LONDON SCHOOL of HYGIENE &TROPICAL MEDICINE

MODULE SPECIFICATION

Academic Year (student cohort covered by specification)	2021-22
Module Code	3260
Module Title	Cell Biology of Host-Pathogen Interactions
Module Organiser(s)	Dr Theresa Ward and Dr Rob Moon
Faculty	Infectious & Tropical Diseases
FHEQ Level	Level 7
Credit Value	**CATS:** 15 **ECTS:** 7.5
HECoS Code	100822:100265 (1:1)
Term of Delivery	Term 3
Mode of Delivery	For 2021-22 this module is delivered predominantly on campus. Teaching will comprise a combination of live and interactive activities including practical laboratory elements (synchronous learning) as well as self-directed study (asynchronous learning) and pre-recorded activities if required.
Mode of Study	Full-time
Language of Study	English
Pre-Requisites	A basic understanding of cell biology is required.
Accreditation by Professional Statutory and Regulatory Body	None
Module Cap (Indicative number of students)	20 (numbers may be capped due to limitations in facilities or staffing).
Target Audience	This module is intended for students wishing to focus in depth on the cell biology of the host-pathogen relationship, and those wishing to gain further insight into general mammalian cell biology. It is also intended for students wishing to extend their knowledge of techniques to study host and pathogen biology, with a particular emphasis on cutting edge imaging approaches.
Module Description	The module will cover fundamental aspects of cell biology, including cell division and membrane trafficking, that are ubiquitous processes in eukaryotic cells. This will be further explored in the context of pathogen infection, as well as the cell biology of the pathogens themselves.
Duration	5 weeks at 2.5 days per week
Timetabling slot	Slot E

Last Revised (e.g. year changes approved)	August 2021

Programme(s) This module is linked to the following programme(s)	**Status**
MSc Immunology of Infectious Diseases	Recommended Option
MSc Medical Parasitology	Recommended Option

Module Aim and Intended Learning Outcomes

Overall aim of the module
The overall module aim is to: • provide students with an understanding of key aspects of the cell biology of mammalian cells and model organisms, particularly cells of the immune system, and how this relates to the establishment and survival of intracellular microorganisms.

Module Intended Learning Outcomes
Upon successful completion of the module a student will be able to: 1. Evaluate the diversity of host cell-pathogen interactions; 2. Demonstrate an understanding of the cytoskeleton and cellular events it regulates; 3. Distinguish the triggers and mechanisms of endocytosis / phagocytosis and of the secretory pathway; 4. Describe the molecular signals governing cell cycle control; 5. Compare how microbes utilise, distort, subvert, or are influenced by the host cell biology during infection, either by the host cell cycle or by membrane trafficking; 6. Critically assess and analyse the methodology for studying molecular cell biology and infection, particularly current imaging technologies

Indicative Syllabus

Session Content
The module is expected to cover the following topics in the context of cells with and without pathogens: • Cell cycle control; • Endocytosis, phagocytosis and vacuoles; • Exocytosis and cytoskeleton; • Trypanosomes and cell survival mechanisms; • Light and electron microscopy; • Ethics of data analysis and presentation.

Teaching and Learning

Notional Learning Hours

Type of Learning Time	Number of Hours	Expressed as Percentage (%)
Contact time	40	27
Directed self-study	32	21
Self-directed learning	33	22
Assessment, review and revision	45	30
Total	**150**	**100**

Student contact time refers to the tutor-mediated time allocated to teaching, provision of guidance and feedback to students. This time includes activities that take place in face-to-face contexts such as lectures, seminars, demonstrations, tutorials, supervised laboratory workshops, practical classes, project supervision as well as where tutors are available for one-to-one discussions and interaction by email. Student contact time also includes tutor-mediated activities that take place in online environments, which may be synchronous (using real-time digital tools such as Zoom or Blackboard Collaborate Ultra) or asynchronous (using digital tools such as tutor-moderated discussion forums or blogs often delivered through the School's virtual learning environment, Moodle).

The division of notional learning hours listed above is indicative and is designed to inform students as to the relative split between interactive (online or on-campus) and self-directed study.

Teaching and Learning Strategy
Primarily by online lectures, for introductory material, and by structured discussion involving student presentations. Practical sessions will include one microscopy practical demonstration and problem session held on campus.

Assessment

Assessment Strategy
The assessment for this module has been designed to measure student learning against the module intended learning outcomes (ILOs) as listed above. Formative assessment methods may be used to measure students' progress. The grade for summative assessment(s) only will go towards the overall award GPA. The assessment for this module will be on campus. Assessment will be a short answer test at the end of the module based on data analysis and material covered in lectures and presentations.

Summative Assessment

Assessment Type	**Assessment Length (i.e. Word Count, Length of presentation in minutes)**	**Weighting** (%)	**Intended Module Learning Outcomes Tested**
Timed Test (in-module test e.g. MCQ)	1.5 hours	100	1 - 6

Resitting assessment
Resits will accord with the LSHTM's Resits Policy The Resit assessment will be the same assessment type as the first attempt (see previous table).

Resources

n/a

Teaching for Disabilities and Learning Differences

The module-specific site on Moodle gives students access to lecture notes and copies of the slides used during the lecture. Where appropriate, lectures are recorded and made available on Moodle. All materials posted on Moodle, including computer-based sessions, have been made accessible where possible.

LSHTM Moodle is accessible to the widest possible audience, regardless of specific needs or disabilities. More detail can be found in the Moodle Accessibility Statement which can also be found within the footer of the Moodle pages. All students have access to "SensusAccess" software which allows conversion of files into alternative formats.

Student Support Services can arrange learning or assessment adjustments for students where needed. Details and how to request support can be found on the LSHTM Disability Support pages.