

# Engineering Mathematics

## Study Year 1 (Mandatory Courses)

Course Code	Credits	Cycle	S.Ex. stud.	Language	Course Name	Footnote	Links	18/19 sp1					18/19 sp2					18/19 sp3					18/19 sp4				
								F	O	L	H	S	F	O	L	H	S	F	O	L	H	S	F	O	L	H	S
<a href="#">FMAB20</a>	6	G1	-	S	Linear Algebra		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>	40	16	0	0	106															
<a href="#">FMAA05</a>	15	G1	-	S	Calculus in One Variable		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>	50	30	0	0	133	50	30	0	0	107										
<a href="#">FMAA30</a>	4.5	G1	-	S	Mathematical Communication		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>	10	8	0	1	12	6	2	0	1	8	2	0	0	0	0	6	6	0	4	60
<a href="#">FMAA10</a>	3	G1	-	S	Mathematical Modelling	X	<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>						6	0	0	2	72										
<a href="#">EDAA55</a>	9	G1	-	S	Programming, First Course		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>						30	0	20	0	90	22	0	12	0	70					
<a href="#">FMAB35</a>	7.5	G1	-	S	Calculus in Several Variables		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>											44	16	2	0	100	8	6	0	0	26
<a href="#">FMEA15</a>	7.5	G1	-	S	Mechanics - Statics and Dynamics		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>											42	28	0	0	62	20	20	0	0	27
<a href="#">FAFF40</a>	7.5	G2	-	S	Waves and Optics		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">T</a>																40	28	16	0	140

[FMAA10](#) Mathematical Modelling: *All the projects must be approved during the current academic year. Thus one may not save results on single projects till a later year.*

## Study Year 2 (Mandatory Courses)

Course Code	Credits	Cycle	Language		Course Name	Footnote	Links	18/19																				
			S.Ex. stud.					sp1	sp2	sp3	sp4																	
								F	O	L	H	S	F	O	L	H	S	F	O	L	H	S	F	O	L	H	S	
<a href="#">EXTA40</a>	6	G1	-	S	Introduction to Microeconomic Theory		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>	38	14	0	0	100																
<a href="#">EMAF01</a>	7	G2	-	E1	Mathematics - Analytic Functions		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>	42	24	0	1	128																
<a href="#">FMSF45</a>	9	G2	-	S	Mathematical Statistics, Basic Course		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>	18	14	4	0	85	18	14	4	0	85											
<a href="#">EMAF05</a>	7	G2	-	E1	Mathematics - Systems and Transforms		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>					40	16	0	1	130												
<a href="#">FRTF05</a>	7.5	G2	-	S	Automatic Control, Basic Course		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>										30	30	12	0	128							
<a href="#">EDAA01</a>	7.5	G1	-	S	Programming - Second Course		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>										28	0	14	0	158							
<a href="#">FMAN55</a>	7.5	A	-	S	Applied Mathematics		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>										24	12	2	0	62	22	14	2	0	62		
<a href="#">EMAF25</a>	3	G2	-	S	Mathematical Modelling with Statistical Applications, Project		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>															18	0	0	3	59		
<a href="#">EITF15</a>	6	G2	-	S	Signal Processing - Theory and Applications		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>															24	16	16	0	104		

### Study Year 3 (Mandatory Courses)

Course Code	Credits	Cycle	Language		Course Name	Footnote	Links	18/19																				
			S.Ex. stud.					sp1	sp2	sp3	sp4																	
								F	O	L	H	S	F	O	L	H	S	F	O	L	H	S	F	O	L	H	S	
<a href="#">EETF01</a>	7	G2	-	S	Electromagnetic Field Theory		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>	34	32	0	0	110																
<a href="#">FMSF10</a>	7.5	G2	X	E	Stationary Stochastic Processes		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>	22	16	6	0	145																
<a href="#">FMAN70</a>	6	A	X	E1	Matrix Theory		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>	18	10	0	1	56	12	4	0	1	58											
<a href="#">FMNN10</a>	8	A	X	E1	Numerical Methods for Differential Equations		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>						48	0	0	3	160											
<a href="#">FMIF10</a>	6	G2	-	S	Environmental Systems Studies and Sustainable Development		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>						32	6	0	0	68	2	3	0	2	46						
<a href="#">FRTN45</a>	4.5	A	-	S	Mathematical Modelling, Advanced Course		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>										4	0	0	6	100							
<a href="#">FMAN65</a>	6	A	-	S	Mathematical Structures		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>										28	14	0	0	118							
<a href="#">EDAF15</a>	5	G2	-	S	Algorithm Implementation		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>															24	12	12	0	85		
<a href="#">FHLEF10</a>	7.5	G2	-	E1	Finite Element Method and Introduction to Strength of Materials		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>															32	28	2	0	140		

## Study Year 3 (Elective Mandatory Courses)

Course Code	Credits	Cycle	Language				Footnote	Links		18/19 sp1	18/19 sp2	18/19 sp3					18/19 sp4				
			S.Ex. stud.	From year	S.Ex. stud.	From year		F	O			L	H	S	F	O	L	H	S	F	O
<a href="#">EXTG11</a>	4	G2	X	E1					<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>			6	8	0	0	30	14	16	0	0	30
<a href="#">EXTG15</a>	7.5	G2	X	E1					<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>			16	8	0	0	65	27	20	0	0	65

## Specialisation bem - Computational Mechanics

Course Code	Credits	Cycle	Mand./ Elect.	Language				Footnote	Links		sp1	sp2	sp3	sp4										
				From year	S.Ex. stud.	From year	S.Ex. stud.		F	O					L	H	S	F	O	L	H	S		
<a href="#">FHLN05</a>	7.5	A	V	4	4	-	S		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>	38	28	4	0	130										
<a href="#">FMEN21</a>	7.5	A	V	4	4	X	E		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>	42	14	0	2	142										
<a href="#">FHLN20</a>	7.5	A	V	4	4	X	E		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>		28	0	28	0	144									
<a href="#">EMEN11</a>	7.5	A	V	4	4	X	E		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>		42	14	0	0	144									
<a href="#">EMAN60</a>	6	A	V	4	4	X	E1	X	<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>		32	14	4	1	109									
<a href="#">MVKN90</a>	7.5	A	V	4	4	X	E		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>		24	34	4	0	120									
<a href="#">MMVF10</a>	7.5	G2	V	4	4	X	E1		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>						26	40	10	0	124					
<a href="#">MMVF05</a>	7.5	G2	V	4	4	X	E		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>						42	38	0	14	106					
<a href="#">VSMN10</a>	7.5	A	V	4	4	X	E1		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>						20	0	8	2	170					
<a href="#">FHLN01</a>	7.5	A	V	4	4	X	E		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>						28	26	2	0	100					
<a href="#">EMAN25</a>	7.5	A	V	4	4	X	E1		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>						18	0	0	0	82	16	0	0	0	84
<a href="#">FMEN02</a>	7.5	A	V	4	4	X	E		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>											42	14	0	4	140
<a href="#">MMVN05</a>	7.5	A	V	4	4	X	E1		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">T</a>											28	24	10	4	120
<a href="#">MVKN70</a>	7.5	A	V	5	4	X	E		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">T</a>	28	24	10	4	134										

[EMAN60](#) Optimization: *Written examination before Christmas so that exchange students may participate.*

## Specialisation bg - Images and Computer Graphics

Course Code	Credits	Cycle	Mand./ Elect.	Year	From year	S.Ex. stud.	Language	Course Name	Footnote	Links	sp1				sp2				sp3				sp4											
											F	O	L	H	S	F	O	L	H	S	F	O	L	H	S	F	O	L	H	S				
<a href="#">EDAF80</a>	7.5	G2	V	4	4	X	E	Computer Graphics		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>	26	0	10	0	160																			
<a href="#">EMAN20</a>	7.5	A	V	4	4	X	E1	Image Analysis		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>	32	0	0	2	166																			
<a href="#">FMSF15</a>	7.5	G2	V	4	4	X	E	Markov Processes		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>	26	16	6	0	140																			
<a href="#">FMNN01</a>	7.5	A	V	4	4	X	E	Numerical Linear Algebra		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>	36	0	0	6	160																			
<a href="#">FMSN45</a>	7.5	A	V	4	4	X	E	Mathematical Statistics, Time Series Analysis		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>						26	12	12	5	120														
<a href="#">EMAN30</a>	7.5	A	V	4	4	X	E1	Medical Image Analysis		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>						32	0	0	3	165														
<a href="#">EMAN60</a>	6	A	V	4	4	X	E1	Optimization	X	<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>						32	14	4	1	109														
<a href="#">FMSN20</a>	7.5	A	V	4	4	X	E	Spatial Statistics with Image Analysis		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>						28	0	21	4	120														
<a href="#">EMAN85</a>	6	A	V	4	4	X	E1	Computer Vision		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>											26	0	0	2	132									
<a href="#">EMAF35</a>	6	G2	V	4	4	X	E1	Linear and Combinatorial Optimization		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>											26	0	4	1	130									
<a href="#">FMSN50</a>	7.5	A	V	4	4	X	E	Monte Carlo and Empirical Methods for Stochastic Inference		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>											26	0	14	5	120									
<a href="#">EMAN25</a>	7.5	A	V	4	4	X	E1	Calculus of Variations		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>											18	0	0	0	82	16	0	0	0	84				
<a href="#">EMAN45</a>	7.5	A	V	4	4	-	E	Machine Learning		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>																28	0	0	2	170				
<a href="#">FRTN30</a>	7.5	A	V	4	4	X	E	Network Dynamics		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>																28	28	16	0	70				
<a href="#">EDAN35</a>	7.5	A	V	4	4	X	E	High Performance Computer Graphics	X	<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>	Course on hold																							

[EMAN60](#) Optimization: *Written examination before Christmas so that exchange students may participate.*

[EDAN35](#) High Performance Computer Graphics: *The course will next be offered in 2019/20.*

## Specialisation biek - Biological, Ecological and Medical Modelling

Course Code	Credits	Cycle	Mand./ Elect.	Year	From year	S.Ex. stud.	Language	Course Name	Footnote	Links	Specialisations													
											sp1	sp2	sp3	sp4	F O L H S			F O L H S			F O L H S			F O L H S
<a href="#">EXTQ20</a>	7.5	A	V	4	4	-	E1	Biological Systems		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>	40	10	20	0	130									
<a href="#">BMEN05</a>	7.5	A	V	4	4	X	E	Biomechanics		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>	32	8	0	10	110									
<a href="#">EMAN20</a>	7.5	A	V	4	4	X	E1	Image Analysis		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>	32	0	0	2	166									
<a href="#">EMAN15</a>	7.5	A	V	4	4	X	E	Nonlinear Dynamical Systems		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>	16	6	0	0	78	14	8	0	0	78				
<a href="#">FMSN45</a>	7.5	A	V	4	4	X	E	Mathematical Statistics, Time Series Analysis		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>					26	12	12	5	120					
<a href="#">FMAN30</a>	7.5	A	V	4	4	X	E1	Medical Image Analysis		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>					32	0	0	3	165					
<a href="#">FMSN20</a>	7.5	A	V	4	4	X	E	Spatial Statistics with Image Analysis		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>					28	0	21	4	120					
<a href="#">BMEN10</a>	7.5	A	V	4	4	X	E	Tissue Biomechanics		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>					24	0	20	0	100					
<a href="#">BMEN01</a>	7.5	A	V	4	4	X	E1	Biomedical Signal Processing		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>										14	14	0	7	165
<a href="#">FMSF65</a>	7.5	G2	V	4	4	X	E	Design of Experiments		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>										14	14	14	1	150
<a href="#">FMSN30</a>	7.5	A	V	4	4	X	E	Linear and Logistic Regression		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>										24	0	26	2	120
<a href="#">FMSN55</a>	7.5	A	V	4	4	X	E	Statistical Modelling of Extreme Values		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>										28	14	9	1	120
<a href="#">FMSN35</a>	7.5	A	V	4	4	X	E	Stationary and Non-stationary Spectral Analysis	X	<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>	Course on hold													
<a href="#">EMAN01</a>	7.5	A	V	4	4	X	E1	Biomathematics	X	<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>	Course on hold													

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

[EMAN01](#) Biomathematics: *The course is offered every other academic year and will next be offered in 2019/20.*

## Specialisation bs - Computation and Simulation

Course Code	Credits	Cycle	Mand./ Elect.	Year	From year	S.Ex. stud.	Language	Course Name	Footnote	Links	sp1				sp2				sp3				sp4					
											F	O	L	S	F	O	L	S	F	O	L	S	F	O	L	S		
<a href="#">FMAN60</a>	6	A	V	3	3	X	E1	Optimization	X	<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>					32	14	4	1	109									
<a href="#">FMNN25</a>	7.5	A	V	4	4	X	E1	Advanced Course in Numerical Algorithms with Python/SciPy		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>	28	0	0	3	169													
<a href="#">FMNN01</a>	7.5	A	V	4	4	X	E	Numerical Linear Algebra		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>	36	0	0	6	160													
<a href="#">FMAN80</a>	7.5	A	V	4	4	X	E1	Functional Analysis and Harmonic Analysis		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>	20	10	0	0	108	8	4	0	0	50								
<a href="#">FMAN15</a>	7.5	A	V	4	4	X	E	Nonlinear Dynamical Systems		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>	16	6	0	0	78	14	8	0	0	78								
<a href="#">FHLN20</a>	7.5	A	V	4	4	X	E	Finite Element Method for Non-linear Systems		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>					28	0	28	0	144									
<a href="#">EMAE35</a>	6	G2	V	4	4	X	E1	Linear and Combinatorial Optimization		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>									26	0	4	1	130					
<a href="#">FMSN50</a>	7.5	A	V	4	4	X	E	Monte Carlo and Empirical Methods for Stochastic Inference		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>									26	0	14	5	120					
<a href="#">EITN90</a>	7.5	A	V	4	4	X	E	Radar and Remote Sensing		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>									28	14	6	5	147					
<a href="#">FMNN05</a>	7.5	A	V	4	4	X	E1	Simulation Tools		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>									28	0	0	3	169					
<a href="#">FMAN25</a>	7.5	A	V	4	4	X	E1	Calculus of Variations		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>									18	0	0	0	82	16	0	0	0	84
<a href="#">VSMN20</a>	7.5	A	V	4	4	X	E1	Software Development for Technical Applications		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>													16	32	0	0	152	
<a href="#">FMNN30</a>	7.5	A	V	4	4	X	E	Iterative Solution of Large Scale Systems in Scientific Computing	X	<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>	Course on hold																	

[FMAN60](#) Optimization: *Written examination before Christmas so that exchange students may participate.*

[FMNN30](#) Iterative Solution of Large Scale Systems in Scientific Computing: *The course is offered every other academic year and will next be offered in 2019/20.*

## Specialisation fm - Financial Modelling

Course Code	Credits	Cycle	Mand./ Elect.	Year	From year	S.Ex. stud.	Language	Course Name	Footnote	Links	sp1				sp2				sp3				sp4												
											F	O	L	S	F	O	L	S	F	O	L	S	F	O	L	S									
<a href="#">FMAN60</a>	6	A	V	3	3	X	E1	Optimization	X	<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>					32	14	4	1	109																
<a href="#">EXTF45</a>	6	G2	O	4	4	-	S	Financial Management		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>					32	10	6	0	110																
<a href="#">EXTP50</a>	7.5	A	V	4	3	-	E	Advanced Microeconomic Analysis		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>	32	10	0	0	120																				
<a href="#">EXTQ30</a>	7.5	A	V	4	4	X	E	Economics, Empirical Finance	X	<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>					34	8	0	0	100																
<a href="#">FMSN60</a>	7.5	A	V	4	4	X	E	Financial Statistics		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>					28	14	16	5	120																
<a href="#">FMSN45</a>	7.5	A	V	4	4	X	E	Mathematical Statistics, Time Series Analysis		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>					26	12	12	5	120																
<a href="#">EXTQ35</a>	7.5	A	V	4	4	X	E	Financial Valuation and Risk Management	X	<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>									40	0	4	0	150												
<a href="#">FMSN50</a>	7.5	A	V	4	3	X	E	Monte Carlo and Empirical Methods for Stochastic Inference		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>									26	0	14	5	120												
<a href="#">FMSF05</a>	7.5	G2	V	4	4	X	E	Probability Theory		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>									26	14	0	0	160												
<a href="#">EMAN25</a>	7.5	A	V	4	4	X	E1	Calculus of Variations		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>									18	0	0	0	82	16	0	0	0	84							
<a href="#">FRTN20</a>	7.5	A	V	4	4	X	E1	Market-driven Systems		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>									20	20	0	4	30	8	8	0	4	40							
<a href="#">FMSN55</a>	7.5	A	V	4	4	X	E	Statistical Modelling of Extreme Values		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>																	28	14	9	1	120				
<a href="#">EXTQ25</a>	7.5	A	V	5	4	X	E	Financial Economics, Advanced Course	X	<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>	40	0	0	0	155																				
<a href="#">FMSN25</a>	7.5	A	V	5	4	X	E	Valuation of Derivative Assets		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>	32	26	6	1	120																				

[FMAN60](#) Optimization: *Written examination before Christmas so that exchange students may participate.*

[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.*

[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.*

## Specialisation pv - Software

Course Code	Credits	Cycle	Mand./ Elect.	Year	From year	S.Ex. stud.	Language	Course Name	Footnote	Links	sp1				sp2				sp3				sp4							
											F	O	L	H	S	F	O	L	H	S	F	O	L	H	S	F	O	L	H	S
<a href="#">FMAN10</a>	7.5	A	V	2	2	X	E1	Algebraic Structures		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>									28	10	0	0	162							
<a href="#">EDAF55</a>	6	G2	O	4	4	X	E1	Concurrent Programming		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>	14	14	6	0	40	4	6	0	6	70										
<a href="#">EDAF05</a>	5	G2	O	4	4	X	E1	Algorithms, Data Structures and Complexity		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>													20	0	12	0	100			
<a href="#">EDAN20</a>	7.5	A	V	4	4	X	E	Language Technology		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>	20	0	14	0	160															
<a href="#">EDAN95</a>	7.5	A	V	4	4	X	E	Applied Machine Learning		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>					28	0	14	0	156											
<a href="#">EDAN10</a>	7.5	A	V	4	4	X	E	Configuration Management		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>					28	14	12	2	144											
<a href="#">EDAN01</a>	7.5	A	V	4	4	X	E	Constraint Programming		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>					20	0	12	0	160											
<a href="#">EDIN01</a>	7.5	A	V	4	4	X	E1	Cryptography		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>					36	14	0	2	148											
<a href="#">FMAE35</a>	6	G2	V	4	4	X	E1	Linear and Combinatorial Optimization		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>									26	0	4	1	130							
<a href="#">FMNN05</a>	7.5	A	V	4	4	X	E1	Simulation Tools		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>									28	0	0	3	169							
<a href="#">EDAF50</a>	7.5	G2	V	4	4	X	S	C++ Programming		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>									24	0	8	0	100	0	0	0	60			
<a href="#">EDAF75</a>	7.5	G2	V	4	4	X	S	Database Technology		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>									24	2	8	0	112	0	0	0	50			
<a href="#">FRTN01</a>	10	A	V	4	4	X	E	Real-Time Systems		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>									28	18	4	0	70	6	4	8	8	70		
<a href="#">EDAN40</a>	7.5	A	V	4	3	X	E	Functional Programming		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>													28	6	0	0	166			
<a href="#">EDAN26</a>	7.5	A	V	4	4	-	S	Multicore Programming	X	<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>	Course on hold																			

[EDAN26](#) Multicore Programming: *The course is offered every other academic year and will next be offered in 2019/20.*

## Specialisation ssr - Systems, Signals and Control

Course Code	Credits	Cycle	Mand./ Elect.	Year	From year	S.Ex. stud.	Language	Course Name	Footnote	Links	sp1				sp2				sp3				sp4							
											F	O	L	H	S	F	O	L	H	S	F	O	L	H	S	F	O	L	H	S
<a href="#">EITG05</a>	7.5	G2	V	4	4	X	E	Digital Communications		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>	24	28	4	0	144															
<a href="#">EMSF15</a>	7.5	G2	V	4	4	X	E	Markov Processes		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>	26	16	6	0	140															
<a href="#">FRTN10</a>	7.5	A	V	4	4	X	E1	Multivariable Control		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>	30	30	12	0	128															
<a href="#">FMAN80</a>	7.5	A	V	4	4	X	E1	Functional Analysis and Harmonic Analysis		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>	20	10	0	0	108	8	4	0	0	50										
<a href="#">FMAN15</a>	7.5	A	V	4	4	X	E	Nonlinear Dynamical Systems		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>	16	6	0	0	78	14	8	0	0	78										
<a href="#">FRTN35</a>	7.5	A	V	4	4	X	E1	System Identification		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>	28	14	14	0	70	0	0	14	0	70										
<a href="#">EXTQ40</a>	7.5	A	V	4	4	X	E1	Introduction to Artificial Neural Networks and Deep Learning		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>						34	10	30	0	126										
<a href="#">FMSN45</a>	7.5	A	V	4	4	X	E	Mathematical Statistics, Time Series Analysis		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>						26	12	12	5	120										
<a href="#">FRTN05</a>	7.5	A	V	4	4	X	E1	Non-Linear Control and Servo Systems		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>						28	28	12	0	112										
<a href="#">EITN60</a>	7.5	A	V	4	4	X	E	Optimum and Adaptive Signal Processing		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>						16	28	8	0	148										
<a href="#">FMSN20</a>	7.5	A	V	4	4	X	E	Spatial Statistics with Image Analysis		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>						28	0	21	4	120										
<a href="#">FRTN15</a>	7.5	A	V	4	4	X	E1	Predictive Control		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>										28	18	12	0	70	0	0	0	16	70	
<a href="#">EITN45</a>	7.5	A	V	4	4	X	E	Information Theory		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>															26	14	0	0	160	
<a href="#">ETIF10</a>	7.5	G2	V	4	4	X	E1	Signal Processing - Design and Implementation		<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>															22	22	8	0	148	
<a href="#">FMSN35</a>	7.5	A	V	4	4	X	E	Stationary and Non-stationary Spectral Analysis	X	<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>	Course on hold																			

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

## Elective Courses - Pi





[FMAN50](#) International Project Course - Mathematical Modelling: *Limited number of participants. Specific application procedure. The course is given in August.*

[EEMF05](#) Biomedical Measurements: *Retake date to be set by agreement.*

[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.*

[EXTQ01](#) Theoretical Biophysics: *The course is given by the Faculty of Science and does not follow the study period structure.*

[EDAN75](#) Optimising Compilers: *The course is offered every other academic year and will be given in 2018/19, 2020/21.*

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

[FMSN15](#) Statistical Modelling of Multivariate Extreme Values: *The course will next be offered in 2019/20.*

## Externally Elective Courses - Pi

Course Code	Credits	Cycle	Year	From year	S.Ex. stud.	Language	Course Name	Footnote	Links	Links																			
										sp1	sp2			sp3			sp4												
										F	O	L	H	S	F	O	L	H	S	F	O	L	H	S	F	O	L	H	S
<a href="#">GEMA20</a>	7.5	G1	4	1	-	E	English for Engineers	X	<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>	30	0	0	0	30	20	0	0	0	30										
<a href="#">GEMA25</a>	7.5	G1	4	1	-	S	German for Engineers	X	<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>	0	40	0	0	60	0	40	0	0	60										
<a href="#">GEMA60</a>	7.5	G1	4	1	-	S	Law for Engineers, Introductory Course in Business Law	X	<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>	25	0	0	0	75	25	0	0	0	75										
<a href="#">GEMA70</a>	15	G1	4	1	-	S	Japanese for Engineers	X	<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>	0	24	0	0	110	0	18	0	0	110	0	24	0	0	110					
<a href="#">GEMA65</a>	7.5	G1	4	1	-	S	Chinese for Engineers	X	<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>											0	20	0	0	80	0	20	0	0	80
<a href="#">GEMA20</a>	7.5	G1	4	1	-	E	English for Engineers	X	<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>											30	0	0	0	30	20	0	0	0	30
<a href="#">GEMA01</a>	7.5	G1	4	1	-	S	French for Engineers: Language, Culture and Society, First Course	X	<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a> <a href="#">T</a>											0	26	0	0	60	0	26	0	0	60

[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 - Pi

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

### Links

Course Code	Credits	Course Name	Links
FRTL01	15	Bachelor Project in Automatic Control	<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a>
BMEL01	15	Bachelor Project in Biomedical Engineering	<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a>
EDAL01	15	Bachelor Project in Computer Science	<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a>
EXTL02	15	Bachelor Project in Ecology	<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a>
EITL01	15	Bachelor Project in Electrical and Information Technology	<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a>
FMSL01	15	Bachelor Project in Mathematical Statistics	<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a>
FMAL01	15	Bachelor Project in Mathematics	<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a>
FMEL01	15	Bachelor Project in Mechanics	<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a>
FMNL01	15	Bachelor Project in Numerical Analysis	<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a>
PHYL01	15	Bachelor Project in Physics	<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a>
FHLL01	15	Bachelor Project in Solid Mechanics	<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a>
VSML05	15	Bachelor Project in Structural Mechanics	<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a>

## Degree Projects - Pi

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

### Links

Course Code	Credits	Course Name	Links
FRTM01	30	Degree Project in Automatic Control	<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a>
BMEM01	30	Degree Project in Biomedical Engineering	<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a>
EDAM05	30	Degree Project in Computer Sciences for Engineers	<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a>
EXTM20	30	Degree Project in Ecology	<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a>
EITM01	30	Degree Project in Electrical and Information Technology	<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a>
FMSM01	30	Degree Project in Mathematical Statistics for Engineers	<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a>
FMAM05	30	Degree Project in Mathematics for Engineers	<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a>
FMEM01	30	Degree Project in Mechanics for Engineers	<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a>
FMNM01	30	Degree Project in Numerical Analysis	<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a>
PHYM01	30	Degree Project in Physics	<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a>
FHLM01	30	Degree Project in Solid Mechanics for Engineers	<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a> <a href="#">W</a>
VSMM05	30	Degree Project in Structural Mechanics	<a href="#">KS</a> <a href="#">KE</a> <a href="#">U</a>