

# Module Specification



UNIVERSITY  
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INTERNATIONAL  
PROGRAMMES

LONDON  
SCHOOL of  
HYGIENE  
& TROPICAL  
MEDICINE



## GENERAL INFORMATION

<b>Module name</b>	<b>Tuberculosis</b>
<b>Module code</b>	IDM502
<b>Module Organiser(s)</b>	Dr Jackie Cliff
<b>Contact email</b>	<p>The LSHTM distance learning courses and modules are run in collaboration with the University of London International Programmes. Enquiries may be made via their Student Advice Centre at: <a href="http://www.londoninternational.ac.uk/contact-us">http://www.londoninternational.ac.uk/contact-us</a>.</p> <p>(Enquiries from face-to-face i.e. London-based LSHTM MSc or research students regarding study of DL modules should be emailed to <a href="mailto:distance@lshtm.ac.uk">distance@lshtm.ac.uk</a>.)</p>
<b>Home Faculty</b>	<p>Faculty of Infectious &amp; Tropical Diseases London School of Hygiene &amp; Tropical Medicine <a href="http://www.lshtm.ac.uk/itd/">http://www.lshtm.ac.uk/itd/</a></p>
<b>Level</b>	<p>This module is at Level 7 (postgraduate Masters 'M' level) of the QAA <a href="#">Framework for Higher Education Qualifications</a> in England, Wales &amp; Northern Ireland (FHEQ)</p>
<b>Credit</b>	LSHTM award 15 credits on successful completion of this module
<b>Accreditation</b>	Not currently accredited by any other body
<b>Keywords</b>	Tuberculosis, TB, Immunology, Microbiology, Epidemiology, Clinical, Control
<b>AIMS, OBJECTIVES AND AUDIENCE</b>	
<b>Overall aim</b>	<p>The aim of this module is to give students a broad understanding of TB control, with an emphasis on the biology and pathology of tuberculosis, and how modern techniques of molecular biology and immunology can be harnessed to combat an old plague.</p>
<b>Intended learning outcomes</b>	<p>By the end of this module, students should be able to:</p> <ul style="list-style-type: none"><li>• explain the biology of the tubercle bacillus and its interaction with its human host,</li><li>• describe the clinical features of tuberculosis, including its clinical manifestations, diagnosis and treatment among adults and children and including the effects of HIV,</li><li>• analyse the current approaches to tuberculosis control,</li><li>• evaluate the broader biological, social and ethical issues that relate to tuberculosis and measures for its control.</li></ul>
<b>Target audience</b>	<p>This module is suitable for a wide audience, including biologists interested in the host-pathogen interaction in tuberculosis, clinical and non-clinical staff who are involved in TB control programs, and those involved in policy-making.</p>

## CONTENT

### Session content

After an introduction, detailing the history, current epidemiology, natural history and clinical presentation of tuberculosis, the module includes sections addressing the following topics:

#### **Biology**

This section discusses the basic biology of the causative agent, *M. tuberculosis*, including how distinct strains can be identified by their genomic sequence, and how the pathogen interacts with the host immune system

#### **Diagnosis**

This section discusses the methodology underlying the main tests available to diagnose tuberculosis disease and also infection with *M. tuberculosis*. It then covers how these tests are employed in clinical practice.

#### **Treatment**

The mechanisms of action of the main first-line antibiotics are described, alongside the molecular mutations underlying drug resistance. The use of multi-drug treatment regimens to treat drug sensitive and drug-resistant TB is explained, including in children and in people living with HIV.

#### **Vaccination**

This short section covers the BCG vaccine, how it was derived and how widely it is used today, and explains the limitations of its efficacy and why TB is still a major health problem

#### **TB epidemiology and control**

This substantial section covers current global epidemiology, including the impact of HIV and drug resistance on control efforts. It examines how public health TB control measures have evolved, why success has been limited, and introduces more recent WHO strategies.

#### **Social and Ethical challenges**

The broader context of TB control is examined, explaining why an understanding of the economic and social challenges people with TB (or HIV-TB) face is vital alongside a biomedical approach to TB control.

#### **Research Priorities**

This final section addresses the need for new tools if TB is going to be fully controlled, and highlights current avenues of research.

## TEACHING, LEARNING AND ASSESSMENT

### Study resources provided or required

The following materials are provided to students after registration for this module once a year in September or October:

**Study Guide:** Interactive CD-ROM.

**Reader:** Reprints of associated journal articles.

#### **Textbooks:**

- WHO, (2004). *TB/HIV, A Clinical Manual*. 2<sup>nd</sup> Ed. World Health Organisation. ISBN: 978-9241546348.
- *Treatment of Tuberculosis, Guidelines For National Programmes*. World Health Organisation, (1997). ISBN: 978-0119517767.4th Ed.

In addition to the materials above, students are given access to the LSHTM **Virtual Learning Environment, Moodle** (for web-based discussions forums etc.) and the LSHTM **online library resources**.

	Audio-recordings of on-campus lectures are not available for this module.
<b>Teaching and learning methods</b>	Learning is self-directed against a detailed set of learning objectives using the materials provided. Students are strongly encouraged to participate in the module-specific discussion forums available on Moodle to obtain tutor support, and to make use of LSHTM online library resources. In addition, written feedback is provided on submitted assignments.
<b>Assessment details</b>	Formal assessment of this module includes a two-hour unseen written paper examination with 15 minutes' additional reading/planning time (70%) and an assessed assignment comprising a 2500 word report (30%).  If students fail the module overall, they are allowed one further attempt at the failed element (examination and/or assignment).
<b>Assessment dates</b>	Assignments for this module can be submitted only once annually, no later than 31 <sup>st</sup> March and must be submitted via the online Assignment Management System.  Unseen written examinations for DL modules are held once a year, in June (including resits).  Examinations are normally held in a student's country of residence, in one of over 650 examination centres worldwide. They are arranged mainly through Ministries of Education or the British Council. A list of examination centres can be found at <a href="http://www.londoninternational.ac.uk/community-support-resources/current-students/examinations/examination-centres">http://www.londoninternational.ac.uk/community-support-resources/current-students/examinations/examination-centres</a> .  A local fee will be payable direct to the examination centre. This fee is in addition to the course/module fee and is set by, and paid directly to, the individual examination centres. The level of local examination centre fees varies across the world and neither the University of London International Programmes nor the LSHTM have any control over the fee amount.
<b>Language of study and assessment</b>	English (please see 'English language requirements' below regarding the standard required for entry).
<b>TIMING AND MODE OF STUDY</b>	
<b>Duration</b>	Distance learning module studies begin in early October. Students may start their studies at any time from receipt of study materials and work through the material until the start of the June examinations (although assessment submission deadlines which are earlier than this must be observed).
<b>Dates</b>	Tutorial support for distance learning modules is available from the beginning of October through to the end of May.
<b>Mode of Study</b>	By distance learning.
<b>Learning time</b>	The notional learning time for the module totals 150 hours, consisting of: <ul style="list-style-type: none"> <li>• Directed self-study (reading and working through the provided module material) ≈ 75 hours</li> <li>• Self-directed learning (general reading around the subject, library, Moodle discussion forums )≈ 25 hours</li> <li>• Assessment, review and revision ≈ 50 hours</li> </ul>

APPLICATION, ADMISSION AND FEES	
<b>Pre-requisites</b>	<p>Those who wish to study this module as an individual module or as part of another course should <b>have a prior knowledge of basic biochemistry, cell biology, genetics and immunology in order to be able to work through and benefit fully from this module.</b></p> <p>Those wishing to study this module must have regular access to the internet to participate in module-specific discussions on Moodle, benefit from online library facilities and submit assignments.</p>
<b>English language requirements</b>	<p>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>, with an acceptable score in an approved test taken in the two years prior to entry. Applicants may be asked to take a test even if the standard conditions have been met.</p>
<b>Student numbers</b>	<p>There is no cap on the number of students who can register for this distance learning module. The number of students actively studying this module varies, but typically approx. 100 students register for the module per year.</p>
<b>Student selection</b>	<p>This module is available to be studied by students on the following distance learning courses:  <a href="#">MSc or PG Dip Infectious Diseases (ID)</a>, <a href="#">Clinical Trials (CT)</a>, <a href="#">Global Health Policy (GHP)</a> or <a href="#">Public Health (PH)</a> courses or <a href="#">MSc Epidemiology (EP)</a>.</p> <p>Alternatively, students may register for this as an "individual module".</p> <p>This module is also open to students registered on LSHTM face-to-face (i.e. London-based) MSc courses (subject to course-specific limitations) and research degree students.</p>
<b>Fees</b>	<p>For the current <a href="#">schedule of fees</a> click on the LSHTM course link.</p>
<b>Scholarships</b>	<p>Scholarships are not available for individual modules. Some potential <a href="#">sources of funding</a> are detailed on the LSHTM website.</p>
<b>Admission deadlines</b>	<p>Applications for LSHTM distance learning courses and modules are managed by the University of London International Programmes. To apply to take either a formal award (i.e. PG Certificate, PG Diploma or MSc) or an individual module, click the relevant link on the right hand side of the page at <a href="http://www.londoninternational.ac.uk/courses/postgraduate/lshtm/infectious-diseases-msc-postgraduate-diploma-postgraduate-certificate">http://www.londoninternational.ac.uk/courses/postgraduate/lshtm/infectious-diseases-msc-postgraduate-diploma-postgraduate-certificate</a></p> <p>Key deadlines are as follows:</p> <ul style="list-style-type: none"> <li>➤ Application deadline: 31 August each year</li> </ul> <p>(Note: applicants who submit applications on or after 1 June 2017 will be required to pay an application fee of £100 at the point of submission, which will be deducted from the balance of fees payable upon registration. If the application does not result in registration, the application fee will not be refunded. No application fee will apply to applications submitted on or before 31 May 2017.)</p> <ul style="list-style-type: none"> <li>➤ Registration deadline (new students and those registering for the project module, IDM600): 30 September each year</li> <li>➤ Registration deadline (continuing students, with the exception of those registering for the project module IDM600, and those taking individual modules): 31 October.</li> </ul> <p><b>Please note:</b> <i>The academic year starts 1 October. Students who register after 1 October should note that module welcome and Collaborate sessions held in October are recorded, but they cannot request an extension to assignment</i></p>

*submission deadlines or apply for an examination extenuating circumstance as a result of registering later than 1 October.*

(LSHTM research students wishing to study this module should note information given in the [mixed mode study option](#) document.

## **ABOUT THIS DOCUMENT**

**This module specification applies for the academic year 2017/18.**

**Last revised/approved**, by M. Bridge on 1/2/17

Further revisions revised

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