

Industrial Engineering and Management

Study Year 1 (Mandatory Courses)

Course Code	Credits	Cycle	S.Ex. stud.	Language	Course Name	Footnote	Links	18/19	18/19	18/19	18/19
								sp1	sp2	sp3	sp4
EMAA05	15	G1	-	S	Calculus in One Variable		KS KE U W T	1	2		
MIOA01	9	G1	-	S	Managerial Economics, Basic Course		KS KE U W T	1	2		
EMAB20	6	G1	-	S	Linear Algebra		KS KE U W T		2		
EMAB30	6	G1	-	S	Calculus in Several Variables		KS KE U W T			3	
FMEA10	9	G1	-	S	Engineering Mechanics, Basic Course		KS KE U W T			3	
FAFA75	9	G1	-	S	Energy and Environmental Physics	X	KS KE U W T				4
MIOF20	6	G2	-	S	Management Organization		KS KE U W T				4

[FAFA75](#) Energy and Environmental Physics: *Anmälan till laborationsgrupp vid introduktionsföreläsningen är obligatorisk*

Study Year 1 (Elective Mandatory Courses)

Course Code	Credits	Cycle	S.Ex. stud.	Language	Course Name	Footnote	Links	18/19	18/19	18/19	18/19
								sp1	sp2	sp3	sp4
MIOA05	3	G1	-	S	Entrepreneurship		KS KE U W T	1	2		

Study Year 2 (Mandatory Courses)

Course Code	Credits	Cycle	S.Ex. stud.	Language	Course Name	Footnote	Links	18/19	18/19	18/19	18/19
								sp1	sp2	sp3	sp4
EXTA40	6	G1	-	S	Introduction to Microeconomic Theory		KS KE U W T	1			
MTTF01	5	G2	-	S	Logistics		KS KE U W T	1			
EMSF45	9	G2	-	S	Mathematical Statistics, Basic Course		KS KE U W T	1	2		
MIOF01	9	G2	-	S	Marketing and Globalization		KS KE U W T		2	3	
EDAA55	9	G1	-	S	Programming, First Course		KS KE U W T		2	3	
EMAF01	7	G2	-	E1	Mathematics - Analytic Functions		KS KE U W T			3	
MIOF25	6	G2	-	S	Managerial Economics, Advanced Course		KS KE U W T				4

Course Code	Credits	Cycle	S.Ex. stud.	Language	Course Name	Footnote	Links					
							18/19 sp1	18/19 sp2	18/19 sp3	18/19 sp4		
EMAF05	7	G2	-	E1	Mathematics - Systems and Transforms		KS	KE	U	W	T	4
MIOF05	2	G2	-	S	Project in Managerial Economics, Advanced Course		KS	KE	U	W	T	4

Study Year 3 (Mandatory Courses)

Course Code	Credits	Cycle	S.Ex. stud.	Language	Course Name	Footnote	Links	18/19	18/19	18/19	18/19
								sp1	sp2	sp3	sp4
MIOE30	6	G2	-	S	Operations Research - Basic Course		KS KE U W T	1			
MMTA05	6	G1	-	S	Production Systems		KS KE U W T	1			
EMIF01	6	G2	-	S	Environmental System Studies: Management for Sustainable Development		KS KE U W T	1	2		
EXTF45	6	G2	-	S	Financial Management		KS KE U W T		2		
ERTF05	7.5	G2	-	S	Automatic Control, Basic Course	X	KS KE U W T			3	

[ERTF05](#) Automatic Control, Basic Course: *I3 who will study the elective block Product Innovation, should take [ERT010](#) in study period 2, autumn 17.*

Study Year 3 (Elective Mandatory Courses)

Course Code	Credits	Cycle	S.Ex. stud.	Language	Course Name	Footnote	Links	18/19	18/19	18/19	18/19
								sp1	sp2	sp3	sp4
EITF45	7.5	G2	-	S	Computer Communication	X	KS KE U W T		2		
MVKN35	6	A	-	S	Energy Markets	X	KS KE U W T		2		
EMAN60	6	A	X	E1	Optimization	X	KS KE U W T		2		
FKMA01	7.5	G1	X	E1	Materials Engineering, Basic Course	X	KS KE U W T			3	
EDAA01	7.5	G1	-	S	Programming - Second Course	X	KS KE U W T			3	
EMIN20	7.5	A	-	S	Energy Systems Analysis: Renewable Sources of Energy	X	KS KE U W T			3	4
EMIN05	7.5	A	X	E1	Environmental System Studies: Climate, Science and Politics	X	KS KE U W T			3	4

Course Code	Credits	Cycle	S.Ex. stud.	Language	Course Name	Footnote	Links						
							18/19 sp1	18/19 sp2	18/19 sp3	18/19 sp4			
MMKF35	7.5	G2	X	E	Industrial Design	X	KS	KE	U	W	T	3	4
MMKF05	7.5	G2	X	E	Product Development and Design Methodology	X	KS	KE	U	W	T	3	4
EITF12	9	G2	-	S	Digital Systems, Project Laboratory	X	KS	KE	U	W	T		4
FHLE10	7.5	G2	-	E1	Finite Element Method and Introduction to Strength of Materials	X	KS	KE	U	W	T		4
FBRF01	7.5	G2	X	E	Fundamental Combustion	X	KS	KE	U	W	T		4
FMSN40	9	A	X	E	Linear and Logistic Regression with Data Gathering	X	KS	KE	U	W	T		4
FMNF10	6	G2	X	E1	Numerical Analysis	X	KS	KE	U	W	T		4

Course Code	Credits	Cycle	S.Ex. stud.	Language	Course Name	Footnote	Links								
							18/19 sp1	18/19 sp2	18/19 sp3	18/19 sp4					
ETSA02	6	G1	-	S	Software Engineering - Methodology	X	KS	KE	U	W	T				4

[EITF45](#) Computer Communication: *Compulsory course in the elective blocks 'Systems and Software Development'. The course is also an optional programme course.*

[MVKN35](#) Energy Markets: *Compulsory course in the elective block 'Energy and Environmental Engineering' for students admitted autumn 2015. The course is also an optional programme course.*

[FMAN60](#) Optimization: *Compulsory course in the elective block 'Mathematical Modelling' for students admitted autumn 2015. The course is also an optional programme course. Written examination before Christmas so that exchange students may participate.*

[FKMA01](#) Materials Engineering, Basic Course: *Compulsory course in the elective block 'Product Innovation' for students admitted autumn 2015. The course is also an optional programme course.*

[EDAA01](#) Programming - Second Course: *Compulsory course in the elective blocks 'Mathematical Modelling' and 'Systems and Software Development' for students admitted autumn 2015. The course is also an optional programme course.*

[EMIN20](#) Energy Systems Analysis: Renewable Sources of Energy: *Compulsory course in the elective block 'Energy and Environmental Engineering' for students admitted autumn 2015. The course is also an optional programme course.*

[EMIN05](#) Environmental System Studies: Climate, Science and Politics: *Compulsory course in the elective block 'Energy and Environmental Engineering' for students admitted autumn 2015. The course is also an optional programme course.*

[MMKE35](#) Industrial Design: *Compulsory course in the elective block 'Product Innovation' for students admitted autumn 2015. The course is also an optional programme course.*

[MMKE05](#) Product Development and Design Methodology: *Compulsory course in the elective block 'Product innovation' for students admitted autumn 2015. The course is also an optional programme course.*

[EITF12](#) Digital Systems, Project Laboratory: *Compulsory course in the elective blocks 'Systems and Software Development'. The course is also an optional programme course.*

[FHLF10](#) Finite Element Method and Introduction to Strength of Materials: *Compulsory course in the elective block 'Product Innovation' for students admitted autumn 2015. The course is also an optional programme course.*

[FBRF01](#) Fundamental Combustion: *Compulsory course in the elective block 'Energy and Environmental Engineering' for students admitted autumn 2015. The course is also an optional programme course.*

[FMSN40](#) Linear and Logistic Regression with Data Gathering: *Compulsory course in the elective block 'Mathematical Modelling' for students admitted autumn 2016. The course is also an optional programme course. Only one of the courses [FMSN30](#) and [FMSN40](#) may be included in a degree.*

[FMNF10](#) Numerical Analysis: *Compulsory course in the elective block 'Mathematical Modelling' for students admitted autumn 2015. The course is also an optional programme course.*

[ETSA02](#) Software Engineering - Methodology: *Compulsory course in the elective blocks 'Systems and Software Development' for students admitted autumn 2015. The course is also an optional programme course.*

Specialisation ai - Business and Innovation

Course Code	Credits	Cycle	Mand./ Elect.		Year	From year	S.Ex. stud.	Language	Course Name	Footnote	Links					
												sp1	sp2	sp3	sp4	
INTN01	7.5	A	V		4	4	X	E	Innovation Engineering		KS KE U W T	1				
MION25	7.5	A	V		4	4	-	S	Technology Strategy		KS KE U W T	1				
MION05	7.5	A	V		4	4	-	S	Business Marketing		KS KE U W T		2			
MTTN75	7.5	A	V		4	4	X	E	Industrial Purchasing		KS KE U W T		2			
MION20	7.5	A	V		4	4	-	S	Applied Business Analysis		KS KE U W T			3		
INNN01	7.5	A	V		4	4	X	E	Innovation Management		KS KE U W T			3		
INNN10	7.5	A	V		4	4	X	E	Globalization and Innovation		KS KE U W T					4

Course Code	Credits	Cycle	Mand./ Elect.	Year	From year	S.Ex. stud.	Language	Course Name	Footnote	Links			
										sp1	sp2	sp3	sp4
MAMN30	7.5	A	V	4	3	-	S	Management, Work Organisation and Project Management	KS KE U W T				4
MION30	7.5	A	V	5	4	-	S	Industrial Management	KS KE U W T	1			
INNN05	7.5	A	V	5	5	X	E	Entrepreneurship in New and Established Ventures	KS KE U W T		2		

Specialisation fir - Financial Engineering and Risk Management

Course Code	Credits	Mand./ Elect.		Year	From year	S.Ex. stud.	Language	Course Name	Footnote	Links				
		Cycle									sp1	sp2	sp3	sp4
EXTQ25	7.5	A	V	4	4	X	E	Financial Economics, Advanced Course	X	KS KE U W T	1			
EMSE10	7.5	G2	V	4	3	X	E	Stationary Stochastic Processes		KS KE U W T	1			
EXTQ30	7.5	A	V	4	4	X	E	Economics, Empirical Finance	X	KS KE U W T		2		
FMSN45	7.5	A	V	4	4	X	E	Mathematical Statistics, Time Series Analysis		KS KE U W T		2		
EXTQ35	7.5	A	V	4	4	X	E	Financial Valuation and Risk Management	X	KS KE U W T			3	
FMSN50	7.5	A	V	4	4	X	E	Monte Carlo and Empirical Methods for Stochastic Inference		KS KE U W T			3	
FRTN30	7.5	A	V	4	4	X	E	Network Dynamics		KS KE U W T				4

Course Code	Credits	Cycle	Mand./ Elect.	Year	From year	S.Ex. stud.	Language	Course Name	Footnote	Links				
											sp1	sp2	sp3	sp4
EMSN55	7.5	A	V	4	4	X	E	Statistical Modelling of Extreme Values		KS KE U W T				4
EMSN25	7.5	A	V	5	4	X	E	Valuation of Derivative Assets		KS KE U W T	1			
EXTN80	7.5	A	V	5	4	X	E	Economic and Financial Decision-making	X	KS KE U W T		2		
EMSN60	7.5	A	V	5	4	X	E	Financial Statistics		KS KE U W T		2		
EMSN15	7.5	A	V	5	5	X	E	Statistical Modelling of Multivariate Extreme Values	X	KS KE U W T	Course on hold			

[EXTQ25](#) Financial Economics, Advanced Course: *The course is to be studied together with NEKN81, which is given by the Department of Economics. Does not follow the study period structure.*

[EXTQ30](#) Economics, Empirical Finance: *The course is to be studied together with NEKN82, which is given by the Department of Economics. Does not follow the study period structure.*

[EXTQ35](#) Financial Valuation and Risk Management: *The course is to be studied together with NEKN83, which is given by the Department of Economics. Does not follow the study period structure.*

[EXTN80](#) Economic and Financial Decision-making: *The course is to be studied together with NEKN22, which is given by the Department of Economics. Does not follow the study period structure.*

[EMSN15](#) Statistical Modelling of Multivariate Extreme Values: *The course will next be offered in 2019/20.*

Specialisation If - Supply Chain Management

Course Code	Credits	Mand./ Elect.		Language			Footnote	Links	sp1 sp2 sp3 sp4				
		Cycle	Year	From year	S.Ex.	stud.			Course Name				
MTTN40	7.5	A	V	4	4	X	E	Packaging Technology and Development	KS KE U W T	1			
MTTN25	7.5	A	V	4	4	X	E	Warehousing and Materials Handling	KS KE U W T	1			
MTTN75	7.5	A	V	4	4	X	E	Industrial Purchasing	KS KE U W T		2		
MIOF10	7.5	G2	V	4	4	X	E	Production and Inventory Control	KS KE U W T		2		
MTTN70	7.5	A	V	4	4	X	E	International Physical Distribution	KS KE U W T			3	
MION01	7.5	A	V	4	4	X	E	Management of Production and Inventory Systems	KS KE U W T			3	
MTTN60	7.5	A	V	4	4	X	E	Business Process Management	KS KE U W T				4

Course Code	Credits	Cycle	Mand./ Elect.	Year	From year	S.Ex. stud.	Language	Course Name	Footnote	Links					
										sp1	sp2	sp3	sp4		
MION45	7.5	A	V	4	4	X	E	Operations Strategy		KS	KE	U	W	T	4
MTTN80	7.5	A	V	4	4	X	E	Supply Chain Management		KS	KE	U	W	T	4
MION40	7.5	A	V	5	4	X	E1	Simulation of Industrial Processes and Logistic Systems		KS	KE	U	W	T	1
MTTN20	7.5	A	V	5	4	X	E	Supply Chain Information Systems		KS	KE	U	W	T	1
MTTN35	7.5	A	V	5	4	X	E	Packaging Logistics		KS	KE	U	W	T	2
MION50	7.5	A	V	5	5	X	E	Quality Management		KS	KE	U	W	T	2

Specialisation pr - Production Engineering

Course Code	Credits	Cycle	Mand./ Elect.		Language			Course Name	Footnote	Links			
			Year	From year	S.Ex.	stud.	sp1			sp2	sp3	sp4	
MMTN25	7.5	A	V	4	4	-	S	Production Technology	KS KE U W T	1			
MTTN25	7.5	A	V	4	4	X	E	Warehousing and Materials Handling	KS KE U W T	1			
MIOE10	7.5	G2	V	4	4	X	E	Production and Inventory Control	KS KE U W T		2		
EIEF45	7.5	G2	V	4	3	X	E1	Automation	KS KE U W T			3	
MMTN30	7.5	A	V	4	4	-	S	Flexible Manufacturing Systems	KS KE U W T			3	
MION01	7.5	A	V	4	4	X	E	Management of Production and Inventory Systems	KS KE U W T			3	
MMTF25	7.5	G2	V	4	4	-	S	Computer Aided Design/Computer Aided Manufacturing	KS KE U W T				4

Course Code	Credits	Cycle	Mand./ Elect.	Year	From year	S.Ex. stud.	Language	Course Name	Footnote	Links				
											sp1	sp2	sp3	sp4
MMTN05	7.5	A	V	4	4	-	S	Flexible Manufacturing Systems, Advanced Course		KS KE U W T				4
MION40	7.5	A	V	5	4	X	E1	Simulation of Industrial Processes and Logistic Systems		KS KE U W T	1			
MTTN75	7.5	A	V	5	5	X	E	Industrial Purchasing		KS KE U W T		2		
MMTN10	7.5	A	V	5	4	-	S	International Product Realisation		KS KE U T		2		
MION50	7.5	A	V	5	4	X	E	Quality Management		KS KE U W T		2		

Specialisation pvs - Software Intensive Systems

Course Code	Credits	Cycle	Mand./ Elect.		Year	From year	S.Ex. stud.	Language	Course Name	Footnote	Links				
												sp1	sp2	sp3	sp4
ERTN10	7.5	A	V		4	4	X	E1	Multivariable Control		KS KE U W T	1			
EDAF60	4.5	G2	V		4	4	-	S	Object-oriented Modelling and Design		KS KE U W T	1			
ETSN05	7.5	A	V		4	4	-	S	Software Development for Large Systems		KS KE U W T	1			
EDAN10	7.5	A	V		4	4	X	E	Configuration Management		KS KE U W T		2		
ETSN20	7.5	A	V		4	4	X	E	Software Testing		KS KE U W T		2		
ETSN10	7.5	A	V		4	4	X	E	Network Architecture and Performance		KS KE U W T			3	
ETSN15	7.5	A	V		4	4	X	S	Requirements Engineering		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	sp4
EITN01	10	A	V		4	4	X	E	Real-Time Systems		KS KE U W T			3	4
EITN95	7.5	A	V		4	4	X	E1	Simulation		KS KE U W T				4
EITN35	7.5	A	V		5	4	X	E1	Advanced Course in Electrical and Information Technology	X	KS KE U W T	1			
MION25	7.5	A	V		5	4	-	S	Technology Strategy		KS KE U W T	1			
EITN35	7.5	A	V		5	4	X	E1	Advanced Course in Electrical and Information Technology	X	KS KE U W T		2		
EITN35										X				3	
EITN35										X					4

[EITN35](#) Advanced Course in Electrical and Information Technology: *The course starts only after agreement with the department. The course is not linked to any specific study period. The information on hours depends on the course running over a study period. Individual study plans are to be set up and approved.*

Elective Courses - I

Course Code	Credits	Cycle	Year	From year	S.Ex. stud.	Language	Course Name	Footnote	Links				
										sp1	sp2	sp3	sp4
EMAA60	7.5	G1	1	1	-	S	Introduction to Real Analysis		KS KE U W T	1			
EITN35	7.5	A	4	4	X	E1	Advanced Course in Electrical and Information Technology	X	KS KE U W T	1			
EXTP50	7.5	A	4	4	-	E	Advanced Microeconomic Analysis		KS KE U W T	1			
MMKF15	7.5	G2	4	4	X	E	Applied Robotics		KS KE U W T	1			
MVKN40	5	A	4	4	-	S	District Heating and Cooling		KS KE U W T	1			
IYT000	15	G2	4	3	-	S	Engineering Training Course		KS KE U W	1			
EXTQ25	7.5	A	4	4	X	E	Financial Economics, Advanced Course	X	KS KE U W T	1			

Course Code	Credits	Cycle	Year	From year	S.Ex. stud.	Language	Course Name	Footnote	Links				
										sp1	sp2	sp3	sp4
MION30	7.5	A	4	4	-	S	Industrial Management		KS KE U W T	1			
INTN01	7.5	A	4	4	X	E	Innovation Engineering		KS KE U W T	1			
EMSE15	7.5	G2	4	4	X	E	Markov Processes		KS KE U W T	1			
FRTN10	7.5	A	4	4	X	E1	Multivariable Control		KS KE U W T	1			
EXTF40	7.5	G2	4	4	-	S	Option Theory	X	KS KE U W T	1			
MTTN40	7.5	A	4	4	X	E	Packaging Technology and Development		KS KE U W T	1			
EXTF35	7.5	G2	4	4	-	E	Portfolio Selection	X	KS KE U W T	1			

Course Code	Credits	Cycle	Year	From year	S.Ex. stud.	Language	Course Name	Footnote	Links				
										sp1	sp2	sp3	sp4
MMKN35	7.5	A	4	4	X	E1	Product Innovation		KS KE U W T	1			
MMTN25	7.5	A	4	4	-	S	Production Technology		KS KE U W T	1			
ETSN05	7.5	A	4	4	-	S	Software Development for Large Systems		KS KE U W T	1			
EMSE10	7.5	G2	4	3	X	E	Stationary Stochastic Processes		KS KE U W T	1			
MION25	7.5	A	4	4	-	S	Technology Strategy		KS KE U W T	1			
MMVA01	5	G1	4	4	-	S	Thermodynamics and Fluid Mechanics, Basic Course		KS KE U W T	1			
MTTN25	7.5	A	4	4	X	E	Warehousing and Materials Handling		KS KE U W T	1			

Course Code	Credits	Cycle	Year	From year	S.Ex. stud.	Language	Course Name	Footnote	Links				
										sp1	sp2	sp3	sp4
EMIN25	7.5	A	4	4	-	S	Energy Systems Analysis: Energy, Environment and Natural Resources		KS KE U W T	1	2		
MVKN05	7.5	A	4	4	-	S	Project - Formula Student		KS KE U W T	1	2	3	4
EITN35	7.5	A	4	4	X	E1	Advanced Course in Electrical and Information Technology	X	KS KE U W T		2		
MION05	7.5	A	4	4	-	S	Business Marketing		KS KE U W T		2		
EDAN10	7.5	A	4	4	X	E	Configuration Management		KS KE U W T		2		
EXTG65	7.5	G2	4	3	-	S	Econometrics	X	KS KE U W T		2		
EXTN05	7.5	A	4	3	X	E	Econometrics, Advanced Course	X	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					
EXTN80	7.5	A	4	4	X	E	Economic and Financial Decision-making	X	KS	KE	U	W	T	2			
EXTQ30	7.5	A	4	4	X	E	Economics, Empirical Finance	X	KS	KE	U	W	T	2			
IYT000	15	G2	4	3	-	S	Engineering Training Course		KS	KE	U	W	T	2			
EXTF30	7.5	G2	4	3	-	S	Fixed Income Securities	X	KS	KE	U	W	T	2			
MTTN45	7.5	A	4	4	X	E	Humanitarian Logistics - disaster relief and logistics in developing countries		KS	KE	U	W	T	2			
MTTN75	7.5	A	4	4	X	E	Industrial Purchasing		KS	KE	U	W	T	2			
EMSN45	7.5	A	4	4	X	E	Mathematical Statistics, Time Series Analysis		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	
EMNN10	8	A	4	4	X	E1	Numerical Methods for Differential Equations	KS KE U W T			2		
MTTN35	7.5	A	4	4	X	E	Packaging Logistics	KS KE U W T			2		
MIOF10	7.5	G2	4	4	X	E	Production and Inventory Control	KS KE U W T			2		
MION50	7.5	A	4	4	X	E	Quality Management	KS KE U W T			2		
ETSN20	7.5	A	4	4	X	E	Software Testing	KS KE U W T			2		
EITN35	7.5	A	4	4	X	E1	Advanced Course in Electrical and Information Technology	X KS KE U W T				3	
MION20	7.5	A	4	4	-	S	Applied Business Analysis	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		
EIEE45	7.5	G2	4	3	X	E1	Automation		KS	KE	U	W	T	3
EITF70	6	G2	4	3	-	S	Computer Organization		KS	KE	U	W	T	3
EITA25	7.5	G1	4	4	X	S	Computer Security		KS	KE	U	W	T	3
EXTG60	7.5	G2	4	3	X	E	Economics, Industrial Organization	X	KS	KE	U	W	T	3
MVKN20	7.5	A	4	4	-	S	Energy Utilization		KS	KE	U	W	T	3
IYT000	15	G2	4	3	-	S	Engineering Training Course		KS	KE	U	W	T	3
EXTQ35	7.5	A	4	4	X	E	Financial Valuation and Risk Management	X	KS	KE	U	W	T	3

Course Code	Credits	Cycle	Language				Course Name	Footnote	Links				
			Year	From year	S.Ex. stud.				sp1	sp2	sp3	sp4	
INNN01	7.5	A	4	4	X	E	Innovation Management	KS KE U W T				3	
MTTN70	7.5	A	4	4	X	E	International Physical Distribution	KS KE U W T				3	
MION01	7.5	A	4	4	X	E	Management of Production and Inventory Systems	KS KE U W T				3	
FRTN45	4.5	A	4	3	-	S	Mathematical Modelling, Advanced Course	KS KE U W T				3	
FMSN50	7.5	A	4	4	X	E	Monte Carlo and Empirical Methods for Stochastic Inference	KS KE U W T				3	
ETSN10	7.5	A	4	4	X	E	Network Architecture and Performance	KS KE U W T				3	
ETIA10	7.5	G1	4	3	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
EMSF05	7.5	G2	4	4	X	E	Probability Theory	KS KE U W T			3	
ETSN15	7.5	A	4	4	X	S	Requirements Engineering	KS KE U W T			3	
EDAE90	7.5	G2	4	4	X	S	Web Programming	KS KE U T			3	
EDAE75	7.5	G2	4	4	X	S	Database Technology	KS KE U W T			3	4
MMKN11	7.5	A	4	4	X	E	Design for X	KS KE U W T			3	4
ERTN20	7.5	A	4	4	X	E1	Market-driven Systems	KS KE U W T			3	4
MAME21	7.5	G2	4	4	-	S	Working Environment, Occupational Health and Safety	KS KE U W T			3	4

Course Code	Credits	Cycle	Year	From year	S.Ex. stud.	Language	Course Name	Footnote	Links					
									sp1	sp2	sp3	sp4		
EITN35	7.5	A	4	4	X	E1	Advanced Course in Electrical and Information Technology	X	KS	KE	U	W	T	4
EIEN35	7.5	A	4	4	X	E1	Automation for Complex Systems		KS	KE	U	W	T	4
MTTN60	7.5	A	4	4	X	E	Business Process Management		KS	KE	U	W	T	4
MMTF25	7.5	G2	4	4	-	S	Computer Aided Design/Computer Aided Manufacturing		KS	KE	U	W	T	4
EXTG65	7.5	G2	4	3	-	S	Econometrics	X	KS	KE	U	W	T	4
MVKN15	7.5	A	4	4	-	S	Energy Supply Systems		KS	KE	U	W	T	4
IYT000	15	G2	4	3	-	S	Engineering Training Course		KS	KE	U	W		4

Course Code	Credits	Cycle	Language				Course Name	Footnote	Links					
			Year	From year	S.Ex. stud.				sp1	sp2	sp3	sp4		
EXTF30	7.5	G2	4	3	-	S	Fixed Income Securities	X	KS	KE	U	W	T	4
MMTN05	7.5	A	4	4	-	S	Flexible Manufacturing Systems, Advanced Course		KS	KE	U	W	T	4
INNN10	7.5	A	4	4	X	E	Globalization and Innovation		KS	KE	U	W	T	4
KIIF01	7.5	G2	4	4	X	E1	Industrial Environmental Management		KS	KE	U	W	T	4
FMSN30	7.5	A	4	4	X	E	Linear and Logistic Regression	X	KS	KE	U	W	T	4
EMAN45	7.5	A	4	4	-	E	Machine Learning		KS	KE	U	W	T	4
MAMN30	7.5	A	4	3	-	S	Management, Work Organisation and Project Management		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		
ERTN30	7.5	A	4	4	X	E	Network Dynamics		KS	KE	U	W	T	4
MION45	7.5	A	4	4	X	E	Operations Strategy		KS	KE	U	W	T	4
EITN95	7.5	A	4	4	X	E1	Simulation		KS	KE	U	W	T	4
FMSN55	7.5	A	4	4	X	E	Statistical Modelling of Extreme Values		KS	KE	U	W	T	4
MTTN80	7.5	A	4	4	X	E	Supply Chain Management		KS	KE	U	W	T	4
EDAF60	4.5	G2	5	3	-	S	Object-oriented Modelling and Design		KS	KE	U	W	T	1
MMTN15	7.5	A	5	4	X	E1	Project - Production and Materials Engineering	X	KS	KE	U	W	T	1

Course Code	Credits	Cycle	Year	From year	S.Ex. stud.	Language	Course Name	Footnote	Links				
										sp1	sp2	sp3	sp4
MTTN20	7.5	A	5	5	X	E	Supply Chain Information Systems	KS KE U W T		1			
EMSN25	7.5	A	5	4	X	E	Valuation of Derivative Assets	KS KE U W T		1			
MVKN30	7.5	A	5	5	-	S	Advanced Efficient Energy Systems	KS KE U W T		1	2		
EMIN15	7.5	A	5	4	-	S	Environmental Management Systems	KS KE U W T		1	2		
MTTN65	7.5	A	5	5	X	E	Project and Research Methodologies in Supply Chain Management	KS KE U T		1	2		
INNN05	7.5	A	5	4	X	E	Entrepreneurship in New and Established Ventures	KS KE U W T			2		
EMSN60	7.5	A	5	4	X	E	Financial Statistics	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					
MTTN56	7.5	A	5	4	X	E	Packaging Material Science		KS	KE	U	W	T	2			
MMTN15	7.5	A	5	4	X	E1	Project - Production and Materials Engineering	X	KS	KE	U	W	T	2			
EDAN70	7.5	A	5	4	X	E1	Project in Computer Science		KS	KE	U	W	T	2			
MMTN15	7.5	A	5	4	X	E1	Project - Production and Materials Engineering	X	KS	KE	U	W	T			3	
MMTN15								X									4
EDAN70	7.5	A	5	4	X	E1	Project in Computer Science		KS	KE	U	W	T				4
FMFE35	7.5	G2	4	3	X	E	Complex Economy	X	KS	KE	U	W	T	Course on hold			
EMSN35	7.5	A	4	4	X	E	Stationary and Non-stationary Spectral Analysis	X	KS	KE	U	W	T	Course on hold			
BMEA01	6	G1	4	4	-	S	Medicine for Engineers	X	KS	KE	U	W	T	Course on hold			

[EITN35](#) Advanced Course in Electrical and Information Technology: *The course starts only after agreement with the department. The course is not linked to any specific study period. The information on*

hours depends on the course running over a study period. Individual study plans are to be set up and approved.

[EXTQ25](#) Financial Economics, Advanced Course: *The course is to be studied together with NEKN81, which is given by the Department of Economics. Does not follow the study period structure.*

[EXTE40](#) Option Theory: *The course is to be studied together with NEKH82, which is given by the Department of Economics. Does not follow the study period structure.*

[EXTE35](#) Portfolio Selection: *The course is to be studied together with NEKH81, which is given by the Department of Economics. Does not follow the study period structure.*

[EXTG65](#) Econometrics: *The course is to be studied together with NEKG31, which is given by the Department of Economics. Does not follow the study period structure.*

[EXTN05](#) Econometrics, Advanced Course: *The course is to be studied together with NEKN31, which is given by the Department of Economics. Does not follow the study period structure.*

[EXTN80](#) Economic and Financial Decision-making: *The course is to be studied together with NEKN22, which is given by the Department of Economics. Does not follow the study period structure.*

[EXTQ30](#) Economics, Empirical Finance: *The course is to be studied together with NEKN82, which is given by the Department of Economics. Does not follow the study period structure.*

[EXTE30](#) Fixed Income Securities: *The course is to be studied together with NEKG81, which is given by the Department of Economics. Does not follow the study period structure.*

[EXTG60](#) Economics, Industrial Organization: *The course is to be studied together with NEKH21, which is given by the Department of Economics. Does not follow the study period structure.*

[EXTQ35](#) Financial Valuation and Risk Management: *The course is to be studied together with NEKN83, which is given by the Department of Economics. Does not follow the study period structure.*

[FMSN30](#) Linear and Logistic Regression: *Only one of the courses [FMSN30](#) and [FMSN40](#) may be included in a degree.*

[MMTN15](#) Project - Production and Materials Engineering: *The course start is decided by the department.*

[FMFE35](#) Complex Economy: *The course is offered every other academic year and will next be offered in 2019/20.*

[FMSN35](#) Stationary and Non-stationary Spectral Analysis: *The course is offered every other academic year and will next be offered in 2019/20.*

[BMEA01](#) Medicine for Engineers: *The course is offered every other academic year and will next be offered in 2019/20.*

Externally Elective Courses - I

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	X	KS KE U W T	1	2		
GEMA25	7.5	G1	4	1	-	S	German for Engineers	X	KS KE U W T	1	2		
GEMA60	7.5	G1	4	1	-	S	Law for Engineers, Introductory Course in Business Law	X	KS KE U W T	1	2		
GEMA70	15	G1	4	1	-	S	Japanese for Engineers	X	KS KE U W T	1	2	3	
GEMA65	7.5	G1	4	1	-	S	Chinese for Engineers	X	KS KE U W T			3	4
GEMA20	7.5	G1	4	1	-	E	English for Engineers	X	KS KE U W T			3	4
GEMA01	7.5	G1	4	1	-	S	French for Engineers: Language, Culture and Society, First Course	X	KS KE U W T			3	4

[GEMA20](#) English for Engineers: *LTH common courses (courses where the course code begins with GEM) counts as external elective courses in the degree requirements for students admitted autumn 2011 and later.*

[GEMA25](#) German for Engineers: *LTH common courses (courses where the course code begins with GEM) counts as external elective courses in the degree requirements for students admitted autumn 2011 and later.*

[GEMA60](#) Law for Engineers, Introductory Course in Business Law: *LTH common courses (courses where the course code begins with GEM) counts as external elective courses in the degree requirements for students admitted autumn 2011 and later.*

[GEMA70](#) Japanese for Engineers: *LTH common courses (courses where the course code begins with GEM) counts as external elective courses in the degree requirements for students admitted autumn 2011 and later.*

[GEMA65](#) Chinese for Engineers: *LTH common courses (courses where the course code begins with GEM) counts as external elective courses in the degree requirements for students admitted autumn 2011 and later.*

[GEMA01](#) French for Engineers: Language, Culture and Society, First Course: *LTH common courses (courses where the course code begins with GEM) counts as external elective courses in the degree requirements for students admitted autumn 2011 and later.*

Bachelor's Projects - I

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

Links

Course Code	Credits	Course Name	Links
FMSL01	15	Bachelor Project in Mathematical Statistics	KS KE U W
MIOL01	15	Bachelor Project in Production Management	KS KE U

Degree Projects - I

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

Links

Course Code	Credits	Course Name	Links
FRTM01	30	Degree Project in Automatic Control	KS KE U W
EDAM05	30	Degree Project in Computer Sciences for Engineers	KS KE U W
EITM01	30	Degree Project in Electrical and Information Technology	KS KE U W
MVKM01	30	Degree Project in Energy Sciences	KS KE U W
MTTM05	30	Degree Project in Engineering Logistics	KS KE U W
FKMM01	30	Degree Project in Engineering Materials	KS KE U W
FMIM01	30	Degree Project in Environmental Studies	KS KE U W
MAMM10	30	Degree Project in Ergonomics	KS KE U W
EXTM10	30	Degree Project in Financial Economics	KS KE U W
EIEM01	30	Degree Project in Industrial Electrical Engineering and Automation	KS KE U W
INNM01	30	Degree Project in Innovation	KS KE U
INTM01	30	Degree Project in Innovation Engineering	KS KE U W
FMSM01	30	Degree Project in Mathematical Statistics for Engineers	KS KE U W
FMAM05	30	Degree Project in Mathematics for Engineers	KS KE U
FMEM01	30	Degree Project in Mechanics for Engineers	KS KE U W
FMNM01	30	Degree Project in Numerical Analysis	KS KE U W
MTTM10	30	Degree Project in Packaging Logistics	KS KE U W
PHYM01	30	Degree Project in Physics	KS KE U W
MMKM05	30	Degree Project in Product Development	KS KE U W
MMTM01	30	Degree Project in Production and Materials Engineering	KS KE U W
MIOM05	30	Degree Project in Production Management	KS KE U W
FHLM01	30	Degree Project in Solid Mechanics for Engineers	KS KE U W