3 Curriculum

Bachelor Bioengineering						
Semester	Fundamentals of Mathematics and Natural Sciences 48 CP	Biology und Biotechnology 34 CP	Fundamentals of Scientific Engineering 24 CP	Thermodynamics and Transport Processes 26 CP	Fundamentals of Process Engineering 18 CP	Elective Courses and Bachelor Thesis 30 CP
1 30 LP	• Advanced Mathematics I (7*) • General Chemistry and Chemistry of Aqueous Solutions (10)	• Biology for Engineers I (5)	• Engineering Mechanics: Statics (5)			• Soft Skill Qualification (3)
2 29 LP	• Advanced Mathematics II (7) • Computational Methods (5) • Organic Chemistry (5)	• Biology for Engineers II: Biochemistry (3)	• Engineering Mechanics: Strength of Material (2) • Design of Machines (7)			
3 31 LP	• Advanced Mathematics III (7)	• Biology for Engineers II: Microbiology + Lab (2) • Enzyme Technology (3) • Food Biotechnology (5)	• Engineering Mechanics: Dynamics (5)	• Thermodynamics I (7)		
4 33 LP		• Lab Enzyme Technology (2) • Downstream Processing + Lab (7)	• Control Engineering and System Dynamics(5)	• Thermodynamics II (7) • Heat- and Masstransfer (7) • Fluiddynamics (5)		
5 32 LP	• Elementary Physics (7)	• Bioprocess Engineering + Lab (5)			• Mechanical Processing (6) • Chemical Process Engineering(6) • Thermal Process Engineering (6)	• Specialization/ Project Work (2)
6 25 LP						• Soft Skill Qualification (3) • Specialization/ Project Work (10) • Bachelor Thesis (12)
* Numbers in Brackets = CP (Credit Points)						

Lectures/ Exercises/ Laboratories (Semester Overview, Attendance Time hours per week)

	1. Semester (WS)				2. Semester (SS)			
	V	**Ü**	**P**	***LP***	**V**	**Ü**	**P**	***LP***
Advanced Mathematics I and II	4	2	-	*7*	4	2	-	*7*
Engineering Mechanics: Statics/ Strength of Material	2	2	-	*5*	1	1	-	*2*
Computational Methods	-	-	-		2	1	P	*5*
General Chemistry and Chemistry of Aqueous Solutions	3	2	P	*10*		-	-	-
Design of Machines	-	-	-	-	4	2	-	*7*
Organic Chemistry for Engineers	-	-	-		2	2	-	*5*
Biology for Engineers I (Cell Biology, Genetics)	4	-	-	*5*				
Biology for Engineers II (Biochemistry)					2			3
Soft Skill Qualification	2	-	-	*3*				
Total Credit Points				*30*				*29*

	3. Semester (WS)				4. Semester (SS)			
	V	**Ü**	**P**	***LP***	**V**	**Ü**	**P**	***LP***
Advanced Mathematics III	4	2	-	*7*	-	-	-	
Engineering Mechanics: Dynamics	2	2	-	*5*	-	-	-	
Control Engineering and System Dynamics	-	-	-		2	2	-	*5*
Fluiddynamics	-	-	-		2	2	-	*5*
Technical Thermodynamics I and II	3	2	-	*7*	3	2	-	*7*
Fundamentals of Heat- and Masstransfer	-	-	-		3	2	-	*7*
Biology for Engineers II (Microbiology)	2		P	4				
Food Biotechnology	3	1		5				
Enzyme Technology	2	-	-	*3*	-	-	P	2
Downstream Processing	-	-	-	-	3	1	P	*7*
Total Credit Points				*31*				*33*

	5. Semester (WS)				6. Semester (SS)			
	V	**Ü**	**P**	***LP***	**V**	**Ü**	**P**	***LP***
Chemical Process Engineering	2	2	-	*6*	-	-	-	
Thermal Process Engineering	2	2	-	*6*	-	-	-	
Mechanical Processing	2	2	-	*6*	-	-	-	
Elementary Physics	4	2	-	*7*	-	-	-	
Bioprocess Engineering	2	-	P	*5*	-	-	-	
Specialization/ Project Work	1	1	-	*2*	1	1	P	*10*
Soft Skill Qualification					2	-	-	*3*
Bachelor Thesis	-	-	-		360 Stunden			*12*
Total Credit Points				*32*				*25*

WS: Winter Term, SS: Summer Term V: Vorlesung (lecture); Ü: Übung (exercise); P: Praktikum (Lab); LP = ECTS

3.4 Overview graded and ungraded examinations

1. FS	2. FS	3. FS	4. FS	5. FS	6. FS
S/V HM I	S/V HM II	S/V HM III	K RuS	K Physik	S ÜQ
K HM I	K HM II	K HM III	S/V Thermo II	K MVT	M Profilfach
K ACWL	K Info	S/V TM III	K Thermo II	K TVT	P Projektarbeit
P ACWL PR	K OC	K TM III	K WSÜ	K CVT	A Bachelorarbeit
K Statik	K Festigkeitsl.	S/V Thermo I	S/V Fluiddyn.	K BVT	
S ÜQ	S/V Apparatebau	K Thermo I	K Fluiddynamik	P BVT	
K Zellbiologie	K Apparatebau	K Mikrobiologie	K BioTTV		
K Genetik	K Biochemie	S/P Mikrobio.	P Aufarbeitung		
		K Enzymtechn.	P Enzymtechn.		
		S/V LMBT			
		K LMBT			
6 Benotete Leistungen	6 Benotete Leistungen	6 Benotete Leistungen	7 Benotete Leistungen	6 Benotete Leistungen	3 Benotete Leistungen

Unbenotete Leistungen (Studienleistungen)
S: Studienleistung, unbenotet
S/V: Studienleistung: Vorleistung zu einer Prüfung, z. B. Übungsblätter
S/P: Praktikum unbenotet

Benotete Leistungen (Prüfungsleistungen)
K: Klausur/ Prüfungsleistung schriftlich
M: Prüfungsleistung mündlich
P: Praktikum/ Prüfungsleistung anderer Art
A: Abschlussarbeit

S: ungraded coursework
S/V: ungraded Coursework: Prerequisite for an written examination
S/P: Lab, ungraded

K: Written Examination
M: Oral Examination
P: Graded Lab
A: Thesis