Master of Biomedical Sciences

2024-2025

University of Antwerp

Let's shape the future

Table of contents

Master of Biomedical Sciences: Infectious and Tropical Diseases

Master of Biomedical Sciences: Neurosciences

Master of Biomedical Sciences: Infectious and Tropical Diseases

Moving abroad is always challenging and I'm glad that I chose the University of Antwerp as everyone has been so welcoming and supportive.

In brief

This Master's programme gives you a broad view of infectious and tropical diseases, from the gene to the ecosystem. Through a unique collaboration with the Institute of Tropical Medicine (ITM), the University of Antwerp offers a state-of-the-art Master's degree in Infectious and Tropical Diseases that. Integrates the most recent advances in fields like parasitology, ecology, immunology, and molecular epidemiology, and is taught by researchers with extensive field expertise.

In detail

In the Master of Biomedical Sciences: Infectious and Tropical Diseases, you **acquire a good understanding of various aspects of host-parasite interaction**. You learn to recognise patterns in the epidemiology of (tropical) diseases as well as to link them to ecological conditions. This way you learn to evaluate or propose strategies for disease control.

The programme does not focus on acquiring clinical skills, as this is covered in medicine and pharmacy. However, it prepares you to **conduct technological or scientific research in a clinical context**. You learn to describe and analyse a tropical, biomedical, scientific problem independently, to report on it and to propose solutions. This may contribute to product development in the pharmaceutical and biotech industry, for example vaccine research, drug screening and diagnostics.

During the second and third semester you can **obtain a Laboratory Animal Science certificate** (FELASA C) allowing you to perform or participate in animal experiments. The Project proposal and the Master's thesis with Internship last 6 months and offer you the opportunity to **participate in research projects in leading laboratories and institutes** in Belgium or abroad.

Programme structure

The **two-year study programme** comprises a total of 120 ECTS credits. Courses and research take place over four semesters.

Curriculum

Year 1

Compulsory courses	**ECTS credits 24**
Advanced Data Analysis	3
Bio-ethics	3
Concepts of Protein Technology and Applications	3
Genome Technology and Applications	3
Laboratory Animal Science (core module)	6
Preclinical Drug Research	6

Major (compulsory) courses	**ECTS credits 36**
Ecology, Epidemiology and Control of Infectious Diseases	6
Human Parasites, Micro-organisms and Zoonoses	6
Integrated Infectious and Tropical Disease Practicals	3
Immunology of Tropical Infectious Diseases	6
Molecular Bacteriology of Infectious Diseases	3
Pathogenesis and Clinical Aspects of Tropical Infectious Diseases	6
Molecular Virology and Infections	3
Novel Vaccine Technologies and Applications	3

I'm really amazed about all that I've learned in this past year.

Anniuska, Peru

Year 2

Compulsory courses	**ECTS credits 46**
Patents and Innovation	4
Project Proposal with Internship and Project Management	12
Master's thesis with Internship	30

Major (compulsory) courses	**ECTS credits 6**
Health Economics and Mathematical Models of Infectious Diseases	3
Molecular Epidemiology of Infectious Diseases	3

Optional courses with focus on research To choose from	**ECTS credits 8**
Advanced Molecular Neurosciences	4
Academic English	4
Laboratory Animal Science - Fish	4
Laboratory Animal Science - Rodents	4
Quality Management and GLP	4
Summer School - Course at Foreign Institution	4
Preparedness and Rapid Response	4
Entomology of Vector-Borne Diseases	4
Massive Open Online Course (MOOC)	4
Academic English	4

Total	**ECTS credits 120**

Job opportunities

A Master's degree in Biomedical Sciences offers you many **career opportunities.** About 30% of graduates find PhD positions at one of the participating research institutes in Antwerp or abroad. Some graduates have been selected for prestigious PhD programmes at leading schools in Europe and the US.

In general, as a graduate **you will work in/as**:

- **Fundamental research** in the various areas of infectious and tropical diseases, epidemiology and drug research at universities and research institutes;
- **Research and development** in the pharmaceutical industry;
- **Policy and management positions** in science, industry and the healthcare sector;
- **Clinical Research Associate** in hospitals or other clinical settings

Orientation year
After completing your studies you can choose to look for work opportunities in Belgium. You can apply for an orientation year and extend your stay in Belgium by 12 months. Guidance and administrative assistance with this process is available through the university.

I feel that now I have a new and broader view about what studying infectious and tropical diseases is.

Anniuska, Peru

Why choose UAntwerp

Our university is located in the **city of Antwerp**, in the heart of Belgium and Europe. The port of Antwerp is one of the biggest in the world. Antwerp is not just an ancient medieval and baroque city, full of history. It is also a bustling metropolis with a vibrant social scene, impressive architecture and cultural contrasts. Over 170 nationalities live here, more than in New York! This cosmopolitan vibe is also reflected at the University of Antwerp.

First-rate research and education make the University of Antwerp a wonderful place to study and to work. We foster the nexus between research and education. Internationalisation is key to our mission. It is no coincidence that the University of Antwerp is a partner in a highly promising European University Network, the Young Universities for the Future of Europe www.YUFE.eu.

As home away from home to over **20,000 students**, the University of Antwerp prides itself on operating on a human scale. Our faculty and staff will welcome you into top-notch infrastructure on one of our four campuses. While you're here you are also invited to enjoy our vibrant cultural programme, sports facilities and many student services.

Testimonial

Why did you decide to study at the University of Antwerp?
I was looking for a programme that offers a specialisation in infectious diseases and tropical medicine. Because I am originally from Germany, I first checked in my own country and then expanded my search to other European countries.

I checked the academic programme of the Master of Biomedical Sciences: Infectious and Tropical Diseases and I found it much more interesting compared to other programmes as it also offers courses on broader subject areas such as public health, healthcare, statistics, epidemiology, and so on. Moreover, the Institute of Tropical Medicine in Antwerp also offers a lot of research opportunities, which makes an additional asset.

First moments in Antwerp
I think moving to Belgium went reasonably well. The teaching language of my Master programme is English, so there was no language course necessary to catch up. As for finding housing, I had some help from the International Housing Office. They suggested a couple of places where I could find accommodation. When it comes to integration I should explain that it was the second time abroad for me so it was not a priority to have a real contact or experience with locals. I just wanted to meet new people, so I preferred accommodation with people from different backgrounds.

A programme designed for international and Belgian students

The professors at my faculty are all very well prepared to teach international students, which is a must as the programme targets an international audience. Almost half of my fellow students are international students and all courses are taught in English.

Academic programme

I think the course selection is very well done and you learn a lot but it's quite theoretical. For me this was ok because I wanted a specialisation in knowledge, not in practical experience because I already have that. For students wanting to learn skills this Master programme might be less suitable. The focus of the programme is on research and you need to have a good basis to keep up.

Before the start of the academic year

I would advise students to travel to Antwerp a couple of weeks before the start of the academic year. This allows you to do a language course or other activities and to get involved in the cultural life more easy. Also the weather during the summer is nice and there are a lot of summer activities in Antwerp so it's a good time to get to know new people. Students should also be aware that the cost of living might be higher to what they are used to in their home country.

Julia Port, alumna Master of Biomedical Sciences: Infectious and Tropical Diseases

Admission criteria

To start in the Master of Biomedical Sciences you need to have obtained a **Bachelor of Science** (minimum 180 ECTS credits) **in the field of life sciences** with a strong focus on biomedical sciences, and proven knowledge of **Anatomy, Physiology and Cell Biology**. Basic knowledge of **Microbiology, Immunology and Epidemiology** is also required.

If your degree was not issued by a recognised educational institution in Belgium or the Netherlands, you will also have to provide evidence of your level of English.
You can do this in two ways:

- by proving that you took **classes in English** for at least one academic year during your Bachelor or Master degree. The selection committee may require additional proof of your command of English.

- by submitting your **results** on a TOEFL or IELTS language test, with the following minimum scores:

  - **paper-based** TOEFL: minimum 550
  - **internet-based** TOEFL: minimum 80
  - **IELTS**: minimum total score of 6.5 and minimum score of 6.0 for each individual component
  - Common European Framework of Reference for Languages (**CEFR**): minimum B2.

  Results obtained on other language tests will not be accepted.

Application procedure

Candidates with a Bachelor's or Master's degree from a higher education institution in Belgium, the Netherlands or Luxembourg can directly enrol into the programme.

Candidates who do not fulfil this condition or who need a student visa must submit on online application through the **Mobility Online** tool. Applications files for the academic year 2024-2025 can be started in Mobility Online from 9 November 2023 onwards.

Application deadlines
To submit an application through Mobility Online

- For non-EEA * nationals and for students who need to a visa: **before 1 March 2024**
- For EEA nationals: **before 1 June 2024**

Enrolment deadline
4 October 2024
Enrolments start on 1 July 2024.

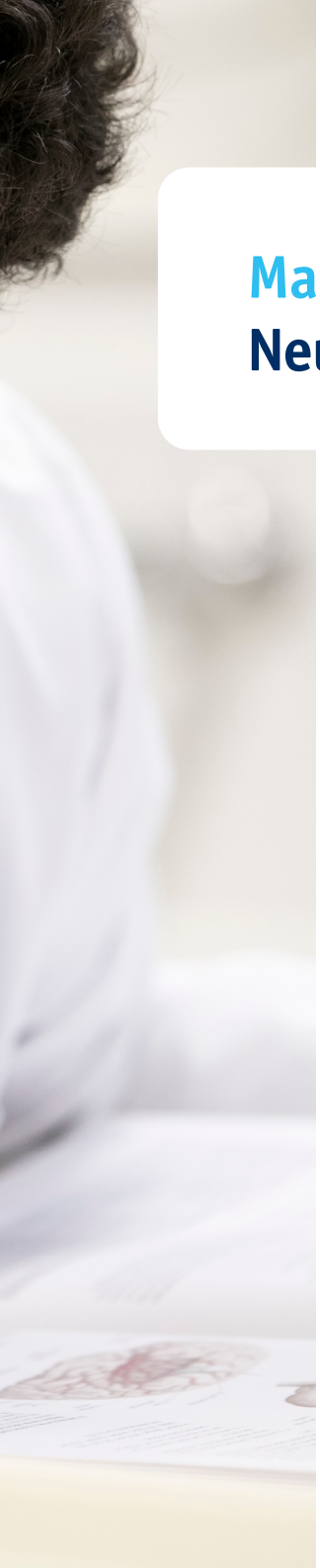
The academic year 2024-2025 starts on Monday 23 September 2024.

ECTS credits

The University of Antwerp applies the '**European Credit Transfer and Accumulation System**' (ECTS) in all its degree programmes.

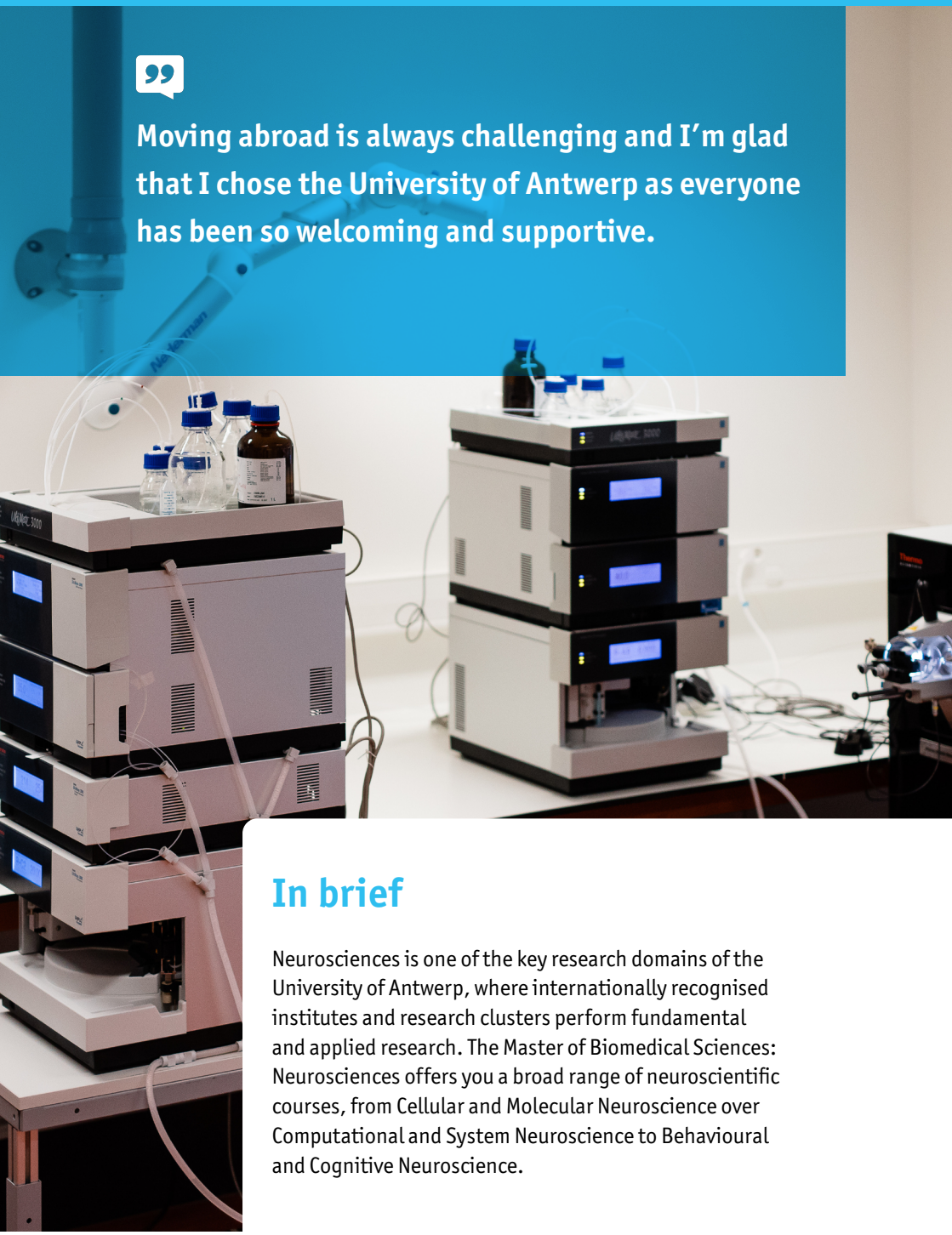
A full-time one-year study programme amounts to **60 ECTS credits** (30 ECTS credits per semester), which implies a student workload of about 1500 to 1800 hours. One ECTS credit stands for 25 to 30 hours of work including contact hours, preparatory work, study and assessment.

* **EEA** = European Economic Area
Member states: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxemburg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain and Sweden



Master of Biomedical Sciences: Neurosciences

Moving abroad is always challenging and I'm glad that I chose the University of Antwerp as everyone has been so welcoming and supportive.



In brief

Neurosciences is one of the key research domains of the University of Antwerp, where internationally recognised institutes and research clusters perform fundamental and applied research. The Master of Biomedical Sciences: Neurosciences offers you a broad range of neuroscientific courses, from Cellular and Molecular Neuroscience over Computational and System Neuroscience to Behavioural and Cognitive Neuroscience.

In detail

In the Master of Biomedical Sciences: Neurosciences you **study the underlying neuronal structures and mechanisms of behaviour and memory** as well as the diagnosis, appearance and pathogenesis of various neurological and psychiatric disorders.

The programme does not focus on acquiring clinical skills, as this aspect is covered in medicine and pharmacy. However, it prepares you to **conduct technological or scientific research in a clinical context**. Depending on your research question, you will make use of behaviour observation, neurochemical, molecular biological, electro-physiological and microscopic techniques, or imaging techniques, which reveal the living brain and its functions in a non-invasive way.

Through **collaboration with internationally recognised institutes and research clusters** like the VIB-UAntwerp Centre for Molecular Neurology and the Institute Born Bunge, the University of Antwerp is able to offer you a state-of-the-art Master's degree.

During the second and third semester you can **obtain a Laboratory Animal Science certificate** (FELASA C) allowing you to perform or participate in animal experiments. The Project Proposal and the Master's thesis with Internship last 6 months and offer you the opportunity to **participate in research projects in leading laboratories and institutes** in Belgium or abroad.

Programme structure

The **two-year study programme** comprises a total of 120 ECTS credits. Courses and research take place over four semesters.

Curriculum

Year 1

Compulsory courses	**ECTS credits 24**
Advanced Data Analysis	3
Bio-ethics	3
Concepts of Protein Technology and Applications	3
Genome Technology and Applications	3
Laboratory Animal Science (core module)	6
Preclinical Drug Research	6

Major (compulsory) courses	**ECTS credits 36**
Behavioural and Cognitive Neuroscience	6
Cellular and Molecular Neuroscience	6
Computational Neuroscience and Neuroinformatics	6
Integrated Neurosciences Practicals	3
Neurogenetics	3
Preclinical and Clinical Imaging with Focus on Neurology	6
System Neuroscience	6

Year 2

Compulsory courses	**ECTS credits 46**
Patents and Innovation	4
Project Proposal with Internship and Project Management	12
Master's thesis with Internship	30

Major (compulsory) courses	**ECTS credits 6**
Molecular Neuropathology	

Optional courses with focus on research **To choose from**	**8 ECTS credits**
Advanced Molecular Neurosciences	4
Academic English	4
Laboratory Animal Science - Fish	4
Laboratory Animal Science - Rodents	4
Quality Management and GLP	4
Summer School - Course at Foreign Institution	4
Translational Neuroscience	4
Massive Open Online Course (MOOC)	4

Total	**ECTS credits 120**

Job opportunities

A Master's degree in Biomedical Sciences offers you many **career opportunities.** About 30% of graduates find PhD positions at one of the participating research institutes in Antwerp or abroad. Some graduates have been selected for prestigious PhD programmes at leading schools in Europe and the US.

In general, as a graduate **you will work in/as**:

- **Fundamental research** in the various areas of infectious and tropical diseases, epidemiology and drug research at universities and research institutes
- **Research and development** in the pharmaceutical industry
- **Policy and management** positions in science, industry and healthcare sector
- **Clinical Research Associate** in hospitals or other clinical settings

Orientation year
After completing your studies you can choose to look for work opportunities in Belgium. You can apply for an orientation year and extend your stay in Belgium by 12 months. Guidance and administrative assistance with this process is available through the university.

Why choose UAntwerp

Our university is located in the **city of Antwerp**, in the heart of Belgium and Europe. The port of Antwerp is one of the biggest in the world. Antwerp is not just an ancient medieval and baroque city, full of history. It is also a bustling metropolis with a vibrant social scene, impressive architecture and cultural contrasts. Over 170 nationalities live here, more than in New York! This cosmopolitan vibe is also reflected at the University of Antwerp.

First-rate research and education make the University of Antwerp a wonderful place to study and to work. We foster the nexus between research and education. Internationalisation is key to our mission. It is no coincidence that the University of Antwerp is a partner in a highly promising European University Network, the Young Universities for the Future of Europe www.YUFE.eu.

As home away from home to over **20,000 students**, the University of Antwerp prides itself on operating on a human scale. Our faculty and staff will welcome you into top-notch infrastructure on one of our four campuses. While you're here you are also invited to enjoy our vibrant cultural programme, sports facilities and many student services.

Admission criteria

To start the Master of Biomedical Sciences you need to have obtained a **Bachelor of Science** (minimum 180 ECTS credits) **in the field of life sciences** with a strong focus on biomedical sciences, and proven knowledge of **Anatomy, Physiology and Cell Biology**. Basic knowledge of **Neuroanatomy, Neurophysiology and Neurochemistry** is also required.

If your degree was not issued by a recognised educational institution in Belgium or the Netherlands, you will also have to provide evidence of your level of English.
You can do this in two ways:

- by proving that you took **classes in English** for at least one academic year during your Bachelor or Master degree. The selection committee may require additional proof of your command of English.

- by submitting your **results** on a TOEFL or IELTS language test, with the following minimum scores:

  - **paper-based** TOEFL: minimum 550
  - **internet-based** TOEFL: minimum 80
  - **IELTS**: minimum total score of 6.5 and minimum score of 6.0 for each individual component
  - Common European Framework of Reference for Languages (**CEFR**): minimum B2.

  Results obtained on other language tests will not be accepted.

Application procedure

Candidates with a Bachelor's or Master's degree from a higher education institution in Belgium, the Netherlands or Luxembourg can enrol directly. Candidates who do not fulfil this condition or who need a visa must submit on online application through the online application tool **Mobility Online**.
Application files for the academic year 2024-2025 can be uploaded in Mobility Online as from 9 November 2023 onwards.

Application deadlines
To submit an application through Mobility Online

- For non-EEA * nationals and for students who need a visa: **before 1 March 2024**
- For EEA nationals: **before 1 June 2024**

Enrolment deadline
4 October 2024. Enrolments start on 1 July 2024.
The academic year 2024-2025 starts on Monday 23 September 2024.

ECTS credits

The University of Antwerp applies the '**European Credit Transfer and Accumulation System**' (ECTS) in all its degree programmes.

A full-time one-year study programme amounts to **60 ECTS credits** (30 ECTS credits per semester), which implies a student workload of about 1500 to 1800 hours. One ECTS credit stands for 25 to 30 hours of work including contact hours, preparatory work, study and assessment.

* **EEA** = European Economic Area
Member states: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxemburg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain and Sweden

Quick facts

Level
Master

Language
English

Credits
120 ECTS credits

Number of years
2

Tuition fee per year *
EUR 1092.10 for EEA nationals
EUR 5800 for non-EEA nationals

Campus
Campus Drie Eiken

Faculty
Pharmaceutical, Biomedical and Veterinary Sciences

More information
www.uantwerpen.be/infectious-tropical-diseases

More information
www.uantwerpen.be/neurosciences

*subject to yearly revision

Contact

Master of Biomedical Sciences:
Miep Demuynck, Staff member communication and internationalisation
miep.demuynck@uantwerp.be

International Students Office
internationalstudents@uantwerp.be
T: +32 3 265 31 89
www.uantwerp.be

Follow us!

Facebook

LinkedIn

Blog FBD

This brochure was published in September 2023.
As all information is subject to change, please check our website for the latest updates.