



**HOWEST UNIVERSITY
OF APPLIED SCIENCES**

BIOINFORMATICS

ANTICIPATING THE FUTURE

howest
university of applied sciences



INDUSTRY-DRIVEN EDUCATION AND FUTURE-PROOF SKILLS

[Howest University of Applied Sciences](#) is known for its innovative, interdisciplinary approach to education and research as well as its close collaborations with industry, businesses, and the social profit sector. Howest is a member of Ghent University Association and is fully accredited by NVAO, the Dutch-Flemish Accreditation Organisation. [Our campuses](#) are located in the historical Belgian cities of [Bruges](#) and [Kortrijk](#).

We offer [25 bachelor's](#), [13 associate degrees](#) and [many postgraduate certificate programmes](#), all with a strong practical focus, in Business & Management, Industrial Sciences & Technology, Digital Design, Architecture, Healthcare, Education, and Social Sciences. Field-driven assignments, on-the-job training and internships are the key components of each programme. That is how we meet the changing needs of today's society and equip our students with future-proof skills.

RENOWNED TECH PROGRAMMES

Howest is renowned for its tech and design programmes, such as [Cyber Security](#), [Digital Design and Development](#), and [Digital Arts and Entertainment](#). Howest's DAE programme took first place in The Rookies Awards for Best Game Design and Development School in the world in 2017, 2018 and 2021. DAE also won the international Grads in Games award for the second time in 2021. This award honours universities and colleges that offer the best quality of education to optimally prepare their students for a career in the games industry.

ADVANCED BACHELOR OF BIOINFORMATICS

The advanced bachelor's degree in Bioinformatics will equip students and laboratory scientists with the necessary IT and programming skills to work in a future-proof manner. This training will make you the **laboratory scientist of the future**.

Do you have a bachelor's degree in biomedical laboratory science, or did you graduate from another programme in molecular biology? Then you can use the Advanced Bachelor of Bioinformatics to further specialise in the **IT and automation fields**, which are becoming increasingly important in molecular biology. In this way, you allow yourself to keep up with new developments in your sector.

In the **first part, Informatics**, you learn everything about storing, organising and processing large quantities of biological data in (relational) database systems. In the **second part of Bioinformatics**, we discuss the processing and analysis of this data using bioinformatic tools and (web) applications. The **third part, Programming**, is all about storing and processing this data, integrated in the form of programming, with scripting and automating the individual tools into a bioinformatics pipeline.

As the programme focuses on students and professionals who want to deepen their **know-how as a laboratory scientist or other scientific researcher**, a two-year @home programme is available as well.

As a bioinformatician, you will have knowledge of a wide range of applications for scientific research and you will comprise the perfect **mix of IT expert and molecular biologist**.



OUR ASSETS

- **Strong focus on practical training:** This advanced bachelor includes an eight-week traineeship, in which foreign countries are not only an option but also encouraged.
- **Real specialisation:** You learn programming languages such as PHP, Python and R and use the most relevant databases from which you will learn how to process and interpret the data.
- **Job security:** This training was set up at the request of the professional field, resulting in a lot of professional opportunities.
- **Very affordable:** The cost of the @home course is around 700 euros per academic year - a very competitive rate.
- **Hot topic:** This training is indispensable to prepare scientific staff for the latest developments.
- **Sound follow-up:** All contact moments are recorded, so they can be reviewed afterwards.
- **English-language study programme:** The international nature of the advanced bachelor's programme ensures that your professional opportunities are limitless.

STUDY PROGRAMME

2022 - 2023

	SEMESTER 1A	SEMESTER 1B	SEMESTER 2A	SEMESTER 2B
INFORMATICS	Linux operating systems (5 ECTS)	Databases and data management (5 ECTS)	Machine learning (5 ECTS)	
PROGRAMMING	Web technologies (5 ECTS)	Scripting (5 ECTS)	Data analysis, visualization and biostatistics using R (5 ECTS)	
BIOINFORMATICS	Structural bioinformatics (5 ECTS)	Comparative genomic analysis (5 ECTS)	Systems biology (5 ECTS)	
		High throughput analysis (5 ECTS)		
TRAINEESHIP				Traineeship in Belgium or abroad (10 ECTS)

The semesters are divided into two periods (A and B) of lessons (6 weeks), each of these periods is followed by exams.

Programme subject to change

The distance learning track will be organized every two years, the next edition will start in September 2022.



OUR RESEARCH: INNOVATIVE AND STATE-OF-THE-ART!

Howest has built a solid reputation for its application-oriented scientific research, services, and training, along with its partnerships with universities and work-field organisations in Belgium, Europe, and all over the world. Our research projects are demand-driven and often carried out in close collaboration with companies. They are organised by our topnotch research teams.

BRUGES

Bruges is an inspiring city that will capture your heart. Retaining the mysteries of the Middle Ages and unashamedly exuberant, Bruges has been an international metropolis for centuries. This Unesco World Heritage City became especially popular because of the movie "In Bruges". Bruges is easily accessible and lies within a short train or car ride from many major cities.



GET IN TOUCH

International Admissions:
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Programme Information:
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TESTIMONIAL

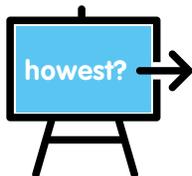
STEVE BAEYEN
CHIEF EXPERT AND LAB MANAGER ILVO
ALUMNUS

"In the molecular lab where I work as a lab manager, we started working on next-generation sequencing techniques around 2008. I wanted to deepen and improve my know-how in this area, especially as this domain is developing rapidly. Hence, I made this advanced bachelor's my choice, which moreover allowed me to combine studying with work and a family with four children. Initially, some subjects did not seem immediately usable for my job, but in the end, I was able to practically apply all the knowledge I had acquired to my work. I also learned a lot about updates, insights, and new methods for areas I already had experience with. This means that, today, I can work much faster and be more focused."



HOWEST

IN A NUTSHELL



- 43 postgraduate certificates
- 25 bachelor's programmes
- 21 English-taught semesters
- 13 associate degrees
- 1 European master's

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800 employees



....



member of
Ghent University
Association



multiple student
startups

....

Accredited
by **NVAO**

....

#howestvibe

....



international
students
coming from **84**
countries

±8.900
students



....

1.907
degrees a year



....

180

international academic
partnerships



....



+ €6 million
a year on research
and innovation