# Course of Study Bioprocess Engineering (Study Cohort w19)

Sample course plan B  Master Bioprocess Engineering (BVTMS)

Specialisation B - Industrial Bioprocess Engineering

| Core Qualification Compulsory | Specialisation Compulsory | Focus Compulsory | Thesis Compulsory |
|---|---|---|---|
| Core Qualification Elective Compulsory | Specialisation Elective Compulsory | Focus Elective Compulsory | Interdisciplinary complement |

| LP | Semester 1 | Form | Hrs/wk | Semester 2 | Form | Hrs/wk | Semester 3 | Form | Hrs/wk | Semester 4 | Form | Hrs/wk |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | **Transport Processes** | | | **Advanced Chemical Reaction Engineering** | | | **Process Design Project** | | | **Master Thesis** | | |
| 2 | Heat & Mass Transfer in Process Engineering | VL | 2 | Chemical Reaction Engineering | VL | 2 | Process Design Project | PK | 6 | | | |
| 3 | Multiphase Flows | VL | 2 | Chemical Reaction Engineering | HÜ | 2 | | | | | | |
| 4 | Reactor Design Using Local Transport Processes | PBL | 2 | Experimental Course Chemical Engineering | PR | 2 | | | | | | |
| 5 | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | |
| 7 | **Process and Plant Engineering II** | | | **Bioprocess and Biosystems Engineering** | | | **Bioprocess Engineering Advanced Practical Course** | | | | | |
| 8 | Process and Plant Engineering II | VL | 2 | Bioreactor Design and Operation | VL | 2 | Advanced Practical Course in Microbiology | PR | 3 | | | |
| 9 | Process and Plant Engineering II | HÜ | 1 | Biosystems Engineering | VL | 2 | Bioprocess Engineering Advanced Practical Course | PR | 3 | | | |
| 10 | Process and Plant Engineering II | GÜ | 1 | Bioreactors and Biosystems Engineering | PBL | 1 | | | | | | |
| 11 | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | |
| 13 | **Separation Technologies for Life Sciences** | | | **Technical Microbiology** | | | **Synthesis and Design of Industrial Processes** | | | | | |
| 14 | Chromatographic Separation Processes | VL | 2 | Applied Molecular Biology | VL | 2 | Synthesis and Design of Industrial Facilities | VL | 1 | | | |
| 15 | Unit Operations for Bio-Related Systems | VL | 2 | Technical Microbiology | VL | 2 | Industrial Plant Design and Economics | PBL | 3 | | | |
| 16 | Unit Operations for Bio-Related Systems | PBL | 2 | Technical Microbiology | HÜ | 1 | | | | | | |
| 17 | | | | | | | | | | | | |
| 18 | | | | | | | | | | | | |
| 19 | **Biocatalysis** | | | **Cell and Tissue Engineering** | | | **Industrial Bioprocess Engineering** | | | | | |
| 20 | Technical Biocatalysis | VL | 2 | Fundamentals of Cell and Tissue Engineering | VL | 2 | Biotechnical Processes | PBL | 2 | | | |
| 21 | Biocatalysis and Enzyme Technology | VL | 2 | Bioprocess Engineering for Medical Applications | VL | 2 | Development of bioprocess engineering processes in industrial practice | SE | 2 | | | |
| 22 | | | | | | | | | | | | |
| 23 | | | | | | | | | | | | |
| 24 | | | | | | | | | | | | |
| 25 | | | | | | | **Study work Bioprocess Engineering** | | | | | |
| 26 | | | | | | | Study Work Bioprocess Engineering | PR | 6 | | | |
| 27 | | | | | | | | | | | | |
| 28 | | | | | | | | | | | | |
| 29 | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | |
| | Business & Management (from catalogue) - 6LP | | | | | | | | | | | |
| | Non-technical Courses for Master (from catalogue) - 6LP | | | | | | | | | | | |

The choice of courses from the catalogue is flexible (depends on the semestral work load), provided the necessary number of required credits is reached.