

Programme advisor/Project coordinator

Prof Dr Markus Pietzsch

Institute of Pharmacy

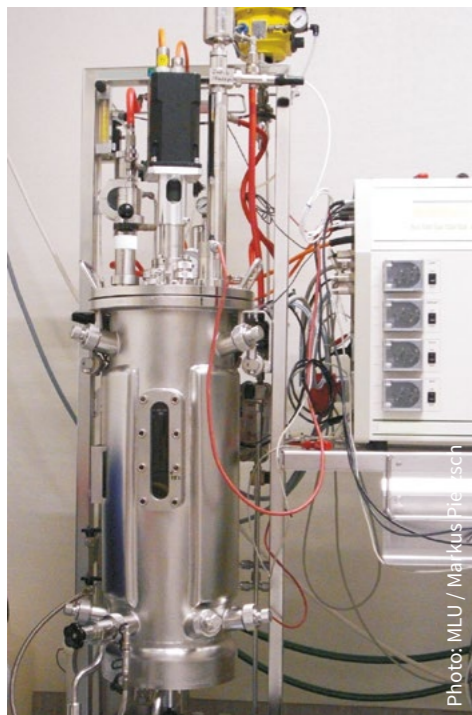
Phone: +49 345 55-25949

E-Mail: markus.pietzsch@pharmazie.uni-halle.de

- www.pharmazie.uni-halle.de
- http://downstream.pharmazie.uni-halle.de/pharma_industrial_biotech_msc/

Important files to be downloaded from our website

- General regulations for study courses at MLU: AB-StPOBM (in German only)
- Study course specific regulations for: Studien- und Prüfungsordnung (in German only)
- Curriculum (detailed)
- Detailed description of modules
- application form



Bioreactor

Photo: MLU / Markus Pietzsch

Relevant Additional Information

Tuition fee: None

Fee for lab course consumables: 250,00 € / year are requested cover expenses of lab courses

Semester fee: about 250 Euro

The scholarship *Deutschlandstipendium* offered by Halle University is available for international students also. Please check its conditions and application online. Furthermore, the German Academic Exchange Service DAAD (www.daad.de) offers scholarships especially for master students. Make sure to apply for a scholarship before entering Germany.

Language courses: We deeply recommend to attend an intensive German language course before you start the master's programme. So it will be easier to manage your daily life in Germany.

Please contact Goethe Institute in your home country or the Institute for German Language and Culture at our University (www.sprache.uni-halle.de). During your studies we organize further language classes which have to be paid by yourselves.

Further information about accommodation, health insurance or cost of living are available at www.uni-halle.de/first-steps.

About Halle

About Halle and the University

With a population of almost 240,000, Halle is one of the largest cities in Central Germany. The small metropolis on the Saale river offers a versatile mixture of art, culture, gastronomy and recreation. Numerous national institutions are also headquartered in Halle. The Leipzig-Halle international airport is only 15 minutes away by train or car. It takes just over an hour to get to Berlin.

Halle University, founded in 1502, is one of the oldest universities in Germany and, with around 20,000 students, the largest in the federal state of Saxony-Anhalt. We rely on modern laboratory equipment as well as extensive support of our students by many professors and employees. With more than 260 programmes on offer in different areas of study, there is a suitable subject for everyone.

General student guidance

E-Mail: ssc@uni-halle.de

Location: Studierenden-Service-Center (SSC),
Universitätsplatz 11 → Löwengebäude,
06108 Halle (Saale), Germany

We recommend making an appointment in advance.

International students section

Kati Gaudig

E-Mail: kati.gaudig@verwaltung.uni-halle.de

Location: Studierenden-Service-Center (SSC),
Universitätsplatz 11 → Löwengebäude,
06108 Halle (Saale), Germany

Postal address:

Martin-Luther-Universität Halle-Wittenberg
06099 Halle (Saale)
Germany

- www.uni-halle.de/international-students
- www.uni-halle.de/apply

Publisher's note

This leaflet was published by the General student guidance of Halle University. The content was provided by the programme advisor. Its content is for information purposes only and is therefore not legally binding. For latest news and further details see

www.uni-halle.de/+pbioim



Pharmaceutical and Industrial Biotechnology

Master

Master of Science

International master's programme

120

CP



Stand: Februar 2022 | Photo: molekkuul.be – FOTOLIA

MARTIN-LUTHER-UNIVERSITÄT
HALLE-WITTENBERG



Programme at a glance

Faculty of Sciences 1 – Biosciences

Institute of Pharmacy

Programme type: Master's programme with 120 CP

Degree: Master of Science (MSc.)

Standard period of study: 4 semesters

Start: Winter semester

Language of instruction and examinations: English

Subject-specific requirements: yes

This study programme is **accredited**.

Programme objectives

Biotechnology and biotechnology-based methods become increasingly important in a global bioeconomy. The master's programme offers specialization in the fields *Pharmaceutical Biotechnology* or *Industrial Biotechnology*.

Pharmaceutical Biotechnology covers all relevant aspects for the development of new biotechnology based drugs, starting from drug target identification to up- and downstream processing till final formulation. It also provides a basis for understanding the mechanisms and processes of diseases.

Industrial Biotechnology covers all relevant aspects on the development of new industrial biotechnological processes, starting from access to and pretreatment of renewable resources to up- and downstream processing till the application and process optimization. Biocatalysis, synthetic and systems biology and metabolic engineering will be covered during the classes.

For detailed information, e.g. curriculum, course contents etc. please see our website http://downstream.pharmazie.uni-halle.de/pharma_industrial_biotech_msc/

The master's programme *Pharmaceutical and Industrial Biotechnology* is specifically designed for degree holders in (bio-) chemistry, biology, biotechnology, biochemical engineering and pharmacy to carry out scientific work and critical evaluation of scientific results in a responsible and independent manner. Students will also have the opportunity to learn a range of methodologies and modern laboratory techniques. The graduate master's degree is internationally recognized.

Career opportunities

The course qualifies for positions in industrial and pharmaceutical biotechnology and related fields:

- Research and development
- Production
- Teaching
- Management, administration and quality assessment
- Counseling, sales and marketing

The course also qualifies for PhD positions.

Admission requirements

Academic Requirements

Diploma or Bachelor's Degree in (Bio-) Chemistry, Biology, Biotechnology, (Biochemical) Engineering, Pharmacy (Staatsexamen), or related fields,

- with a minimum volume of 180 ECTS (= credit points (CP)) and
- with a minimum grade «good», i.e. better than 2.5 according to the German academic grading scale.

Language Requirements

TOEFL iBT (at least 90/120), TOEFL CBT (235/300), TOEFL PBT (580/677), IELTS (at least band 6.5) or UNICert II (writing and speaking) for applicants whose native language is not English.

You might apply with a previous graduation certificate, respectively your last semester's transcripts. The final graduation certificate should be handed in with the enrolment at university, respectively max. 4 months later (January 31).

Application

The admission to *Pharmaceutical and Industrial Biotechnology* 120 CP is currently **limited by numerus clausus** (Uni-NC).

- Applicants who obtained their their bachelor's degree (or equivalent) in Germany must apply via www.uni-halle.de/bewerben until **July 15**.
- Applicants who obtained their their bachelor's degree (or equivalent) abroad must apply via www.uni-assist.de/en until **March 31**. (The decision on acceptance will be made by the board of examiners until May 31.)

Halle University evaluates the numerus clausus of its study programmes on an annual basis. Please check www.uni-halle.de/+pbioim around **May** to see if the quota for your programme of choice has been lifted or maintained.

Make sure that your application is complete!

Please provide your email address and check your mail-box regularly to receive further information. Now you have to pass a selection procedure. You will be informed about your admission status.

Modules

The 2 years master's course (120 credit points, ECTS) covers all aspects relevant for the research and development of up-to-date biotechnology based products. The curriculum is organized in a way that students are able to graduate the programme within the regular duration of 4 semesters.

Module	CP	recom. Sem.
<i>Field of specialization: Pharmaceutical Biotechnology (40 CP)</i>		
Drug target identification and -validation	10	1.
Legal and economical aspects of biotechnology	5	2.
Technological and clinical aspects of biopharmaceuticals	10	3.

Module	CP	recom. Sem.
Biopharmaceuticals	5	3.
Biopharmaceuticals in regenerative medicine	10	3.
<i>Field of specialization: Industrial Biotechnology (40 CP)</i>		
Introduction to Chemical Biotechnology	10	1.
Agro- and economical aspects of biotechnology	5	2.
Pretreatment and Thermochemical Processes	10	3.
Systems and Synthetic Biology	5	3.
Applied Biocatalysis	10	3.
<i>Mandatory for both fields of specialization (80 CP)</i>		
Introduction to pharmaceutical and industrial biotechnology	5	1.
Construction of production organisms: Hosts and vectors	10	1.
Introduction to Bioprocess technology (Upstream Processing)	5	1.
Optimization of bioprocesses	5	2.
Purification of products from biotechnological processes (Downstream Processing)	10	2.
Analytical Methods	10	2.
Project work	5	3.
Master Thesis	30	4.

The content, learning objectives, workload, requirements and prerequisites of specific modules are published in the module catalogue and the *study and examination regulations* (in German only).