Are you interested in biomedical research? Do you want to use your knowledge in biomedicine to develop new medicines? At the Master Programme in Biomedicine at Uppsala University you will obtain in-depth knowledge about some of our major diseases and the brain, both healthy and diseased. You will follow the process of developing new drugs, from finding new targets to the final product.

The Master Programme in Biomedicine enables you to choose your own career in research, clinical trials or drug development, amongst other things.

ABOUT THE PROGRAMME

The theme of the Master Programme in Biomedicine is "From the ailing body and the ailing brain to the discovery and development of new drugs". The focus is research-oriented questions for application in academic research and in the pharmaceutical or life-science industry.

The programme provides theoretical and practical skills through a variety of different teaching methods and in close contact with exciting research projects. With a focus on the link between pathophysiology and drug development, and by offering opportunities for specialisation and advancement in your field of interest, the programme provides a natural extension of the Bachelor Programme in Biomedicine. Practical experience of experimental strategies and scientific thinking is integrated in the programme.

You will develop your creativity and problem-solving ability through seminars, journal clubs and experimental projects.

DEGREE

The programme leads to a Master of Medical Science (120 credits) with Biomedicine as the main field of study. It is also possible to end the programme after one year and obtain a Master of Medical Science (60 credits).

INSTRUCTION

The education includes scheduled lectures, laboratory practicals, seminars, problem-oriented group assignments and demonstrations. The curriculum requires full-time studies. The programme is given entirely in English during the first year and consists mainly of theoretical courses. You will have more opportunities for practical laboratory work during the second year, primarily through the Master's project, but also by choosing to do experimental projects during the elective third semester. The School of Entrepreneurship during the third semester are given in Swedish. Non-Swedish-speaking students may choose from other courses, for example the popular course in Clinical Drug Development, to which you have priority in the admission. The programme takes place in Uppsala.
Semester 1
The programme starts with the course Homeostasis and Endocrine Disorders with a focus on Major Diseases, which provides in-depth knowledge about the pathophysiology and molecular mechanisms of some of our most prevalent diseases with a focus on endocrine disorders.

Then follows the course Advanced Neurobiology which describes the biology and functions of the brain and covers areas such as cognition, behaviour, pain and neurodegeneration. You will be conversant in clinical neurobiology with a focus on diseases of the brain.

Semester 2
You will apply your knowledge from the previous semester with an emphasis on potential strategies for clinical therapies. The focus will be on identifying new targets for pharmacological treatments.

The first course, Drug Discovery and Development provides a comprehensive view of the process of drug development. You will follow the different phases in the development of new drugs, such as in vivo and in vitro pharmacology, biomarkers and disease models. The second course, Computational Medicinal Chemistry, discusses the early phases of drug design with a focus on structure- effect relationships and interactions between drugs and targets. You will also gain practical experience in the methods and strategies used in computerised drug design.

You can choose to take a course in immunology instead of the first courses in the second semester. This will give you a profound knowledge of the structure and function of the immune system. If you wish to finish your studies with a one-year Master Degree, you will do a 15 credit master thesis during the first half of the semester instead of these courses.

Then follows the course Preparation for Research with Focus on New Drug Targets, which provides insights into how new targets for drugs are identified and evaluated. This course takes you through the exciting steps of unravelling the function of new genes, from bioinformatics to expression and functional studies. Laboratory and bioinformatics techniques used in the pharmaceutical industry and research are central topics in this course.

Semester 3
The third semester offers the opportunity to specialise by applying for a choice of courses comprising 30 credits in total, for example the course Clinical Drug Development, which focuses on how clinical trials are planned and performed. This course is given in collaboration with the Medical and Pharmaceutical Faculties, Swedish and international life science companies and the Medical Products Agency.

You may also choose from a variety of courses offered outside the programme. Many students choose to do an experimental project, which allows them to gain practical laboratory experience and to learn how to plan and execute a scientific project. Students, who has not studied laboratory animal science in their Bachelor programme may do so during the third semester in the form of a course that combines a course in laboratory animal science with an experimental project where this knowledge is applied.

Another option is to apply to the courses in the second year of the Master Programme in Medical Research, which gives you the opportunity to do experimental projects in several research areas.

Semester 4
During the fourth semester, you will do a Master’s project of 30 credits in the specialisation of your choice. You can also choose to do a 45 credit thesis starting in the middle of the third semester.

COURSES WITHIN THE PROGRAMME

Year 1
Homeostasis and Endocrine Disorders with a focus on Major Diseases, 15 credits
Advanced Neurobiology, 15 credits
Drug Discovery and Development, 7.5 credits
Computational Medicinal Chemistry, 7.5 credits
Immunology, 15 credits
Preparation for Research with Focus on New Drug Targets, 15 credits

Year 2
Elective courses, 30 credits or 15 credits
Master Project, 30 credits or 45 credits
This Master’s programme prepares students for professional work within various sectors of society, for example in:

- research
- drug development
- production
- evaluation
- business development
- leadership
- information.

The strong focus on research also prepares the student for further academic research through PhD studies.

MASTER PROGRAMME IN BIOMEDICINE

120 credits
Autumn 2017 100% Campus
Location: Uppsala
Application Deadline: 2017-01-15
Enrolment Code: UU-M3252
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 biomedicine, medicine, pharmacy, biology, or a similar field of study that gives relevant knowledge in cell and molecular biology, chemistry and biochemistry, pharmacology, physiology and neurobiology. Also required is knowledge and practical experience of laboratory experiments in life sciences.

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 with a Bachelor’s degree or one-year Master’s degree from a biomedicine programme have priority. Selection among other applicants is based on:

- a total appraisal of quantity and quality of previous university studies; and
- previous professional experiences.

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