# Module Specification

## ABOUT THIS DOCUMENT

This module specification applies for the academic year 2018-19  
**Last revised** 14 August 2018 by David Baker  
London School of Hygiene & Tropical Medicine, Keppel St., London WC1E 7HT.  
[www.lshtm.ac.uk](http://www.lshtm.ac.uk)

## GENERAL INFORMATION

<table>
<thead>
<tr>
<th><strong>Module name</strong></th>
<th>Molecular Biology Research Progress &amp; Applications</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Module code</strong></td>
<td>3160</td>
</tr>
<tr>
<td><strong>Module Organiser</strong></td>
<td>Professor David Baker</td>
</tr>
<tr>
<td><strong>Deputy Module Organiser</strong></td>
<td>Dr Michael Lewis</td>
</tr>
<tr>
<td><strong>Contact email</strong></td>
<td><a href="mailto:David.Baker@lshtm.ac.uk">David.Baker@lshtm.ac.uk</a>; <a href="mailto:Michael.Lewis@lshtm.ac.uk">Michael.Lewis@lshtm.ac.uk</a></td>
</tr>
<tr>
<td><strong>Home Faculty</strong></td>
<td>Infectious and Tropical Diseases</td>
</tr>
<tr>
<td><strong>Level</strong></td>
<td>Level 7 (postgraduate Masters ‘M’ level) of the QAA Framework for Higher Education Qualifications in England, Wales &amp; Northern Ireland (FHEQ)</td>
</tr>
<tr>
<td><strong>Credit</strong></td>
<td>15 credits</td>
</tr>
<tr>
<td><strong>Accreditation</strong></td>
<td>Not currently accredited by any other body</td>
</tr>
<tr>
<td><strong>Keywords</strong></td>
<td>Molecular Biology; Infectious Disease; Viral; Bacterial; Parasitic; Research; Advanced Methodology</td>
</tr>
</tbody>
</table>

## AIMS, OBJECTIVES AND AUDIENCE

### Overall aim

To provide the knowledge and experience required to assess and to keep up to date with rapidly advancing research frontiers in the molecular biology of infectious diseases.

### Intended learning outcomes

By the end of this module, students should be able to:

- Demonstrate knowledge and understanding of up-to-date research progress and future prospects for selected topics in the molecular biology of infectious diseases
- Appreciate the range of molecular biology methodological approaches and technologies applied to the following key areas of infectious disease research: molecular epidemiology, taxonomy and evolutionary history of disease agents; diagnostics; genomics; cell biology; virulence and pathogenesis; analysis of chemotherapeutic targets; and vaccine development
- Critically assess the design of molecular biological strategies as applied to epidemiological investigations, clinical diagnosis or fundamental research on infectious diseases
### Target audience
This module is aimed at students who wish to be thoroughly familiar with latest advances in the molecular biology of infectious diseases and who wish to maintain an active interest in this area of research.

### CONTENT

#### Session content
The module is expected to include sessions addressing the following topics:
- Recent advances in the field of the molecular biology of infectious diseases
- Advanced techniques and methodological approaches
- Cell biology, pathogenesis, immunology, vaccine and drug development, genomics, taxonomy and evolution, molecular epidemiology and diagnostics

### 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. Seminar/Lecture/Computer based practical handouts; scientific research papers.

#### Teaching and learning methods
This module is built around research seminars but incorporates a range of other teaching methods including reviews of relevant publications, lectures on research methods and a computer based practical.

#### Assessment details
Assessment will be by
- **A written assignment**, consisting of short essays (50%)  
- **An individual 10-minute oral presentation, plus abstract** (50%).

Resit/deferred/new attempts - The task will be to provide answers on the remaining options that were not answered in the original assessment and make corrections to the original oral presentation and present it to examiners.

#### Assessment dates
Oral presentations and hand ins will take place in **March 2019**.  
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 D2

#### 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:
<table>
<thead>
<tr>
<th>Contact time ≈ 54 hours</th>
<th>Directed self-study ≈ 24 hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-directed learning ≈ 12 hours</td>
<td></td>
</tr>
<tr>
<td>Assessment, review and revision ≈ 60 hours</td>
<td></td>
</tr>
</tbody>
</table>

**APPLICATION AND ADMISSION**

<table>
<thead>
<tr>
<th>Pre-requisites</th>
<th>Students must have either taken the core Molecular Biology (3333) module taught in Term 1 and the Molecular Biology and Recombinant DNA Techniques (3131) module in term 2 (C1) OR have an equivalent level of knowledge and experience. If not attending module 3333, they are required to have taken and passed its final formative assessment.</th>
</tr>
</thead>
<tbody>
<tr>
<td>English language requirements</td>
<td>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 <a href="#">English language requirements</a>.</td>
</tr>
<tr>
<td>Student numbers</td>
<td>15-20 (numbers may be capped due to limitations in facilities or staffing)</td>
</tr>
<tr>
<td>Student selection</td>
<td>Preference will be given to LSHTM MSc students 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.</td>
</tr>
</tbody>
</table>