## Module Specification

### ABOUT THIS DOCUMENT

This module specification applies for the academic year 2019-20

**Last revised:** 08 August 2019 by Nicholas Furnham

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>Module name</th>
<th>Antimicrobial Chemotherapy</th>
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<tbody>
<tr>
<td>Module code</td>
<td>3169</td>
</tr>
<tr>
<td>Module Organiser(s)</td>
<td>Dr Nicholas Furnham</td>
</tr>
<tr>
<td>Contact email</td>
<td><a href="mailto:Nick.Furnham@lshtm.ac.uk">Nick.Furnham@lshtm.ac.uk</a></td>
</tr>
<tr>
<td>Home Faculty</td>
<td>Infectious &amp; Tropical Diseases</td>
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<tr>
<td>Credit</td>
<td>15 credits</td>
</tr>
<tr>
<td>Accreditation</td>
<td>Not currently accredited by any other body.</td>
</tr>
<tr>
<td>Keywords</td>
<td>Viral diseases; HIV/AIDS; bacterial diseases; TB; parasitic diseases; malaria; drugs; antimicrobials; biomedical sciences</td>
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### AIMS, OBJECTIVES AND AUDIENCE

**Overall aim**

To examine the principles of antimicrobial chemotherapy within areas of drug discovery, selective toxicity, medicinal chemistry and pharmacology and apply these to different classes of antimicrobials such as antibacterial, antiviral and antiprotozoal compounds.

**Intended learning outcomes**

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

- Explain the principles of chemotherapy, selective toxicity and rational drug design
- Evaluate the activity and toxicity of potential antimicrobial agents *in vitro*
- Demonstrate knowledge and understanding of drug activity and its relation to structure
- Demonstrate knowledge and understanding of the mechanisms of drug action and drug resistance
- Demonstrate knowledge and understanding of basic pharmacokinetics and drug delivery
- Critically assess the scientific literature and communicate effectively
**Target audience**

This module is intended for biochemists, biologists, clinicians, immunologists, microbiologists, molecular biologists, parasitologists and virologists who have an interest in chemotherapy.

<table>
<thead>
<tr>
<th>CONTENT</th>
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| **Session content**

The module is expected to include sessions addressing the following topics:
- Principles of chemotherapy and selective toxicity
- Drug targets and mechanisms of drug action
- Drug resistance and mechanisms of drug resistance
- Methods of drug assays and development
- Drug uptake and drug delivery
- Analytical methods for pharmacology
- Laboratory practicals, including antimicrobial drug resistance |

<table>
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<tr>
<th>TEACHING, LEARNING AND ASSESSMENT</th>
</tr>
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</table>
| **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. Laboratory protocols will also be available via Moodle. |

| **Teaching and learning methods**

A combination of lectures, practicals, tutorials and student presentations. |

| **Assessment details**

Assessment will be based on the following two assessments. The grades for each will be equally weighted and combined to give an overall GPA. 

1) A short multiple choice paper on the session material.
2) An oral presentation following a scientific question set in a tutorial.

Resit/deferred/new attempts - The tasks will be 1) a multiple choice questionnaire; and 2) an essay based on a different question to the presentation task. |

| **Assessment dates**

Assessments will take place in the last week of the module.

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). |

<table>
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<tr>
<th>TIMING AND MODE OF STUDY</th>
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| **Duration**

5 weeks at 2.5 days per week |

| **Dates**

Wednesday lunchtime to Friday afternoon |

| **Timetable slot**

Term 3 - slot E |

| **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 ≈ 48 hours |
- Directed self-study ≈ 43 hours
- Self-directed learning ≈ 15 hours
- Assessment, review and revision ≈ 44 hours

### APPLICATION AND ADMISSION

<table>
<thead>
<tr>
<th>Pre-requisites</th>
<th>Knowledge of chemistry and biochemistry would be a benefit. Willingness to refresh basic background knowledge in private study as needed is essential.</th>
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</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>16 (numbers may be capped due to limitations in facilities or staffing)</td>
</tr>
<tr>
<td>Student selection</td>
<td>Equal opportunities will be given to LSHTM MSc students, LSHTM research degree students and external applicants. External 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>
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