

Chemical Engineering

Study Year 1 (Mandatory Courses)

Course Code	Credits	Cycle	S.Ex. stud.	Language	Course Name	Footnote	Links	21/22	21/22	21/22	21/22
								sp1	sp2	sp3	sp4
EMAB65	7.5	G1	-	S	Calculus in One Variable B1		KS KE U W T	1			
KETA05	7.5	G1	-	S	Introduction to Chemical Engineering		KS KE U W T	1			
EMAB70	7.5	G1	-	S	Calculus in One Variable B2		KS KE U W T		2		
KOOA20	7.5	G1	-	S	Introductory Chemistry		KS KE U W T		2		
KOOA15	7.5	G1	-	S	General Chemistry		KS KE U W T			3	
EMAA20	7.5	G1	-	S	Linear Algebra with Introduction to Computer Tools		KS KE U W T			3	
EDAA70	7.5	G1	-	S	Introduction to Programming Using Python	X	KS KE U W T				4

Course Code	Credits	Cycle	S.Ex. stud.	Language	Course Name	Footnote	Links								
							21/22 sp1	21/22 sp2	21/22 sp3	21/22 sp4					
KOKA25	7.5	G1	-	S	Organic Chemistry		KS	KE	U	W	T				4

[EDAA70](#) Introduction to Programming Using Python: *Only one of the courses [EDAA20](#), [EDAA65](#) and [EDAA70](#) may be included in a degree.*

Study Year 2 (Mandatory Courses)

Course Code	Credits	Cycle	S.Ex. stud.	Language	Course Name	Footnote	Links	21/22	21/22	21/22	21/22
								sp1	sp2	sp3	sp4
FMAB30	6	G1	-	S	Calculus in Several Variables		KS KE U W T	1			
KFKA05	7.5	G1	-	S	Molecular Driving Forces 1: Thermodynamics		KS KE U W T	1			
KBKA05	7.5	G1	-	S	Technical Biology		KS KE U W T		2		
KETF01	9	G2	-	S	Transport Phenomena, Basic Course		KS KE U W T		2		
FHLA05	7.5	G1	X	E	Engineering Mechanics		KS KE U W T			3	
KASA10	7.5	G1	-	S	Inorganic Chemistry		KS KE U W T			3	
KFKF01	7.5	G2	-	S	Molecular Driving Forces 2: Interactions and Dynamics		KS KE U W T				4

Course Code	Credits	Cycle	S.Ex. stud.	Language	Course Name	Footnote	Links					
							21/22 sp1	21/22 sp2	21/22 sp3	21/22 sp4		
KETF10	7.5	G2	X	E1	Separation Processes, Basic Course		KS	KE	U	W	T	4

Study Year 3 (Mandatory Courses)

Course Code	Credits	Cycle	S.Ex. stud.	Language	Course Name	Footnote	Links	21/22	21/22	21/22	21/22
								sp1	sp2	sp3	sp4
KAKF05	7.5	G2	-	S	Analytical Chemistry		KS KE U W T	1			
EMSE70	7.5	G2	-	S	Mathematical Statistics	X	KS KE U W T	1			
MIOA15	7.5	G1	-	S	Managerial Economics, Basic Course		KS KE U W T		2		
KETF25	7.5	G2	-	S	Reaction Engineering		KS KE U W T		2		
KETF30	7.5	G2	-	S	Heat Engineering		KS KE U W T			3	
KETF05	7.5	G2	X	E1	Chemical Engineering, Project Laboratory		KS KE U W T			3	4
KASE05	7.5	G2	X	E	Materials and Polymer Technology		KS KE U W T				4

[FMSE70](#) Mathematical Statistics: *The course is to be studied together with MASB02*

Study Year 3 (Elective Mandatory Courses)

Course Code	Credits	Cycle	S.Ex. stud.	Language	Course Name	Footnote	Links			
							21/22 sp1	21/22 sp2	21/22 sp3	21/22 sp4
KASF01	7.5	G2	X	E1	Environmental Chemistry	KS KE U W T			3	
KETE35	7.5	G2	-	S	Loss Prevention	KS KE U W T			3	

Specialisation I - Pharma

Course Code	Credits	Cycle		Mand./ Elect.			Language		Course Name	Footnote	Links				
		Year	From year	S.Ex.	stud.			sp1				sp2	sp3	sp4	
KLG60	7.5	A	O	4	4	X	E	Drug Formulation and Production	X	KS KE U W T	1				
KOKN01	7.5	A	O	4	4	X	E1	Medicinal Chemistry		KS KE U W T	1				
KASN45	7.5	A	V	4	4	X	E1	Advanced Analytical Chemistry		KS KE U T		2			
KFKN10	7.5	A	V	4	4	X	E1	Biophysical Chemistry		KS KE U W T		2			
KOKN05	7.5	A	V	4	4	X	E1	Organic Chemistry - Theory		KS KE U W T		2			
KFKN01	7.5	A	V	4	4	X	E	Magnetic Resonance - Spectroscopy and Imaging		KS KE U W T			3		
KMBF10	7.5	G2	V	4	4	X	E	Quality and Product Safety		KS KE U W T			3		

Course Code	Credits	Cycle	Mand./ Elect.	Year	From year	S.Ex. stud.	Language	Course Name	Footnote	Links				
			V								sp1	sp2	sp3	sp4
KASN40	15	A	V	4	4	X	E1	Project in Pharmaceuticals, Materials or Chemistry		KS KE U T			3	4
KIMN01	7.5	A	V	4	4	X	E	Immunotechnology		KS KE U W T				4
KFKN05	7.5	A	V	4	4	X	E1	Surface and Colloid Chemistry		KS KE U W T				4
KLG N10	7.5	A	V	5	4	-	E1	Chemometrics - Design of Experiments and Multivariate Analysis		KS KE U W T	1			
KMBN02	15	A	V	5	5	X	E	Project in Life Science		KS KE U W T	1	2		

[KLG N60](#) Drug Formulation and Production: *Exam date to be set by agreement*

Specialisation m - Materials

Course Code	Credits	Cycle	Mand./ Elect.	Year	From year	S.Ex. stud.	Language	Course Name	Footnote	Links					
											sp1	sp2	sp3	sp4	
KASN10	7.5	A	O	4	4	X	E	Materials Chemistry		KS KE U W T	1				
KASN20	7.5	A	O	4	4	X	E1	Polymer Physics		KS KE U W T		2			
KASN25	7.5	A	V	4	4	X	E	Polymer Chemistry		KS KE U W T	1				
KASF15	7.5	G2	V	4	4	X	E	Materials Analysis at the Nanoscale		KS KE U W T		2			
FFFN05	7.5	A	V	4	4	X	E	Nanomaterials - Thermodynamics and Kinetics		KS KE U W T		2			
KOKN05	7.5	A	V	4	4	X	E1	Organic Chemistry - Theory		KS KE U W T		2			
FAFN15	7.5	A	V	4	4	X	E	Crystal Growth and Semiconductor Epitaxy		KS KE U W T				3	

Course Code	Credits	Cycle	Mand./ Elect.	Year	From year	S.Ex. stud.	Language	Course Name	Footnote	Links				
												sp1	sp2	sp3
KFKN01	7.5	A	V	4	4	X	E	Magnetic Resonance - Spectroscopy and Imaging		KS KE U W T			3	
KASN40	15	A	V	4	4	X	E1	Project in Pharmaceuticals, Materials or Chemistry		KS KE U T			3	4
KASN15	7.5	A	V	4	4	-	E1	Microscopic Characterization of Materials		KS KE U T				4
KFKN05	7.5	A	V	4	4	X	E1	Surface and Colloid Chemistry		KS KE U W T				4
KETF20	7.5	G2	V	5	4	X	E1	Chemical Engineering Processes		KS KE U W T	1			
KLGN10	7.5	A	V	5	4	-	E1	Chemometrics - Design of Experiments and Multivariate Analysis		KS KE U W T	1			
FKMN20	7.5	A	V	5	4	X	E	Advanced Materials Technology		KS KE U W T		2		

Specialisation p - Process Design

Course Code	Credits	Cycle	Mand./ Elect.		Year	From year	S.Ex. stud.	Language	Course Name	Footnote	Links				
												sp1	sp2	sp3	sp4
KETN20	15	A	O		4	4	X	E1	Sustainable Process Design		KS KE U W T	1	2		
KETN30	7.5	A	V		4	4	X	E	Biochemical Reaction Engineering		KS KE U W T	1			
KETE20	7.5	G2	V		4	4	X	E1	Chemical Engineering Processes		KS KE U W T	1			
KETN10	7.5	A	V		4	4	X	E	Applied Transport Phenomena		KS KE U W T		2		
VVAN25	7.5	A	V		4	4	X	E	Water and Wastewater Treatment	X	KS KE U W T		2		
KETN01	7.5	A	V		4	4	X	E1	Process Simulation		KS KE U W T			3	
KETN25	15	A	V		4	4	X	E1	Feasibility Studies on Industrial Plants		KS KE U W T			3	4

Course Code	Credits	Cycle	Mand./ Elect.	Year	From year	S.Ex. stud.	Language	Course Name	Footnote	Links				
										sp1	sp2	sp3	sp4	
ERTN25	7.5	A	V	4	4	X	E	Automatic Process Control		KS KE U W T				4
KBTF15	7.5	G2	V	5	4	X	E1	Bioprocess Technology	X	KS KE U W T	1			
KBTN05	7.5	A	V	5	4	X	E	Downstream Processing in Biotechnology		KS KE U T		2		
KLG20	7.5	A	V	5	4	X	E	Food Engineering		KS KE U W T		2		

[VVAN25](#) Water and Wastewater Treatment: *The date and time of the exam is announced by the course lecturer*

[KBTF15](#) Bioprocess Technology: *The course is given in English in study period 1 for the K program.*

Elective Courses - K

Course Code	Credits	Cycle	Year	From year	S.Ex. stud.	Language	Course Name	Footnote	Links	sp1 sp2 sp3 sp4			
KBKF10	15	G2	3	2	-	E1	Course in Synthetic Biology	X	KS KE U T			3	4
KKK000	15	A	4	4	-	E1	Advanced course in one or more subjects	X	KS KE U W	1			
IYT000	15	G2	4	3	-	S	Engineering Training Course		KS KE U W	1			
MTTN40	7.5	A	4	4	X	E	Packaging Technology and Development		KS KE U W T	1			
EDAA20	7.5	G1	4	3	-	S	Programming and Databases	X	KS KE U W T	1			
KKK000	15	A	4	4	-	E1	Advanced course in one or more subjects	X	KS KE U W		2		
MAME55	7.5	G2	4	4	X	E1	Aerosol Technology		KS KE U W T		2		

Course Code	Credits	Cycle	Year	From year	S.Ex. stud.	Language	Course Name	Footnote	Links	sp1 sp2 sp3 sp4			
KIMN10	7.5	A	4	4	X	E	Biopharmaceuticals		KS KE U W T		2		
IYT000	15	G2	4	3	-	S	Engineering Training Course		KS KE U W		2		
EXTG50	7.5	G2	4	4	-	E1	Human Physiology		KS KE U W T		2		
KKK000	15	A	4	4	-	E1	Advanced course in one or more subjects	X	KS KE U W				3
EMAF10	5	G2	4	4	-	S	Applied Mathematics - Linear systems		KS KE U W T				3
IYT000	15	G2	4	3	-	S	Engineering Training Course		KS KE U W				3
ETIA10	7.5	G1	4	4	X	E	Patent and Intellectual Property Rights		KS KE U W T				3

Course Code	Credits	Cycle	Year	From year	S.Ex. stud.	Language	Course Name	Footnote	Links						
									sp1	sp2	sp3	sp4			
BLTF01	7.5	G2	4	4	X	E1	Unit Operations in the Biotech and Food Industry		KS	KE	U	W	T	3	
EITA05	4.5	G1	4	3	-	S	History of Technology		KS	KE	U	W	T	3	4
EDAA65	6	G1	4	3	-	S	Programming, First Course	X	KS	KE	U	W	T	3	4
KKK000	15	A	4	4	-	E1	Advanced course in one or more subjects	X	KS	KE	U	W			4
IYT000	15	G2	4	3	-	S	Engineering Training Course		KS	KE	U	W			4
FBRF01	7.5	G2	4	4	X	E	Fundamental Combustion		KS	KE	U	W	T		4
MIOF21	7.5	G2	4	4	-	S	Management Organization		KS	KE	U	W	T		4

Course Code	Credits	Cycle	Year	From year	S.Ex. stud.	Language	Course Name	Footnote	Links					
									sp1	sp2	sp3	sp4		
MIOF25	6	G2	4	4	-	S	Managerial Economics, Advanced Course		KS	KE	U	W	T	4
MIOF05	2	G2	4	4	-	S	Project in Managerial Economics, Advanced Course		KS	KE	U	W	T	4
ERTN55	7.5	A	5	4	X	E	Automatic Control, Advanced Course		KS	KE	U	W	T	1
KLTF05	7.5	G2	5	5	-	E1	Dairy Processing	X	KS	KE	U	W	T	1
MION25	7.5	A	5	4	-	S	Technology Strategy		KS	KE	U	W	T	1
MIOF15	7.5	G2	5	4	-	S	Marketing		KS	KE	U	W	T	2

[KBKF10](#) Course in Synthetic Biology: *The course is partly presented in the summer and is being examined at the end of August. 5 hp exam in June, 10 hp examined in August. Registrations will be divided to 8.5 credits in the spring and 6.5 credits in the summer.*

[KKK000](#) Advanced course in one or more subjects: *The course is not linked to a specific study period. The data on hours (time table) implies that the course is over one study period. An individual plan should be drawn up and approved.*

[EDAA20](#) Programming and Databases: *Only one of the courses [EDAA20](#), [EDAA65](#) and [EDAA70](#) may be included in a degree.*

[EDAA65](#) Programming, First Course: *Only one of the courses [EDAA20](#), [EDAA65](#) and [EDAA70](#) may be included in a degree.*

[KLTF05](#) Dairy Processing: *Exam date to be set by agreement.*

Externally Elective Courses - K

Course Code	Credits	Cycle	Year	From year	S.Ex. stud.	Language	Course Name	Footnote	Links			
									sp1	sp2	sp3	sp4
GEMA20	7.5	G1	4	1	-	E	English for Engineers	KS KE U W T	1	2		
GEMA25	7.5	G1	4	1	-	S	German for Engineers	KS KE U W T	1	2		
GEMA65	7.5	G1	4	1	-	S	Chinese for Engineers	KS KE U W T			3	4
GEMA20	7.5	G1	4	1	-	E	English for Engineers	KS KE U W T			3	4
GEMA01	7.5	G1	4	1	-	S	French for Engineers: Language, Culture and Society, First Course	KS KE U W T			3	4
GEMA70	15	G1	4	1	-	S	Japanese for Engineers	KS KE U W T			3	4

Bachelor's Projects - K

The list contains the bachelor's projects that are included in the K programme.

Links

Course Code	Credits	Course Name	Links
KFKL01	15	Bachelor Project in Biophysical Chemistry	KS KE U
KETL01	15	Bachelor Project in Chemical Engineering	KS KE U
KOOL01	15	Bachelor Project in Materials Chemistry	KS KE U
KOKL01	15	Bachelor Project in Organic Chemistry	KS KE U
KPOL01	15	Bachelor Project in Polymer Technology	KS KE U
KAKL01	15	Bachelor Project in Technical Analytical Chemistry	KS KE U

Degree Projects - K

The list contains the degree project courses that are included in the K programme.

Links

Course Code	Credits	Course Name	Links
KMBM05	30	Degree Project in Applied Microbiology	KS KE U W
FRTM01	30	Degree Project in Automatic Control	KS KE U W
KFKM05	30	Degree Project in Biophysical Chemistry	KS KE U W
KBTM05	30	Degree Project in Biotechnology	KS KE U W
KETM05	30	Degree Project in Chemical Engineering	KS KE U W
KLTM05	30	Degree Project in Food Engineering	KS KE U W
KASM10	30	Degree Project in Materials Chemistry	KS KE U
KASM05	30	Degree Project in Organic Chemistry	KS KE U W
MTTM10	30	Degree Project in Packaging Logistics	KS KE U W
KLGM15	30	Degree Project in Pharmaceutical Technology	KS KE U W
KASM15	30	Degree project in Polymer Technology	KS KE U
KASM01	30	Degree Project in Technical Analytical Chemistry	KS KE U
VVAM05	30	Degree Project in Water and Environmental Engineering	KS KE U W