

MODULE SPECIFICATION

1. Overview

Academic Year (student cohort covered by specification)	2019-20		
Module Code	3141		
Module Title	Vector Sampling, Identification & Incrimination		
Module Organiser(s)	Cheryl Whitehorn and Thomas Walker		
Faculty	ITD		
FHEQ Level	<i>Level 7 (postgraduate Masters 'M' level)</i>		
Credit Value	CATS	15	ECTS 7.5
HESA Cost Centre	112		
HECoS Code	100345		
Term of Delivery	<i>Term 2</i>		
Mode of Delivery	<i>Face to face</i>		
Mode of Study	<i>Full time</i>		
Language of Study	English		
Pre-Requisites	None (but to gain full benefit from this module, a basic prior knowledge of, and an interest in, vectors is recommended; attendance of Module 3122 is advantageous)		
Accreditation by Professional Statutory and Regulatory Body	Not currently accredited by any other body		
Module Cap (Maximum number of students)	25		
Target Audience	This module is intended for any student interested in vector-borne diseases; most likely are entomologists, medical parasitologists and those studying control of tropical diseases.		
Module Description	This module is predominately laboratory-based with the ratio of contact time in practicals: lectures roughly 2:1. The practical sessions are an important point for extensive personal interaction with teaching staff both in terms of practical skills as well as to support the theoretical content of the lectures. Students will gain hands-on experience in preparing specimens for identification, use of identification keys, dissection, ELISA, bloodmeal analysis and the use of qPCR. A one-day visit is made to the research facilities and laboratories of the Natural History Museum, South Kensington.		
Duration	5 weeks at 2.5 days per week		
Timetabling slot	Slot D1		
Last Revised (e.g. year changes approved)	September 2019		

2. Programme(s) that this module is part of

Programme	Status
MSc Medical Entomology for Disease Control	Compulsory
MSc Medical Parasitology	Recommended Option
MSc Control of Infectious Diseases	Recommended Option

3. Module Aim and Intended Learning Outcomes

Overall aim of the module
<p>The overall module aim is to:</p> <p>provide students with a practical understanding of the methods for sampling, identification and vector incrimination applicable to the most important arthropod vectors and snail intermediate hosts.</p>

Module Intended Learning Outcomes
<p>Upon successful completion of the module a student will be able to:</p> <ol style="list-style-type: none"> 1. Prepare insect specimens for identification 2. Accurately identify vectors of major diseases 3. Understand Sampling methods for major groups of vectors 4. Understand techniques for species identification of vector complexes 5. Understand the principles and methods of vector incrimination

4. Indicative Syllabus

Session Content
<p>The module is expected to cover the following topics:</p> <ul style="list-style-type: none"> • Introduction to both traditional and modern techniques, including morphological keys, cytotaxonomy, PCR and gene sequencing. • Species complexes in relation to biology and control. • Sampling and identification of mosquitoes; phlebotomine sandflies; tsetse flies; triatomine bugs; ticks and snails. • Current research undertaken by the Natural History Museum in forensic entomology and schistosomiasis. • Vector incrimination.



5. Teaching and Learning

Notional Learning Hours		
Type of Learning Time	Number of Hours	Expressed as Percentage (%)
Contact time	66	44
Directed self-study	10	7
Self-directed learning	30	20
Assessment, review and revision	44	29
Total	150	100

Teaching and Learning Strategy

The module aims to provide students with the basic knowledge of how to collect, preserve, process and identify the insects, ticks and snails of medical importance. In addition the module aims to demonstrate methods for the incrimination of insects as potential vectors of human pathogens. Students will be taught through a series of lectures and practical classes and will be provided with links to scientific papers and other online resources that follow up the theoretical information presented in lectures. Students will be given “hands on” experience of experimental work as carried out in LSHTM laboratories. In addition students will have the opportunity to see “behind the scenes” research work undertaken at the Natural History Museum, work which underlines the importance and relevance of the methods taught in this module.

Indicative Breakdown of Contact Time

Type of delivery	Total (hours)
Lecture	<u>20</u>
Seminar	
Tutorial	
Computer Practical	
Laboratory Practical	<u>34</u>
NHM Visit	<u>6</u>
Fieldwork	<u>6</u>
Project Supervision	
Total	<u>66</u>

6. Assessment

Assessment Strategy

50% practical assessment, 50% short answer assessment

Practical assessment lasts one hour with 6 elements (10 minutes per element) testing knowledge acquired from practical sessions. Short answer assessment lasts one hour with 6 questions on content obtained from both lectures and practicals.

Short answer assessment is one hour long suggesting students should spend 10 minutes per question using short answers (bullet points and drawings are acceptable).

Summative assessment

Assessment Type	Assessment Length	Weighting (%)	Intended Module Learning Outcomes Tested
<i>Practical</i>	60 minutes	50	1,2,3,4,5
<i>Timed Test (in-module test e.g. MCQ)</i>	60 minutes	50	1,2,3,4,5

Resitting assessment

Resits will accord with the LSHTM's [Resits Policy](#)

For individual students resitting a group assessment there will be an approved alternative assessment as detailed below.

Assessment being replaced	Approved Alternative Assessment Type	Approved Alternative Assessment Length
n/a		

7. Resources

Indicative reading list (if applicable)

3141 Entomology Handbook – given to all students who attend this Module (having not previously taken Module 3122). Can be collected from TSO during Reading Week.

Medical Entomology for Students 5th Edition (2012) M. Service. Cambridge University Press – available from the library.

Other resources

Preparation of Material: A Guide to the Preparation of Medically Important Insects and Acarines for Identification and Preservation - given to all students who attend this Module in first week of study.

Introduction to the families of British Diptera (2015) S. Ball by kind permission of Dipterists Forum. Part 1: Naming of the Parts and Glossary, Part 2: Key to Families, Part 3 Description of Families – given to all students who attend this Module in first week of study.

8. Teaching for Disabilities and Learning Differences

This module includes the use of Panopto to record all lectures; provision of notes, slides and/or handouts prior to lectures and practicals.