# Bioengineering, B. Sc.

**COURSE SCHEDULE OF FULL TIME STUDY PROGRAMME**

### 1st Semester
- Cell Biology and Microbiology
- Fundamentals of Chemistry
- Bioengineering Physics I
- Mathematics
- International Project Management
- Basics of Economic Sciences and Law

### 2nd Semester
- Genetics and Molecular Biology
- Applied Chemistry
- Biochemistry
- Bioengineering Physics II
- Applied Microbiology
- Applied Mathematics

### 3rd Semester
- Physical Chemistry
- Instrumental Analytics
- Measurement and Control Engineering
- Process Engineering
- Current Topics in Biology
- Data Analysis and Applied Statistics

### 4th Semester
- Bioprocess Engineering
- Enzyme Engineering
- Project
- Bioinformatics
- Elective Modules 1

### 5th Semester
- Downstream Processing
- Industrial Biotechnology
- Integrated Management Systems and Quality Management
- Elective Modules 2

### 6th Semester
**Internship or study abroad (mind. 20 weeks)**

### 7th Semester
- Academic Methods and Principles
- Elective Modules 3
- Bachelor Thesis
- Colloquium

**Elective Modules 1:**
- Technical Enzymology and Biocatalysis
- Agricultural Biotechnology and Biofuels
- Nanobiotechnology
- Fluid Mechanics and Systems Dynamics
- Module from any Bachelor Study Course of Faculty of Life Sciences at Rhine-Waal University of Applied Sciences

**Elective Modules 2:**
- Metabolic Engineering
- Biological Physics
- Environmental Biotechnology and Microalgae
- Pharmaceutical Biotechnology and Immunology
- Biopolymers
- Module from any Bachelor Study Course of Faculty of Life Sciences at Rhine-Waal University of Applied Sciences

**Elective Modules 3:**
- Project reg. Academic Principles and Methods in Preparation of Bachelor Thesis
- Language Course
- Module from Catalogue 1 and 2 of study programme
- Module from any Bachelor Study Course at Rhine-Waal University of Applied Sciences

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