Infections are a serious threat to the survival of humans, animals and plants on Earth. Our knowledge of the processes that govern microbial life and evolution must increase if we are to solve acute problems of antimicrobial resistance. This is of particular importance for developing countries where microbial infections are more widespread and might have devastating consequences. The Master Programme in Infection Biology integrates human and veterinary medicine, drug development and food safety.

ABOUT THE PROGRAMME

The Master Programme in Infection Biology allows you to take advantage of Uppsala’s strong environment for research and education in infection biology. The city has two universities, two university hospitals as well as three national authorities responsible for food safety, medical products and veterinary issues. In combination, this offers a broad competence for those who have interest in infection biology. Courses are conducted largely at Uppsala Biomedical Centre (BMC), Uppsala University, but in some courses/course modules you will study at the Swedish University of Agricultural Sciences (SLU). In other words you will meet teachers and researchers from both SLU and Uppsala University as well as clinicians and researchers from both hospitals. The strong link to on-going research will also offer an excellent stepping stone for further doctoral studies.

If you have a strong interest in research and plan to continue with PhD studies, you can apply to replace the second year with practical project studies within the framework of the Master Programme in Medical Research.

DEGREE

The programme leads to a Master of Medical Science (120 credits) with Infection Biology as the main field of study.

INSTRUCTION

Teaching consists of lectures, seminars, laboratory exercises and project work. The programme is given in Uppsala.

The lectures are strongly linked to the on-going research in infection biology. Seminars and group exercises will develop your ability to critically review the methods and results, compile facts and to draw conclusions from scientific texts and results. Here you will train your skills to plan, operate, monitor and report project. Working knowledge of experimental approaches and scientific inquiry are integral and compulsory elements. Some of the laboratory operations are performed in research laboratories at Uppsala University and SLU, as part of on-going research.
During a series of lectures given jointly for other medical Master’s programmes, you will also gain an insight into a number of general science-related topics.

Teaching is in English.

## CONTENT

### Year 1

The first year of study will provide a deep understanding of the molecular processes that control the interaction between viruses, bacteria, parasites and fungi and their hosts. The processes governing the infection process are described based on the immunological defense, but also on the infecting organism’s strategies to escape this defense. This knowledge is the basis for more applied issues concerning infectious diseases in animals and humans regarding among other, zoonotic infections. The first year ends with the study of molecular processes in antimicrobial therapy and resistance development, diagnosis and the clinical picture of symptoms from the perspective of infections of different organs.

### Year 2

Year two will provide knowledge about the origin, evolution and distribution infectious diseases as well as tools for the control, surveillance and prevention at the local and global level. A specific focus will be on food-borne infections and the role of infectious diseases from a global perspective, with special attention to the problems in developing countries. Microbial diversity in different ecosystems and in depth practical work using current laboratory analysis methods in microbiology and infectious biological is part of the last course of the third semester.

The programme is completed by an independent project during the fourth semester corresponding to 30 credits, which alternatively may begin during the third semester and then constitute 45 credits. The selected topic must fit within the field of infection biology and can be performed at an academic unit, company or public sector in Sweden or abroad.

The Master Programme in Infection Biology includes two-weeks of field training that focuses on infectious diseases in the context of low-income settings of developing countries.

## COURSES WITHIN THE PROGRAMME

### Year 1

- Microbiology and Immunology, 30 credits
- Parasitology, Mycology and Veterinary Infection Biology (SLU), 15 credits
- Clinical Infection Biology and Antimicrobial Therapy, 15 credits

### Year 2

- Infection Biology – Evolution, Epidemiology and Control, 15 credits
- Microbial Ecology and Infection Biology Methodology, 15 credits
- Master Project in Infection Biology, 30 credits or 45 credits

## CAREER

A broad and deep knowledge in infection biology will prepare you for work in research and development in diagnostics, drug development, resistance problems, vaccinations, emergency management, food production, developing country-specific diseases in animals and humans as well as zoonoses.

Employment may be found in academia and in drug and biotech companies. In the public sector there is a need for surveillance, analysis and follow-up of outbreaks, both nationally and on a global scale. You can also work in analytical laboratories related to health care, food and agriculture. The strong links to research will be of particular use if you are heading for further research education.

## APPLICATION AND REQUIREMENTS

The second round of application is open and closes on April 15. This round is primarily for students not requiring visa, since admissions will not be decided until beginning of July. Applications must be through the Swedish application system, www.antagning.se. For more information, please contact the programme before applying.
MASTER PROGRAMME IN INFECTION BIOLOGY

120 credits
Autumn 2017 100% Campus
Location: Uppsala
Application Deadline: 2016-01-15
Enrolment Code: UU-M3350
Language of Instruction: English
Requirements:
Academic requirements
A Bachelor's degree, equivalent to a Swedish Kandidatexamen, from an internationally recognised university. The main field of study must be in biology, (bio)medicine, biotechnology, pharmacy, pharmaceutical bioscience, (pharmaceutical) chemistry, medical science, agriculture, animal science, veterinary medicine, or a similar field of study, that gives relevant knowledge in cell biology, genetics (bio)chemistry and molecular biology.
Also required is knowledge and previous experience of laboratory work.

Language requirements
All applicants need to verify English language proficiency. This is normally attested by an internationally recognised test such as TOEFL or IELTS with the following minimum scores:

- IELTS: an overall mark of 6.5 and no section below 5.5
- TOEFL: Paper-based: Score of 4.5 (scale 1–6) in written test and a total score of 575. Internet-based: Score of 20 (scale 0–30) in written test and a total score of 90
- Cambridge: CAE, CPE

Exemptions for students from certain countries.

Selection: Students are selected based on:

- a total appraisal of quantity and quality of previous university studies with emphasis on grades in relevant fields;
- a statement of purpose;
- a summary in English (1–2 pages) of a degree project; and
- experience of laboratory work.

Fees: If you are not a citizen of a European Union (EU) or European Economic Area (EEA) country, or Switzerland, you are required to pay application and tuition fees. Read more about fees.

Application Fee: SEK 900
Tuition fee, first semester: SEK 72500
Tuition fee, total: SEK 290000

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