Module Specification

ABOUT THIS DOCUMENT

This module specification applies for the academic year 2018-19

Last revised 03 September 2018 by Ursula Gompels and Michael Gaunt

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GENERAL INFORMATION

Module name	**Molecular Virology**
Module code	3140
Module Organisers	Dr David Allen, Professor Martin Hibberd and Dr Michael Gaunt
Contact email	David.Allen@lshtm.ac.uk, Martin.Hibberd@lshtm.ac.uk or Michael.Gaunt@lshtm.ac.uk
Home Faculty	Infectious & Tropical Diseases
Level	Level 7 (postgraduate Masters 'M' level) of the QAA Framework for Higher Education Qualifications in England, Wales & Northern Ireland (FHEQ)
Credit	15 credits
Accreditation	Not currently accredited by any other body
Keywords	Viral diseases, HIV/AIDS, Disease prevention & control, Pathogens, Research, Bioinformatics, International/global, Outbreaks, Biomedical sciences/disciplines, Molecular Biology, Host-pathogen interactions, Emergent Infections, Antimicrobial resistance, Vaccines, Clinical Intervention

AIMS, OBJECTIVES AND AUDIENCE

Overall aim	To develop a broad understanding of molecular viral strategies and their applications towards disease control; to provide theoretical knowledge of virus groups which are pathogens, including analyses of emerging infections, through an in depth study of selected viruses.
Intended learning outcomes	By the end of this module, students should be able to: • Understand basic molecular virological strategies, compare mechanisms and their relationship to current paradigms in virus pathogenesis • Analyse and evaluate experimental design to answer specific questions in virological research • Research literature and databases on relevant topics and present the data • Critically assess data and findings of current publications on virus research

Target audience	For students with a basic background in both virology and molecular biology (i.e. have attended the Virology (in Bacteriology & Virology) and Molecular Biology modules in Term 1 or have equivalent training).
CONTENT	
Session content	The module is expected to include sessions addressing the following topics: • Virus and cellular gene expression • Therapy and resistance • Latency and virus persistence • Protective immunity, immune evasion and vaccines • Virus receptors, tissue tropism and infection • Viral oncogenes and tumorigenesis • Molecular evolution • Virulence and emergent infections
TEACHING, LEARNING AND ASSESSMENT	
Study resources provided or required	Module Information can be found on the Virtual Learning Environment (Moodle) containing information about each session and key references for the module. The information will include virus molecular characteristics summary, literature resources and virus genomic analyses outline.
Teaching and learning methods	Teaching includes: lectures followed by discussion; journal club with presentations of research articles by groups of students followed by discussions; a problem based approach where students will choose an unidentified virus nucleotide sequence fragment from a list compiled by the module organiser. This will be followed by tutorial sessions and use of computer based bioinformatics analyses leading to selection of a related research problem, from a list of questions provided, for further literature based study.
Assessment details	One presentation and one written assignment: i. Journal club oral presentation, group mark - 40% ii. Written assignment on computer (bioinformatics) and literature based research question, individual mark - 60% Resit/deferred/new attempts - The tasks will be written forms of in-class assignments.
Assessment dates	Assessments will take place during the module (journal presentation/oral) and at the end of the module (research presentation/written). Resit/deferred/new attempts - The next assessment deadline will be during mid/late September of the current academic year.
Language of study and assessment	English (please see 'English language requirements' below regarding the standard required for entry).
TIMING AND MODE OF STUDY	
Duration	5 weeks at 2.5 days per week
Dates	Wednesday lunchtime to Friday afternoon

Timetable slot	Term 2 - slot **C2**
Mode of Study	The module is taught face-to-face in London. Both full-time and part-time students follow the same schedule.
Learning time	The notional learning time for the module totals 150 hours, consisting of: • Contact time ≈ 50 hours • Directed self-study ≈ 20 hours • Self-directed learning ≈ 30 hours • Assessment, review and revision ≈ 50 hours
APPLICATION AND ADMISSION	
Pre-requisites	Students should have a basic understanding of biochemistry and genetics.
English language requirements	A strong command of the English language is necessary to benefit from studying the module. Applicants whose first language is not English or whose prior university studies have not been conducted wholly in English must fulfil LSHTM's English language requirements.
Student numbers	15-20 (numbers may be capped due to limitations in facilities or staffing)
Student selection	Preference will be given to LSHTM MSc students [particularly those registered for Medical Microbiology or Molecular Biology of Infectious Diseases or who may have equivalent training in virology or molecular biology, i.e. MSc Tropical Medicine & International Health] and LSHTM research degree students. Other applicants meeting the entry criteria will usually be offered a place in the order applications are received, until any cap on numbers is reached. Applicants may be placed on a waiting list and given priority the next time the module is run. Partial Registration (partial participation) by LSHTM research degree students is allowed for this module.