

INTRODUCTION TO INTERNATIONAL HEALTH (IIH)

(Course leader: Bruno Marchal)

This course gives a broad introduction to international health. The focus is on determinants of health, poverty-related health problems in low-and middle-income societies, and principles of public health. It encompasses disease prevention and control, health service organisation, health policy and clinical laboratory organisation in resource-limited settings.

This course targets two groups:

- (Junior) health professionals with a concrete interest and/or career perspective in international health
- Graduated master students who aspire either a career as a clinical or biomedical professional or as clinical or biomedical scientist, working in reference labs, research institutions or agencies active in the Global South

Professionals with significant experience in low- and middle-income countries are advised to explore courses which go beyond the introductory level (e.g. ITM master degrees or specialized short courses).

This short course counts as a core course of the Master of Science in Public Health at ITM with the possibility of credit mobility in the tropEd network (see www.troped.org).

NUMBER OF CREDITS

20 ECTS

MODE OF STUDY

This course component is organized as a face-to-face course in Antwerp from the beginning of September to the end of December.

LEARNING OBJECTIVES

By the end of the course, students should be able to:

- Discuss determinants of health in general and of health care seeking behaviour in particular
- Analyse the main biomedical, clinical and epidemiological aspects of vector-borne diseases, tuberculosis, HIV/AIDS, bacterial diseases and anti-microbial resistance in order to manage their prevention and control at population and individual level
- Organise primary health care services taking into account local priorities and resource availability as well as the perspective of communities and patients
- Critically analyse disease control programmes, applying scientific tools and methods
- Analyse the main epidemiological, programmatic and health system aspects of mother and child health
- Organize field laboratories and review their performance
- Understand the complexity of emergency situation and set up appropriate response
- Describe the major issues in international health policy and development cooperation
- Manage communication and teamwork in a multi-disciplinary setting

COURSE STRUCTURE AND CONTENT

The IIH has three parts (Figure 1).

- Up to week 11, the programme is uniform for all students. The **Introduction block** focuses on concepts and tools of international health, epidemiology and statistics, and basic principles of qualitative research. This is followed by 4 **thematic blocks** that each address specific health problems: vector-borne diseases, HIV/AIDS, Bacteria and antimicrobial resistance, and Tuberculosis.
- From week 11, the programme splits in two tracks. Students either choose for (1) Public health electives 2, Child health, and Reproductive and maternal health, or (2) Field lab preparedness. The latter focuses on the knowledge and skills to set up and run a district laboratory in resource-limited settings.
- In week 14-15, all students jointly do an integrated exercise on emergencies and follow lectures that integrate the different perspectives on health, policies, programmes and health care.

In all thematic blocks, clinical and biomedical aspects of health problems are combined with a public health approach. Quantitative and qualitative research methods as well as topical issues in international health are discussed throughout the blocks.

Figure 1 - Programme structure

Week			
1	Introduction		
2			
3			
4			
5			
6	Vector Borne Diseases		
7	HIV/Aids		
8	Bacteria & Antimicrobial Resistance		
9	Integrated Tuberculosis Care		
10	Integrated Tuberculosis Care		
11	Public Health		Field lab preparedness
12	Child Health		Field lab preparedness
13	Reproductive and maternal health		Field lab preparedness
14	Integrated exercise on emergency situations		
15	Synthesis		
	Exams		
16	Exams		

TEACHING AND LEARNING METHODS

The course uses a combination of lectures, interactive classes, (coached) group work and assignments, practical laboratory work and individual study.

- **Contact hours** are a combination of state-of-the-art lectures, debates and interactive classes, often focusing on cases or papers read before the lecture. Videos and films are used to illustrate cases. Critical reading skills are developed during plenary discussion of scientific papers.
- **Group work and assignments** are done outside formal contact hours in groups of 5-6 students. Plenary sessions with presentations by students and comments by expert panels conclude these assignments. Examples of group assignments include:
 - Vertical analysis: systematic analysis of a health problem, from analysis of severity to development of an epidemiological model and identification of interventions.
 - Group work on HIV/aids, using resources such as UNAIDS and WHO/HIV websites containing updated materials, data and guidelines
 - Group exercise on a case study of an integrated tuberculosis programme
 - Integrated exercise on outbreak lab
 - Exercise on emergency settings using case studies, including the development of an action plan for an emergency in a conflict area and/or an epidemic
 - **Laboratory skills** are taught through practical sessions throughout the programme
 - Students use their **personal time** to study for the course and prepare exams. This includes using e-learning platforms such as the e-scart modules.

The lecturers are drawn from all departments of ITM or are guest lecturers. All have extensive experience in resource-limited settings, which inspires their teaching is based on their field experience. Most lecturers have vast research experience in the field of health in resource-limited settings.

STAFF

Block	Coordinator	Other lecturers
Introduction	Bruno Marchal	Werner Soors, Bea Vuylsteke, Tine Verdonck
Vector-borne diseases	Katja Polman	Katja Polman, Wim Van Bortel, Ana Rosanas, Marc Coosemans, Ludwig Apers, Idzi Potters, Anali Conesa, Philippe Buscher, Epcó Hasker, Jean-Claude Dujardin, Veerle Van Lerberghe
HIV/Aids	Marie Laga	Lut Lynen, Katrien Fransen, Marie Laga, Maria Zolfo, Therese Delvaux, Tom Decroo, Anja De Weggheleire, Wim Van Damme
Tuberculosis	Tullia Battaglioli, Leen Rigouts	Tullia Battaglioli, Leen Rigouts, Lut Lynen, Anali Conesa, Idzi Potters, Annelies Van Rie, Bruno Marchal

Bacteria and antimicrobial resistance	Jan Jacobs, Anali Conesa	Marianne Van de Sande, Brecht Ingelbeen, Jan Jacobs, Erika Vlieghe, Wim Van Damme, Anali Conesa, Rafaella Ravinetto
Public health	Bruno Marchal	Raffaëlla Ravinetto, Werner Soors, guest lecturers
Child health	Deogratias Katsuva	Deogratias Katsuva, Jose Luis Penalvo, guest lecturers
Reproductive and maternal health	Lenka Benova	Lenka Benova, Thérèse Delvaux, Severine Caluwaerts and guest lecturers
Field Lab Preparedness	Anali Conesa	Anali Conesa, Idzi Potters, Jan Jacobs, Anne-Sophie Heroes, Birgit de Smet, Jef Verellen, Thijs Van Poucke
Emergencies	Temmy Sunyoto	Temmy Sunyoto, guest lecturers
Synthesis	Bruno Marchal	Werner Soors, Bruno Marchal

ASSESSMENT

Participants are assessed through 7 tests (2 hours/test)

- 2 open-book tests: Epidemiology and Statistics (in week 5) and Public Health (week 15)
- 5 closed-book tests: Vector-borne diseases, TB, HIV/Aids, Motherhood, and Childhood

Each closed-book test consists of 2 components: essay questions (60-75% of mark) and a set of multiple-choice questions (25-40% of mark).

Students pass when they succeed for all 7 tests with at least 50%.

Students who fail a test are entitled to a re-sit exam.

BIBLIOGRAPHY

The table below presents a *limited selection* of the scientific papers, reports and books used during the lectures.

Block	Bibliography
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Vector-borne diseases	<p>Bizimana P, Polman, K, Van Geertruyden JP, Nsabayumva F, Ngenzebuhoro C, Muhimpundu E, Ortu G (2018) Capacity gaps in health facilities for case management of intestinal schistosomiasis and soil-transmitted helminthiasis in Burundi. Infectious Diseases of Poverty, 7, 9</p> <p>Busscher P, Czecci G, Jamonneau V, Priotto, G. Human African trypanosomiasis. The Lancet, 390, 2397-409</p> <p>Burza S, Croft S, Boelaert M (2018) Leishmaniasis. Lancet 392 (10151); P951-970</p> <p>Koram K, Molyneux M: When Is “Malaria” Malaria? The Different Burdens of Malaria Infection, Malaria Disease, and Malaria-Like Illnesses. American Journal of Tropical Medicine and Hygiene 2007, 77(Suppl. 6) 1-5</p> <p>Ruizendaal, E. et al. (2014) Success or failure of critical steps in community case management of malaria with rapid diagnostic tests: a systematic review. Malaria Journal, 13:229</p> <p>WHO (2013) Control and surveillance of human African trypanosomiasis. WHO expert committee report; WHO, Geneva</p> <p>Wilson AL, Boelaert M, Kleinschmidt I, Pinder M, Scott TW, Tusting LS, Lindsay SW. (2015) Evidence-based vector control? Improving the quality of vector control trials. Trends Parasitol. Aug;31(8):380-90</p> <p>Zimmerman P and Howes R. (2015) Malaria diagnosis for malaria elimination. Curr. Opin. Inf. Dis. 28, 5</p>
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Tuberculosis	<p>Pai et al. Tuberculosis. Nat Rev Dis Primers. 2016 Oct 27;2:16076.</p> <p>Reid MJA et al. Building a tuberculosis-free world: The Lancet Commission on tuberculosis. Lancet. 2019;393(10178):1331-1384.</p>

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Child health	<p>FAO (2018), The State of Food Security and Nutrition in the World, Building Climate Resilience for Food Security and Nutrition; FAO, Rome</p> <p>Science/AAAS (2014), Addressing nutrition to improve global health, Science/AAAS Custom, California</p> <p>UNICEF, (2011), Infant and Young Child Feeding, UNICEF, New York.</p> <p>WHO (2005) Handbook IMCI. Integrated Management of Childhood Illness.</p> <p>WHO. Department of Child and Adolescent Health and Development (CAH), Geneva</p> <p>WHO (2013) Guideline: Updates on the management of severe acute malnutrition in infants and children. Geneva, World Health Organization;</p> <p>WHO/UNICEF (2013) Ending preventable child deaths from pneumonia and diarrhoea by 2025. The integrated Global Action Plan for Pneumonia and Diarrhoea (GAPPD); WHO, Geneva</p>
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