanka.
- ❖ *Discuss* the current practices of vector control at local and regional levels and compare with the past experiences.
- ❖ *Comment* on the effective use of chemotherapy for the management of parasitic infections emphasizing the development of drug resistance, investigation of novel drugs, mass drug treatment.
- ❖ *Propose* effective control programmes for major vector-borne diseases.

Teaching and Learning Methods

Self-learning/independent learning

- Course material (35 sessions) in that require minimum 5 hrs of independent learning; activities are incorporated in the text as a mean of self-assessment to provide opportunity to actively participate in learning process
- Additional reading materials/ recommended reading
- Term paper writing on a selected topic after analysis of secondary / literature survey.

Contact sessions

- Day Schools/ discussion classes (non-compulsory)

Assessments

Overall CA Mark (OCAM): 40 %	Final Assessment: 60 %
-2 CATs- 2 NBTs (each of 1.5 hrs in duration) MCQ/structured questions - Term paper report (TRP) OCAM computation: 60% of best NBT + 40% Term paper report (TPR)	Final Evaluation Theory: 100% 3 hour written paper Structured/Essay type; required to answer 4 out of 5 questions

Course Content

Epidemiology of vector-borne diseases

- Definition and scope of epidemiology
- Epidemiology of Malaria
- Epidemiology of Filariasis
- Epidemiology of Dengue
- Epidemiology of Japanese
- Epidemiology of Leishmania'

Treatment and management of parasitic infections

- Chemotherapy of Malaria: Definitions, Scope, Types of Drugs and Treatment
- Chemistry of Anti-Malarial Drugs and their Effect on Malaria Parasites
- Parasite Resistance to Drugs and New Drugs for Treatment
- Chemotherapy, mass drug treatment and morbidity treatment of lymphatic filariasis infections
- Treatment and management of patients infected with dengue
- Treatment and management of JE infected patients

Vector control programmes

- Ecology and behaviour of vectors of malaria, filaria, dengue and Leishmaniasis and JE
- Control of malaria, filaria, dengue, Leishmaniasis and JE vectors
- Current practices of vector control
- Global, regional and local efforts for the control of malaria filaria, dengue, Leishmaniasis and JE
- Vector monitoring and control to prevent malaria and filariasis re-introduction

Teaching Staff

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ZYP9306 - Diagnostic Parasitology

Course Aims

The overall aim of the Diagnostic Parasitology course is to provide understanding and practical skills relevant to diagnosing human parasitic infections

Learning Outcomes

At the completion of this course students will be able to

- ❖ *Demonstrate* skills in laboratory diagnosis of human parasitic infections using microscopic, molecular and immunological techniques.
- ❖ *Critically analyze and interpret results* of laboratory investigations of human parasitic infections.
- ❖ *Demonstrate* a broad understanding of the diagnostic strategies and the experimental basis of diagnosing human parasitic infections and apply or adapt this understanding to solve specific diagnostic problems working effectively in research or healthcare teams.
- ❖ *Demonstrate* ability to communicate information clearly in both written and oral form .

Teaching and Learning methods

Self-learning/Independent learning

- DVD on Diagnostic Parasitology is available to watch, where some of the techniques required to perform in the laboratory are demonstrated; Laboratory manuals and bench aids are also provided
- Self-study of a set of permanent mounts of parasite slides provided using the microscope together with photographs, line drawings, keys and descriptions given in the lab manual and bench aids for guidance.

Compulsory contact sessions

Laboratory sessions of 05 days; Most of the work is expected to be carried out with minimum of supervision

Mini Project: Each student is expected to work in a group to design and conduct a study to detect and study parasites in unknown faecal or blood specimens from a particular setting (hospital, pet house, children's home, etc) applying/adapting the knowledge and skills learnt in the class. Critical analysis of techniques used and interpretation of results expected.

Presentations and Report writing: At the end of the mini project, students are required to make a group presentation and submit a final report individually

Assessments

Overall CA Mark (OCAM): 40 %	Final Assessment: 60 %
OCAM Computation: 60% best Lab assignment (LA) + 40% other Lab assignment (LA)	Practical: 70% project report (PR) + 30% presentation (P)

- ❖ Level 9
- ❖ Core Course
- ❖ 3 credits

Course Content

Morphological criteria for identification of protozoa and helminths

- Focus on morphologic criteria that differentiate selected protozoan and helminth parasites to the species/genus level, through microscopic observation of permanent mounts of parasite slides.

Laboratory diagnosis of parasites in faeces and blood

- Focus on some of the key parasitological techniques and the principles behind them, that can be used in the laboratory to diagnose protozoan and helminth infections in faecal and blood specimens.

Mainly concentrate on:

- Microscopic detection of whole parasites in faeces and blood: Direct faecal smear using saline/iodine; Floatation and sedimentation concentration procedures; Culture of nematodes, Permanent staining techniques; Thin and thick blood smears
- Detection of parasitic DNA using Polymerase Chain Reaction (PCR) and Gel Electrophoresis
- Detection of parasite antigens/antibodies using immunologic assays: ELISA, Immuno-florescence assay

Teaching staff

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ZYP9307 - Practical Techniques in Medical Entomology

Course Aims

The course aims to provide knowledge and hands on experience in standard and modern techniques in insect vector collection, surveillance, taxonomy, culturing, epidemiological factors, vector population control with special reference to mosquitoes.

Learning Outcomes

At the completion of this course students will be able to

- ❖ *Demonstrate* knowledge and understanding on standard and modern methodologies that are required to address problems in vector borne disease epidemiology and control .
- ❖ *Apply* relevant laboratory and field techniques to assess, and monitor entomological factors in vector-borne disease problems in a given site.
- ❖ *Work* as teams, record findings of surveys, and communicate findings of project studies.

Teaching and Learning methods

Self-learning/independent learning

- Hands on experience in specific skills during laboratory studies & project study.
- Experience in developing generic skills during project study (analysis of data, report writing , oral presentation of findings)

Contact sessions

- Practical exercises in the laboratory (compulsory)
- Field studies (compulsory)
- Group project (compulsory)
- Assessments

Assessments

Overall CA Mark (OCAM): 40 %	Final Assessment: 60 %
OCAM Computation: 60% best Lab assignment (LA) + 40% other Lab assignment (LA)	Practical: 70% project report + 30% presentation



- ❖ Level 9
- ❖ Core Course
- ❖ 3 credits

Course Content

Identification of Mosquito vectors, sand fly vectors and other vectors

- Preservation and mounting of insect vectors (adults and larvae), identification using, basic insect taxonomic keys (larvae and adults) up to, species / sibling species using barcoding/PCR methods

Culturing of mosquitoes

- Maintenance of insectary conditions, temperature, humidity etc. rearing of juvenile stages, blood feeding using animals and membrane feeding, artificial mating, age grouping

Analysis of epidemiological factors

- Ovarian / gut dissection for age grading, Salivary gland dissections, Blood meal analysis using ELISA and PCR for determining human blood index.

Mosquito collection techniques

- Hand collection of resting adults, catches from baited traps, collection using exit traps, larval collection, spray sheet collection, transport of adults and larvae.

Vector population control

- Selection of insecticides-formulations, application methods, concentrations, determining effectiveness, residual effects, susceptibility using standard techniques, detection of resistance using standard methods/ biochemical methods / PCR methods

Vector surveillance –Project study

- Larval and adult surveys of a given species that includes determining epidemiological factors/ resistance status/ human blood indices/ environmental factors and mapping using GIS.

Teaching Staff

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ZYP9308 - Public Health and Issues and Policies

Course Aims

The course aims to provides un understanding of the health care systems in Sri Lanka and to introduce the issues and policies with regard to the Public health care system with emphasis on vector borne disease control.

Learning Outcomes

At the completion of this course students will be able to

- ❖ *Describe* the public health issues related to vector-borne diseases.
- ❖ *Discuss* the demographic and epidemiological transition of major vector-borne diseases and the emerging and re-emerging diseases.
- ❖ *Investigate* the role and the functions of the current control programs that exist in Sri Lanka against major vector-borne diseases.
- ❖ *Interpret* data and information and compile reports on public health issues, legislation, and policies of vector-borne diseases.
- ❖ *Debate* on public health issues and the effectiveness of local and international policies related to vector-borne diseases.

Teaching and Learning Methods

Self- learning

- Course material in Print (13 sessions) that require minimum 5hrs of
- independent work/each session; Activities are incorporated into the text as a means of self-assessment to more clear understanding of the content.
- Recommended readings for term paper writing

Contact sessions

- Day Schools/ discussion classes (non-compulsory)

Assessments

Overall CA Mark (OCAM): 40 %	Final Assessment: 60 %
2 CATs- 2 NBTs (each of 1.5 hrs in duration) MCQ/structured questions - Term paper report (TPR) OCAM computation: 60% of best NBT + 40% Term paper report (TPR)	Final Evaluation Theory: 100% 3 hour written paper Structured/Essay type; required to answer 4 out of 5 questions

- ❖ **Level 9**
- ❖ **Core Course**
- ❖ **3 credits**

Course Content

Public Health Issues

- Concepts of diseases
- Health care delivery systems
- Role and functions of the control programmes AMC, AFC, MRI
- Legislation and the concept of public health
- Demographic and epidemiological transition
- Emerging and re-emerging diseases
- Health care needs
- Does policy work?
- Health system inputs; policies on human resources, facilities, equipment, consumables
- Community involvement
- Organization of health services in Sri Lanka

Teaching Staff

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ZYPA109 – Research Project

Course Aims

Course aims provide hands on experience in conducting a practical investigation in a specialized area of study as a research project required for the completion of the MSc. within an identified time frame guided by a supervisor/s.

Learning Outcomes

At the completion of this course student will be able to

- ❖ *Design an investigation* on a research problem after careful analysis of literature and on the evidence on local scenarios.
- ❖ *Select* methodologies that are appropriate & ethical to achieve the objectives of an Investigation.
- ❖ *Conduct* practical work of an investigation systematically according to a pre- identified time frame.
- ❖ *Demonstrate* skills in recording of data and their analysis using standard qualitative and / or/quantitative procedures.
- ❖ *Interpret* findings based on previous literature and arrive at conclusions and recommendations.
- ❖ *Write* a dissertation on the investigation carried out on the research project, using recommended guidelines.
- ❖ *Make* written and oral presentations on the investigation and its finding.

Teaching and Learning Methods

Self-learning/independent learning

- Lab / field based experimental work related to selected investigations
- Reference work using current journal articles.
- Contact sessions with supervisors
- Report writing (Project proposal, progress report)

Contact sessions

- Discussion classes at Day schools on project design & Report writing
- Contact sessions with supervisors
- Contact sessions with the course coordinator

Assessments

Evaluation is based on Dissertation (DS) and Oral Examination (OE)

- If $DS \geq 50$ and $OE \geq 50$, then $Z = (0.7 DS + 0.3 OE)$
- If $DS < 50$ and/or $OE < 50$, then $Z = (0.7 DS + 0.3 OE)$, subject to a maximum of 49



- ❖ **Level 10**
- ❖ **core course**
- ❖ **18 credits**

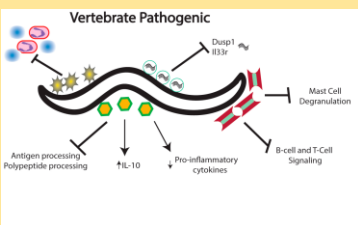
Course Content

- Identifying the research problem and literature surveys.
- Writing the project proposal & its submission.
- Presentation and approval of the proposed research project
- Implementation of project activities
- Progress report submission, presentation of progress and review
- Data analysis and interpretation.
- Writing and submission of the dissertation.
- Evaluation at a viva voce examination.

Teaching Staff

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ZYPA410 – Defense Mechanisms in Vectors and Parasites

Course Aims

The overall aim of the Defense mechanisms of vectors and parasites is to provide knowledge, understanding and critical judgment required to work as a professional parasitologist or in a related field.

Learning Outcomes

At the completion of this course students will be able to

- ❖ *Describe* the different types of immunities that develop in host and vectors against parasites, their underlying mechanisms, and immunopathological consequences.
- ❖ *Discuss* the immune evasion mechanisms develop by parasites as survival strategies against host defense mechanisms.
- ❖ *Comment* on the basic concept of vaccine development, vaccine trials, current and future of vaccinology against parasites.
- ❖ *Analyze* the effectiveness of developing vaccines against parasites based on the knowledge of host defense mechanisms.
- ❖ *Develop* the skills in communication in oral and written form and participate in discussions and debates on topics related to defense mechanisms.

Teaching and Learning Methods

Self-learning/independent learning

- Course material (20 sessions) that require minimum 5 hrs of independent learning: activities are incorporated in the PPTs as a mean of self-assessment to provide opportunity to actively participate in learning process
- Additional reading materials/ recommended reading in text books, journal articles.

Contact sessions

- Day schools/discussion classes (non-compulsory)

Assessments

Overall Continuous Assessment Mark (OCAM): 40 %	Final Assessment: 60 %
2 CATs-2 NBTs (each of 1.5 hrs in duration) MCQ/Structured questions - Online assignments OCAM computation: 60% of best NBT + 40% online assignments	Final Evaluation Theory: 100% 3 hour written paper Structured/Essay type; required to answer 4 out of 5 questions

- ❖ Level 10
- ❖ Optional course
- ❖ 4 credits

Course Content

Immune evasion mechanisms of parasites

- Overview of the immune system and mechanisms
- The diversity of immune evasion mechanisms
- Protozoan immune evasion strategies: Malaria, African Trypanosomiasis
- Protozoan immune evasion strategies: Amoebiasis, Giardiasis
- Protozoan immune evasion strategies: Toxoplasmosis, Leishmaniasis
- Helminth immune evasion mechanisms in the vertebrate host.
- Pathogenesis Virulence and immune evasion
- Defense mechanisms in vector insects parasites / pathogens

Vaccines and vaccine development

- Basic principles of vaccine
- Attenuated vaccines
- Modern anti parasitic vaccines
- Production of antigenic material
- New interventions in vaccine technology
- Progress in vaccine development
- Vaccine trials and future directions of vaccinology

Teaching Staff

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ZYPA411 – Molecular Biology of Vectors and Parasites

Course Aims

This course aims to provide an in-depth understanding of the molecular biology of parasites and vectors and the advanced techniques that can be applied to the control of vectors and parasites.

Learning Outcomes

At the completion of this course students will be able to

- ❖ *Describe* different techniques applied in genomic analysis of parasites and vector.
- ❖ *Discuss* the molecular basis of developing drug and insecticides resistance of parasites and vectors, respectively.
- ❖ *Review* the applications of molecular biological and biochemical techniques in developing chemotherapy and vaccines against parasitic diseases.
- ❖ *Comment* on the novel advancements in molecular biological techniques in used for vector control such as sterile insect techniques and evaluate their efficacy based on evidence.

Teaching and Learning Methods

Self-learning/independent learning

- Course material in PPT presentations (19 PPTs) that require minimum 5 hrs of independent learning: activities are incorporated in the PPTs as a mean of self-assessment to provide opportunity to actively participate in learning process
- Additional reading materials/ recommended reading

Contact sessions

- Day schools/discussion classes (non-compulsory)

Assessments

Overall Continuous Assessment Mark (OCAM): 40 %	Final Assessment: 60 %
-2 CATs- 2NBTs (each of 1.5 hrs in duration) MCQ/structured questions OCAM computation 60% of best NBT + 40% other NBT	Final Evaluation Theory: 100% 3 hour written paper Structured/Essay type; required to answer 4 out of 5 questions

- ❖ **Level 10**
- ❖ **Optional course**
- ❖ **4 credits**

Course Content

- Overview of the genome, chromosomes and gene
- Principle of genome Analysis- Genome sequencing and mapping
- Genome studies of vectors and host
- Genome studies of selected examples of parasites
- Gene regulation
- Genetic elements – mobile elements of parasites and vectors
- Gene amplification
- Molecular genetic manipulation of insects
- Applications of genome analysis- bioinformatics
- DNA microarray
- Protein homology modeling
- Protein homology modeling and Proteomics
- Molecular genetics of development 1
- Molecular genetics of development 2
- Differential expression in vectors
- Molecular basis of insecticide resistance
- Genetic basis of immune pathogens f parasitic diseases
- Molecular basis of drug resistance
- Suppression of vector populations Sterile Insect Techniques

Teaching Staff

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ZYPA412 – Control of Arthropod Vectors of Diseases

Course Aims

Course aims provide knowledge and understanding of the insect vector ecology and population dynamics and explains different types of current control strategies targeting insect vectors, highlighting on the development novel strategies of vector control.

Learning Outcomes

At the completion of this course student will be able to

- ❖ *Demonstrate* knowledge and understanding of insect vector ecology, vector surveillance, population dynamics, factors effecting population dynamics, current and novel methods of control.
- ❖ *Review* control programmes in practice and novel strategies and identify and propose possible strategies on vector populations in a local situation.
- ❖ *Design & develop* educational programmes/ community projects to create awareness among public to appreciate a disease free environment.

Teaching and Learning Methods

Self-learning/independent learning

- Course material in print that require minimum 5hrs of independent learning: activities are incorporated in the text as a mean of self-assessment to provide opportunity to actively participate in learning process
- Online learning activities (AV, Quizzes, discussions, assignments)
- Additional reading materials/ recommended reading

Contact sessions

- Day Schools/ discussion classes (non-compulsory)

Assessments

Overall Continuous Assessment Mark (OCAM): 40 %	Final Assessment: 60 %
- 2 CATs - NBTs [each of 1.5 hr in duration] MCQ /Structured questions -Group project assignment and presentations OCAM computation: 60% of best NBT + 40% Group project assignment + presentation	Final Evaluation Theory: 100% (3hr theory paper) One written paper of 3 hrs duration Structured/Essay type; required to answer 4 out of 5 questions

- ❖ **Level 10**
- ❖ **optional course**
- ❖ **4 credits**

Course Content

Ecology and population dynamics of arthropod vectors

- Arthropod vectors- their habitats and behaviour
- Vectorial capacity and vector competence
- Population Dynamics of Vectors
- Vector Surveillance
- Vector Survey
- Interpretation of entomological data and decision making
- Modelling and forecasting vector populations and outbreak of diseases

Control of arthropod vectors using chemical insecticides

- Chemical insecticides, use and safety
- Use of conventional pesticides in vector control
- Use of bio-pesticides – IGRs in vector control
- Use of bio-pesticide- microbial insecticides in vector control
- Use of natural in vector control
- Development of insecticide resistance, detection and monitoring,
- Dynamics of resistance development and resistance management

Vector control using non-chemical methods and integrated vector management

- Principles and practice of biological control against insect vectors,
- Use of Sterile insect release techniques for vector control,
- Novel methods of genetic control against vectors,
- Environmental Management for Vector Control,
- Environmental Management for Vector Control: Case Studies,
- Integrated vector management-planning, practice & evaluation

Teaching Staff

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ZYPA413 – Clinical Aspects of Vector Borne Diseases

Course Aims

Course focuses on clinical aspects of diseases that are either transmitted by arthropods (vector borne diseases) or are caused by arthropods and will elaborate on clinical features of these diseases, their laboratory diagnosis in patients who are suspected of carrying infections, and the basic principles management of these infections.

Learning Outcomes

At the completion of this course students will be able to

- ❖ *Demonstrate* knowledge and understanding about the pathogenesis of human infections caused by nuisance arthropods and pathogenic infections transmitted by vector arthropods, symptoms, diagnosis, treatment and management of infections.
- ❖ *Design* procedures to the management of infections, based on case histories of patients and diseases prevalence status.
- ❖ *Review* topics related to pathogenesis/symptoms/treatment and management/ disease and present outcomes as written reports and seminars.

Teaching and Learning Methods

Self-learning/independent learning

- Course material in print that require minimum 5hrs of independent learning; activities are incorporated in the text as a mean of self-assessment to provide opportunity to actively participate in learning process
- Additional reading materials/ recommended reading/ current journal articles.

Contact sessions

- Day schools/ Discussion classes (non- compulsory)

Assessments

Overall Continuous Assessment Mark (OCAM): 40 %	Final Assessment: 60 %
-2 CATs -2NBTs (each of 1.5 hrs in duration) MCQ/structures questions	Final Evaluation Theory: 100% (3hr theory paper)
- Report writing/seminar presentations	One written paper of 3 hrs duration Structured/Essay type; required to answer 4 out of 5 questions
OCAM computation 60% of best NBT + 40% (report writing and seminar presentation)	

- ❖ **Level 10**
- ❖ **optional course**
- ❖ **4 credits**

Course Content

Clinical aspects of diseases transmitted by mosquitoes

- Clinical features of malaria
- Pathophysiology of malaria
- Laboratory diagnosis of Malaria
- Treatment of malaria
- Clinical manifestations of filariasis
- Laboratory diagnosis of lymphatic filariasis
- Treatment of lymphatic filariasis
- Clinical manifestations of dengue
- Laboratory diagnosis and management of dengue
- Mosquito-borne encephalitides
- Yellow fever & Zika virus disease

Clinical aspects of diseases transmitted by other Dipteran flies

- Onchocerciasis
- Cutaneous leishmaniasis
- Visceral Leishmaniasis
- Muco-cutaneous leishmaniasis
- Bartonellosis
- Sandfly fever
- Loiasis and Mansonellosis
- African Trypanosomiasis
- Myiasis

Clinical aspects of diseases transmitted by Lice, Fleas and Bugs

- Louse infestations
- Diseases transmitted by body lice
- Flea infestations and bacterial diseases transmitted by fleas
- Rickettsial and parasitic infections
- Transmitted by fleas, South American trypanosomiasis and bed bugs

Clinical aspects of diseases transmitted by ticks and mites

- Tick bite and tick-borne bacterial diseases
- Tick-borne encephalitides and babesiosis
- Tick-borne haemorrhagic fevers
- Scabies
- Scrub typhus and allergies caused by house dust mite
- Bites and stings of venomous arthropods.

Teaching Staff

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ZYEA314 – Research Methodology and Communications Skills

Course Aims

Course aims provide knowledge and develop skills related to carrying out scientific investigations, and experience in communication of scientific information.

Learning Outcomes

At the completion of this course students will be able to

- ❖ *Explain* the essential steps of scientific investigations and methods of publishing research findings.
- ❖ *Select* appropriate methods for data collection and data analysis for scientific investigations
- ❖ *Search and document* scientific literature and review according to research concepts
- ❖ *Develop* skills in writing project proposals to communicate interest in conducting research, writing final reports, abstracts/ journal articles to communicate research findings.
- ❖ *Develop* skills in delivering scientific talks and presentations at conferences.

Teaching and Learning Methods

Self-learning/independent learning

- Learning course contents and statistical exercises
- Additional reading materials/ recommended reading/ current journal articles.

Contact sessions

- Lectures (compulsory)
- Collection and analysis of secondary data as group projects (compulsory)

Assessments

Overall Continuous Assessment Mark (OCAM): 40 %	Final Assessment: 60 %
-2 CAT- 1 CAT- Online Test, home assignments 2 CAT-Preparing of questionnaires and seminar presentations OCAM computation 50% CAT1 + 50%	Details: Journal Article was written based on the Mini Project conducted in Level 9 for Diagnostic parasitology course of Practical Techniques in Entomology

- ❖ **Level 10**
- ❖ **Continue Educating Course**
- ❖ **3 credits**

Course Content

- Concepts, principles of scientific research and ethics in research -
- Searching and maintaining literature - Use of library facilities; Web browsing, Reference management and reviewing
- Data collection methods & tools
- Statistical designs of biological experiments and epidemiological studies
- Basic statistics for data analysis and interpretation
- Communication skills and Presentation skills.
- Project proposal writing, project report writing and thesis writing
- Preparation of research publications

Teaching Staff

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Assessment

Assessment of Discipline-based Courses

EVALUATION OF THEORY COURSES The overall assessment mark (Z%)

CONTINUOUS ASSESSMENT TESTS

NBT- No Book Test
OT-Online Test
HA- Home Assignment

During the course

FINAL EXAMINATION

3 hours written paper
Essay questions

At the end of the year

Overall Continuous Assessment
Mark (OCAM) (X%)

Final Examination Mark (Y%)

$$Z = 0.4X + 0.6Y$$

For the above calculation to apply,
the Overall Continuous Assessment Mark $X \geq 40$ and
Final examination mark $Y \geq 40$

However, if $Y < 40$, then $Z = Y$

- You will be eligible to sit for the Final Examination in respect of any course only if you have scored a minimum of **40%** for **the Overall Continuous Assessment Mark (OCAM)**.
- OCAM can be carried forward only **for one** subsequent academic year as per the University policy.
- **Those who do not obtain the minimum OCAM or Eligibility (EL) mark of 40% to sit the final exam will have to repeat the course.**

Assessment of Research Project

EVALUATION OF RESEARCH PROJECT (ZYPA109) The overall assessment mark (Z%)

Dissertation (DS%)

Oral Examination (OE%)

- If $DS \geq 50$ and $OE \geq 50$, then $Z = (0.7 DS + 0.3 OE)$
- If $DS < 50$ and/or $OE < 50$, then $Z = (0.7 DS + 0.3 OE)$, subject to a maximum of 49

For more information [Click here](#)

Refer Regulations of MSc in Medical Entomology and Applied Parasitology



Grading System

A student who sits the final examination in any course shall be awarded a Grade and a Grade Point Value as follows, based on the overall assessment mark (Z%)

Marks Range (Z%)	Grade	Grade Point Value
85-100	A+	4.00
80-84	A	4.00
75- 79	A -	3.70
70-74	B+	3.30
65-69	B	3.00
60-64	B-	2.70
55-59	C+	2.30
50-54	C	2.00
45-49	C-	1.70
40-44	D+	1.30
20-39	D	1.00
00-19	E	0.00

Grades

A+, A, A-, B+, B, B-, C+ and C constitute Pass grades.

Not eligible students will be assigned a F Grade and Absentees for a final examination will be assigned a RX Grade

GPA calculation

GPA is the credit-weighted arithmetic mean of the Grade Point Values obtained by a student for the total of 60 credits. GPA will be calculated to the second decimal point, subject to a maximum of 4.00. GPA will determine the Passes and Merit Passes of the M.Sc. degree.

$$GPA = \frac{\sum_i c_i g_i}{\sum_i c_i}$$

Where, c_i = Credit rating of the i^{th} course
 g_i = GP value obtained for i^{th} course

Repeat, Re-sit and Postponement of Final Examination

REPEAT STUDENTS

- If you are unable to obtain the required OCAM to sit the final examination for any particular course, you will have to re-register for that course in a subsequent year and will then be considered as a 'repeat student' for that course.
- Students who do not pass a course at the final exam before EL/OCAM lapses in two consecutive academic years, such students will also be considered repeat for the course
- Such repeat students are required to pay the tuition fee again. They will also not be eligible for a grade higher than a pass (C).
- Those who drop courses after the program of study has begun, will be considered as repeat students.
- It is, therefore, in your interest to select your courses carefully so that you will not be overburdened by work.

RE-SIT CANDIDATES

- Those who are eligible but unsuccessful at the final examination in the year OCAM obtained will be considered 're-sit candidates.
- Such students need not register and obtain OCAM for the particular course again to sit for the final exam in the following year ~~after obtaining OCAM~~. Though, like repeat students, they will not be eligible for a grade higher than a mere pass (C).
- Re-sit candidates are not required to pay any course fee. However, if they fail to pass the final exam within two years including the year they obtained OCAM, they will have to re-register and obtain a new OCAM

POSTPONEMENT OF SITTING THE FINAL EXAMINATION

- When you obtain OCAM for courses, you are given the opportunity, if you so wish, to postpone sitting the final examination to the following year without being considered as a re-sit candidate
- While such postponement could be used in the event of genuine problems, you are strongly advised not to postpone sitting for examinations unnecessarily.
- Such postponements have been found to affect student performance adversely. Those who postpone sitting the final examination will be given the grade RX, but will be given the correct grade after completing the course.

Award of the Degree

Award of the MSc Degree in Medical Entomology and Applied Parasitology

A candidate shall be awarded a **Pass** in the MSc Degree if he/she has obtained

- a) C grade or above for the total of 42 credits for Discipline-based courses at Levels 8, 9 & 10 and for the 18 credit research project at Level 10 and
- b) A GPA of at least 2.00 for the discipline-based courses and the research project and
- c) C grade or above for the Continuing Education course ZYEA314

A candidate shall be awarded a **Pass with Merit** in the MSc Degree if he/she has obtained:

- a) C grade or above for the total of 42 credits for Discipline-based courses at Levels 8, 9 & 10 and 18 credit research project at Level 10 and
- b) a GPA of at least 3.30 for discipline-based courses and the Research project mentioned in 2(a) above and
- c) C grade or above for the Continuing Education course ZYEA314 and
- d) has completed all the courses, including the dissertation, of the programme at the first attempt.

A candidate shall be awarded a **Pass with Distinction** in the MSc Degree if he/she has obtained:

- a) C grade or above for the total of 42 credits for Discipline-based courses at Levels 8, 9 & 10 and 18 credit research project at Level 10 and
- b) a GPA of at least 3.70 for discipline-based courses and the Research project
- c) C grade or above for the Continuing Education course ZYEA314 and
- d) has completed all the courses, including the dissertation, of the programme at the first attempt.

A candidate shall acquire this credit requirement within a minimum period of two (02) academic years and a maximum period of six (06) consecutive academic years from the date of his/her first registration in order to be considered for the award of the Degree in MSc in Medical Entomology and Applied Parasitology.

Award of the Postgraduate Diploma in Medical Entomology and Applied Parasitology [PGDip (Medical Entomology and Applied Parasitology)]

A candidate who so desires may exit from the programme with a Postgraduate Diploma in Medical Entomology and Applied Parasitology [**PGDip (Medical Entomology and Applied Parasitology)**] under these Regulations provided he/she makes an application to the Senior Assistant Registrar/Examinations before the prescribed date on the prescribed form.

A student shall be awarded a PGDip (Medical Entomology and Applied Parasitology) on obtaining

- a) C grade or above for the total of at least 30 credits for Discipline-based courses at Levels 8 & 9 and
- a) GPA of at least 2.00 for the courses of Levels 8 & 9



Panel of Lecturers

Panel of Lecturers –Internal



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Parasitology, Molecular Biology



Mr. P.J Jude
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Entomology



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Immunology, Environmental Toxicology



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Parasitology



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Molecular Biology



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Entomology

Panel of Lecturers- External

Name	Qualification	Affiliation	Contact information	
Prof. B.G Jayathilake	BSc (Colombo), PhD (OUSL)	Professor , Centre for Educational Technology & Media (CETMe), OUSL	bgjay@ou.ac.lk 112881224	Education Technology
Dr. A. U Weerakoon	BSc (Bot.Sp.) Hon., PhD, MSSc (LIS)	Senior Assistant Librarian, library OUSL (KRC)	auweer@ou.ac.lk	Library Sciences
Prof. S.N Surendran	BSc (Jaffna), PhD (Colombo)	Professor in Zoology, Department of Zoology, University of Jaffna	noble@univ.jfn.ac.lk 021-2218199	Medical Entomology
Dr. S. Samarage	MBBS(Cey), MPH (John Hopkins, USA) MD (Colombo),	Senior Fellow, Institute for Health policy, Sri Lanka	sarath.samarage@gmail.com	Community Medicine, Public Health
Prof. C. M Hettiarachchi	BSc (Colombo), PhD (Jawaharlal Nehru, India)	Professor in Biochemistry, Department of Chemistry University of Colombo	chamarieh@chem.cmb.ac.lk 011-250 3367	Biochemistry and Molecular Biology
Dr. T.N Samaranayake	MBBS (Colombo), PhD (Colombo)	Senior Lecturer, Department of Parasitology, Faculty of Medicine, University of Colombo	nilakshi@parasit.cmb.ac.lk 0 112 695 300 Ext;182	Medical Parasitology
Dr. S Senanayake	MBBS, MD (Med.Parasitology)	Senior Lecturer, Department of Parasitology, Faculty of Medicine, University of Colombo	sanath@parasit.cmb.ac.lk 0112 695 300 Ext:182	Medical Parasitology
DLt Col (Dr) P. H Premaratne	BSc (Colombo), PhD (Colombo)	Senior Lecturer in Parasitology, Para Clinical Sciences Faculty of Medicine, General Sir John Kotelawala Defence University,	prasadp@kdu.ac.lk	Parasitology
Prof. N.K Gunewardena	MBBS (Ruhuna,) PhD (Nagasaki)	Senior Professor in Parasitology, Department of Parasitology University of Kelaniya, Medical Parasitology	kithsiri@kln.ac.lk	Parasitology

Facilities Available

Student Affairs



The student affairs division maintains the personal and academic records of the Open University students. All matters pertaining to registration of students such as change of address, civil status etc, should be immediately informed.

Senior Assistant Registrar
student Affairs Division, Open
University, PO Box, 21, Nawala,
Nugegoda



0112881205, 0112881485

Library Facilities



The main library of the University is available for this purpose at the central campus at Nawala. The Library is open seven days a week from 8.30 am - 6.30 pm except on holidays declared by OUSL. Those who wish to make use of the lending facilities of the library can pay a refundable deposit of Rs 1000/=for two books. A heavy fine is payable for not returning books two weeks after burrowing them.

Computer Facilities



Computer facilities are made available in the computer laboratories at the Regional and Study Centres. You can use them to access the online content of your courses.

Temporary Residential Facilities



Facilities are available for overnight study (during practical sessions and examinations) at the Temporary Residential Facilities in the Central Campus, Nawala for those who reside out of Colombo. You will need to apply on the prescribed application form for such facilities. A refundable deposit of Rs. 500/= and a small fee is charged for overnight stay

Regional Services



The university has a network of Regional/Study Centres distributed throughout Sri Lanka. These Centres provide facilities for the distribution of course materials limited reference libraries and examination centres. The Regional Centres are based at Colombo, Kandy, Matara, Anuradapura, Batticola, Jaffna, Kurunegala, Badulla, and Ratnapura. All academic activities will be conducted in the Colombo Regional Centre but CA tests and Final examinations can be held at other regional Centres if you request in writing.

Locations of Regional and Study Centres

Centre	Code	Address (Telephone)
Colombo	WP10	OURC, Nawala, Nugegoda (011-2853930)
Jaffna	NP40	OURC, Browns Road, Kokuvil, Jaffna (021-2223374)
Kandy	CP20	OURC, Polgolla, Kandy (081-2494083 - 081-2494084)
Matara	SP30	OURC, Nupe, Matara (041-2222943)
Anuradhapura	NC50 EP60	OURC, Jayanthi Mawatha (Depot Area), Anuradhapura (025-2222871)
Batticaloa	UP80	OURC, 23, New Road, Batticaloa (065-2222264)
Badulla	NW70	OURC, 08, Bandaranayaka Mw, Badulla, (055-2228842)
Kurunegala	SG90	OURC, Negombo Rd, (Nissanka Mw Junction), Malkaduwawa, Kurunegala (037-2223473)
Ratnapura		OURC, Hiddellana, Ratnapura (045-2228660)

Enrolment Process

Important Dates

01

Online Application



4th March-3rd April 2022

Application fee 800/-
For online application

[Click here](#) to get the application

02

Academic Counseling



21st and 22^d April 2022

Academic counselors will guide the student to make appropriate decisions in selecting their career path through programme and courses offered by the OUSL.

03

Registration



New Registration- 7th May 2022
Late Registration – 19th May 2022

[Click here](#) to view the R8 and 9 form for Registration

04

Commencement of Academic activities



21st May 2022

Activity schedule will be provided at the registration

05

Add/Drop



10th June 2022

A student can add or drop courses on an Add/Drop date without any academic or financial penalty, but he/she should return course material.

06

Drop



18th July 2022

He/she can only drop courses on the Drop date. However, the fees of courses dropped on the drop date will not be refunded or carried forward to another academic year.

Course Fee

Tuition fee	Rs. 220,110.00
Research fee	Rs. 50,000.00
Registration Fee	Rs. 1,500.00
Facility Fee	Rs. 2,500.00
Library Fee	Rs. 200.00
Refundable laboratory deposit	Rs. 10,000.00
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Total	Rs. 284,310.00
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Students have the option to pay the tuition fee in two installments within 2 years period

Contact Information



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Faculty of Natural Sciences,
The Open University of Sri Lanka
Nawala, Nugegoda



Dr Chanika D Jayasinghe
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