

## **Biomedical Engineering Pre-master: Admission with a HBO-diploma**

### **Prior education requirement**

You cannot join the Master's programme immediately as you must first complete a Pre-master's programme, which starts in September. After you have completed this Pre-master's programme, you can start the Master's programme in September.

Admission to the Pre-master's programme is granted on an individual basis by the Admissions Board on the basis of the documents you supply. The Pre-Master content is set on an individual basis by the Board of Admissions and depends on the knowledge obtained in the Bachelor's programme.

Therefore, the motivation letter should also contain the track choice for the Master's programme.

The following types of qualifications from a University of Applied Sciences are usually sufficient for a Pre-master programme:

- Mechanical Engineering
- Electrical Engineering (majors: mechatronics, electronics)

Other qualifications from a University of Applied Sciences are not considered sufficient for admission to a Pre-master's programme.

### **Content Pre-master programme**

The Pre-master's programme is a tough programme for students from a University of Applied Sciences and can be seen as an entrance examination in itself. You must complete the programme within one academic year, which in practical terms, means that you only have two chances to sit each exam. We have learned from experience that students who pass the Pre-master's programme also go on to pass the Master's programme.

Most of the above-mentioned relevant programmes at Universities of Applied Sciences lack biological and chemical course units, which are necessary to successfully finish Biomedical Engineering. Therefore, you may expect these kind of course units in a Pre-master's programme.

An example of a Pre-master's programme for students in the Mechanical Engineering programme (Hanze University of Applied Sciences) is mentioned below. Please note that changes may occur each year, because of curriculum changes.

*Preference for the track Medical Device Design (MDD) or Biomaterials Science and Engineering (BSE):*

- Calculus for BME 5EC (period 1a)
- Mammalian Cell biology 5EC (1a)
- Cell Biology and Immunology 5Ec (1b)
- Biomechanics 5EC (period 1b)
- Material Sciences 5EC (1b)
- Molecules of life for BME 5EC (2a)
- Signals & Systems 5EC (2a)
- Biomaterials 1 5EC (2b)

- Premaster project Biomedical Engineering 10EC (2b)

*Preference for the track Medical Imaging (MI; Diagnostic Imaging and Instrumentation):*

- Calculus for BME 5EC (period 1a)
- Mammalian Cell biology 5EC (1a)
- Cell Biology and Immunology 5EC (1b)
- Biomechanics 5EC (period 1b)
- Material Sciences 5EC (1b)
- Physics and Technology of Medical Imaging 5EC (2a)
- Signals & Systems 5EC (2a)
- Biomaterials 1 5EC (2b)
- Premaster project Biomedical Engineering 10EC (2b)

To prepare for Biomaterials 1, it is highly recommended to self-study the content of the course unit Molecules of Life for BME during the summer holidays. Detailed course unit descriptions are available on [Ocasys](#). Some course units are no longer taught as of the next academic year. Please switch to the previous year in Ocasys if this is the case.

**Please note:** The programme above is meant as an example, to give you a good idea of what to expect in practice.