

Course Structure Bachelor Biotechnology

| 1. Semester (WS) | | | | SWS | | |
|---------------------------|--|----|-------|-----|---|----|
| Module-Nr. | Module name | LP | Σ SWS | V | Ü | P |
| 1.1 | Mathematics 1 | 5 | 4 | 3 | 1 | 0 |
| 1.2 | Physics 1 | 6 | 6 | 3 | 1 | 2 |
| 1.3 | Chemistry for Biotechnologists | 10 | 9 | 4 | 3 | 2 |
| 1.4 | General Biology | 4 | 2 | 2 | 0 | 0 |
| 1.5 | Technical German 1 | 4 | 3 | 3 | 0 | 0 |
| A total of 7 examinations | | | | | | |
| 2. Semester (SS) | | | | SWS | | |
| Module-Nr. | Module name | LP | Σ SWS | V | Ü | P |
| 2.1 | Mathematics 2 | 6 | 5 | 2 | 1 | 2 |
| 2.2 | Physics 2 | 3 | 3 | 2 | 1 | 0 |
| 2.3 | Physical Chemistry 1 | 4 | 5 | 2 | 1 | 2 |
| 2.4 | Biochemistry 1 | 6 | 5 | 2 | 1 | 2 |
| 2.5 | Organic Chemistry 2 | 6 | 5 | 2 | 1 | 2 |
| 2.6 | Bioprocess Engineering 1 | 6 | 5 | 2 | 1 | 2 |
| A total of 6 examinations | | | | | | |
| 3. Semester (WS) | | | | SWS | | |
| Module-Nr. | Module name | LP | Σ SWS | V | Ü | P |
| 3.1 | General Microbiology | 5 | 5 | 2 | 0 | 3 |
| 3.2 | Biochemistry 2 | 6 | 6 | 2 | 1 | 3 |
| 3.3 | Instrumental Analysis for Biotechnologists | 6 | 6 | 3 | 1 | 2 |
| 3.4 | Fundamentals of Biotechnology | 9 | 8 | 6 | 0 | 2 |
| 3.5 | Bioprocess Engineering 2 | 6 | 6 | 4 | 2 | 0 |
| A total of 8 examinations | | | | | | |
| 4. Semester (SS) | | | | SWS | | |
| Module-Nr. | Module name | LP | Σ SWS | V | Ü | P |
| 4.1 | Environmental Biotechnology | 8 | 8 | 4 | 0 | 4 |
| 4.2 | Bioinformatics and Molecular Cell Biology | 4 | 4 | 4 | 0 | 0 |
| 4.3 | Cell Culture Techniques | 7 | 7 | 2 | 0 | 5 |
| 4.4 | Genetic Engineering | 4 | 4 | 2 | 0 | 2 |
| 4.5 | Microbial Fermentation | 2 | 2 | 0 | 0 | 2 |
| 4.6 | Introduction to GLP/GMP | 3 | 3 | 2 | 1 | 0 |
| A total of 6 examinations | | | | | | |
| 5. Semester (WS) | | | | SWS | | |
| Module-Nr. | Module name | LP | Σ SWS | V | Ü | P |
| 5.1 | Enzyme Technology | 4 | 4 | 2 | 0 | 2 |
| 5.2 | Special Microbiology | 4 | 4 | 2 | 0 | 2 |
| 5.3 | Downstream Processing | 4 | 4 | 2 | 0 | 2 |
| 5.4 | Immunology and Virology | 8 | 8 | 4 | 0 | 4 |
| 5.5 | Introduction to Plant Biotechnology | 3 | 3 | 2 | 1 | 0 |
| 5.6 | Business Administration | 3 | 3 | 2 | 1 | 0 |
| 5.7 | Technical German 2 | 4 | 3 | 3 | 0 | 0 |
| A total of 8 examinations | | | | | | |
| 6. Semester (SS) | | | | SWS | | |
| Module-Nr. | Module name | LP | Σ SWS | V | Ü | P |
| | Practical Project | 15 | 15 | | | 15 |
| | Bachelor's Thesis | 12 | 12 | | | 12 |
| | Colloquium | 3 | 3 | | | 3 |
| A total of 2 examinations | | | | | | |

WS = Winter semester

SS = Summer semester

LP = Leistungspunkte (according to ECTS, 1 credit point corresponds to a study effort of 30 hours)

SWS = Semesterwochenstunden (Semester Credit Hours)

V = Vorlesung → Lecture

Ü = Übung → Tutorial or Exercise

P = Praktikum → Practical or Laboratory