

Mathematical Statistics

Course Code	Credits	Cycle	Programme	S.Ex. stud.	Language	Course Name	Footnote	Links	15/16	15/16	15/16	15/16
									sp1	sp2	sp3	sp4
EMSE15	7.5	G2	BME, C, D, E, E, I, Pi	X	E1	Markov Processes		KS KE U W T	1			
EMS086	7.5	G2	B, BME, K, N	-	S	Mathematical Statistics		KS KE U W T	1			
EMS140	7.5	G2	W	-	S	Mathematical Statistics, Basic Course		KS KE U W T	1			
EMSE10	7.5	G2	BME, C, D, E, E, I, M, MWIR, Pi	X	E1	Stationary Stochastic Processes	X	KS KE U W T	1			
EMS065	7.5	G2	BME, C, Pi, RH	-	E1	Statistical Methods for Safety Analysis		KS KE U W T	1			
EMSN25	7.5	A	E, I, Pi	X	E1	Valuation of Derivative Assets		KS KE U W T	1			
EMS012	9	G2	I	-	S	Mathematical Statistics, Basic Course		KS KE U W T	1	2		

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				S.Ex. stud.				15/16 sp1	15/16 sp2	15/16 sp3	15/16 sp4
EMS012								1	2		
EMS012									2	3	
EMS012										3	4
EMSF20	7.5	G2	E	-	S	Mathematical Statistics, Basic Course	KS KE U W T		2		
EMS161	7.5	A	E, I, Pi	X	E1	Financial Statistics	KS KE U W T		2		
EMS032	7.5	G2	L, Y	-	S	Mathematical Statistics, Basic Course	KS KE U W T		2		
EMS051	7.5	A	BME, C, D, E, E, I, Pi	X	E1	Mathematical Statistics, Time Series Analysis	KS KE U W T		2		

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									sp1	sp2	sp3	sp4
EMSN20	7.5	A	BME, C, D, E, F, Pi	X	E1	Spatial Statistics with Image Analysis		KS KE U W T		2		
EMSN15	7.5	A	E, I, Pi	X	E1	Statistical Modelling of Multivariate Extreme Values		KS KE U W T		2		
EMS091	7.5	A	BME, D, E, I, Pi	X	E1	Monte Carlo and Empirical Methods for Stochastic Inference		KS KE U W T			3	
EMSF05	7.5	G2	BME, E, I, Pi	X	E1	Probability Theory		KS KE U W T			3	
EMSN35	7.5	A	BME, C, D, E, F, I, Pi	X	E1	Stationary and Non-stationary Spectral Analysis	X	KS KE U W T			3	
EMS072	7.5	G2	BME, D, E, F, MLIV, MWIR, N, Pi, W	X	E1	Design of Experiments		KS KE U W T				4
EMSN05	3	A	Pi	X	E	International Project Course-Mathematical Modelling	X	KS KE U W T				4

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								15/16 sp1	15/16 sp2	15/16 sp3	15/16 sp4			
EMSN30	7.5	A	BME, D, E, I, L, M, Pi	X	E1	Linear and Logistic Regression	X	KS	KE	U	W	T		4
EMSN40	9	A	I	X	E1	Linear and Logistic Regression with Data Gathering	X	KS	KE	U	W	T		4
EMS035	7.5	G2	M	-	S	Mathematical Statistics, Basic Course		KS	KE	U	W	T		4
EMS155	7.5	A	D, E, I, Pi	X	E1	Statistical Modelling of Extreme Values		KS	KE	U	W	T		4

[FMSE10](#) (C, D, E, I) Stationary Stochastic Processes: *Only one of the courses [FMS045](#) and [FMSE10](#) may be included in a degree.*

[EMSN35](#) (BME, C, D, E, E, I, Pi) Stationary and Non-stationary Spectral Analysis: *The course is offered every other academic year and will be given in 2015/16, 2017/18.*

[FMSN05](#) (Pi) International Project Course-Mathematical Modelling: *Limited number of participants. Specific application procedure. The course is given in August.*

[EMSN30](#) (I) Linear and Logistic Regression: *Only one of the courses [EMSN30](#) and [EMSN40](#) may be included in a degree.*

[EMSN40](#) (I) Linear and Logistic Regression with Data Gathering: *Compulsory course in the elective block 'Mathematical Modelling' for students admitted autumn 2013 and later. The course is also an optional programme course. Only one of the courses [EMSN30](#) and [EMSN40](#) may be included in a degree.*

Mathematics

Course Code	Credits	Cycle	Programme	Language		Course Name	Footnote	Links			
				S.Ex. stud.				15/16 sp1	15/16 sp2	15/16 sp3	15/16 sp4
EMA430	6	G1	B, BI, BME, K, L, N, V	-	S	Calculus in Several Variables	KS KE U W T	1			
EMA430			C, D, IDA, IEA						2		
EMA430			E, I, IBYA, IBYV, W							3	
EMA430			E, M, MD								4
EMAN20	7.5	A	BME, C, D, E, F, L, Pi	X	E1	Image Analysis	KS KE U W T	1			
EMAE30	5	G2	IBYA, IBYI, IBYV	-	S	Mathematical Statistics	KS KE U W T	1			
EMAE20	4	G2	IEA	-	S	Probability Theory	KS KE U W T	1			

Course Code	Credits	Cycle	Programme	S.Ex. stud.	Language	Course Name	Footnote	Links	15/16	15/16	15/16	15/16
									sp1	sp2	sp3	sp4
EMA661	7.5	G2	IDA	-	S	Probability Theory and Discrete Mathematics		KS KE U W T	1			
EMAA05	15	G1	B, BI, C, D, E, F, I, K, L, N, Pi, V, W	-	S	Calculus in One Variable		KS KE U W T	1	2		
EMA260	7.5	A	E, Pi	X	E1	Functional Analysis and Harmonic Analysis		KS KE U W T	1	2		
EMA120	6	A	BME, C, D, E, F, Pi	X	E1	Matrix Theory		KS KE U W T	1	2		
EMAN15	7.5	A	D, E, Pi	X	E	Nonlinear Dynamical Systems		KS KE U W T	1	2		
EMA645	13.5	G1	IBYA, IBYI, IBYV, IDA, IEA	-	S	Calculus		KS KE U W T	1	2	3	
EMAA01	15	G1	C, D, N	-	S	<i>Calculus in One Variable</i>		KS KE U W T	Examinations only			
EMAA01			BME, M, MD						1	2	3	

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				S.Ex. stud.				15/16 sp1	15/16 sp2	15/16 sp3	15/16 sp4
EMA085	4.5	G1	Pi	-	S	Mathematical Communication	KS KE U W T	1	2	3	4
EMA420	6	G1	C, E, Pi, W	-	S	Linear Algebra	X KS KE U W T	1			
EMA420			I, M, MD						2		
EMA420			BI, C, E, L, N, Y				X			3	
EMA420			BME, D								4
EMA01	7	G2	BME, E, N, Pi	-	S	Mathematics - Analytic Functions	KS KE U W T	1			
EMA01			BME, C, D, E, I				X			3	

Course Code	Credits	Cycle	Programme	Language		Course Name	Footnote	Links							
				S.Ex. stud.				15/16 sp1	15/16 sp2	15/16 sp3	15/16 sp4				
EMAF05	7	G2	BME, E, N, Pi	-	S	Mathematics - Systems and Transforms		KS	KE	U	W	T	2		
EMAF05			BME, C, D, E, I				X								4
EMAN35	3	A	D, E, E, Pi	-	E1	Project in Mathematics		KS	KE	U	W	T	2		
EMAN35			D, E, E, Pi												4
EMAN10	7.5	A	C, D, E, Pi	X	E1	Algebraic Structures	X	KS	KE	U	W	T		3	
EMAF10	5	G2	B, C, D, K, M, W	-	S	Applied Mathematics - Linear systems	X	KS	KE	U	W	T		3	
EMA270	6	A	BME, C, D, E, E, Pi	X	E1	Computer Vision		KS	KE	U	W	T		3	

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								15/16 sp1	15/16 sp2	15/16 sp3	15/16 sp4
EMAA20	7.5	G1	B , K	-	S	Linear Algebra with Introduction to Computer Tools	KS KE U W T			3	
EMA240	6	G2	BME , D , E , E , Pi	X	E1	Linear and Combinatorial Optimization	KS KE U W T			3	
EMA111	6	A	D , E , Pi	-	S	Mathematical Structures	KS KE U W T			3	
EMA021	7.5	A	D , E , E , M , Pi	-	S	Applied Mathematics	KS KE U W T			3	4
EMAN01	7.5	A	E , E , Pi , W	X	E1	Biomathematics	X KS KE U W T			3	4
EMA435	7.5	G1	Pi	-	S	Calculus in Several Variables	KS KE U W T			3	4
EMAN25	7.5	A	D , E , E , Pi	X	E1	Calculus of Variations	KS KE U W T			3	4

Course Code	Credits	Cycle		Programme	S.Ex. stud.	Language	Course Name	Footnote	Links			
									15/16 sp1	15/16 sp2	15/16 sp3	15/16 sp4
FMAF25	3	G2	Pi		-	S	Mathematical Modelling with Statistical Applications, Project	KS KE U W T				4
EMA656	4.5	G1	IBYA , IBYI , IBYV , IDA , IEA		-	S	Mathematics, Linear Algebra	KS KE U W T				4

[FMA420](#) (C) Linear Algebra: *Students in year 1 takes the course in study period 3. Students in year 2 takes the course in study period 1.*

[FMA420](#) (V) Linear Algebra: *The course is an admission requirement for [FMN140](#)*

[FMAF01](#) (D) Mathematics - Analytic Functions: *Can together with [FMAF05](#) replace [FMAF10](#). Can also be taken as an elective course in the 4th or 5th year.*

[FMAA10](#) (Pi) 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.*

[EMA051](#) (I) Optimization: *Compulsory course in the elective block 'Mathematical Modelling' for students admitted autumn 2013. The course is also an optional programme course.*

[FMA250](#) (E, Pi) Partial Differential Equations with Distribution Theory: *The course is offered every other academic year and will next be offered in 2016/17.*

[FMAF05](#) (C) Mathematics - Systems and Transforms: *Only one of the courses [FMAF05](#) and [FMAF10](#) may be included in a degree.*

[FMAF05](#) (D) Mathematics - Systems and Transforms: *Can together with [FMAF01](#) replace [FMAF10](#). Only one of the courses [FMAF05](#) and [FMAF10](#) may be included in a degree.*

[EMAN10](#) (C, D, E, Pi) Algebraic Structures: *The date and time of the exam is announced by the course lecturer. The course is to be studied together with MATM11, which is given by the division for Mathematics of the Faculty of Science.*

[FMAF10](#) (C) Applied Mathematics - Linear systems: *Only one of the courses [FMAF05](#) and [FMAF10](#) may be included in a degree.*

[FMAF10](#) (D) Applied Mathematics - Linear systems: *Can be replaced by [FMAF01](#) and [FMAF05](#) together. Only one of the courses [FMAF10](#) and [FMAF05](#) may be included in a degree.*

[EMAN01](#) (E, E, Pi, W) Biomathematics: *The course is offered every other academic year and will be given in 2015/16, 2017/18.*

Numerical Analysis

Course Code	Credits	Cycle	Programme	S.Ex. stud.	Language	Course Name	Footnote	Links	15/16	15/16	15/16	15/16
									sp1	sp2	sp3	sp4
EMNN25	7.5	A	D, E, E, Pi	X	E1	Advanced Course in Numerical Algorithms with Python/SciPy		KS KE U W T	1			
EMNN01	7.5	A	BME, E, Pi	X	E	Numerical Linear Algebra		KS KE U W T	1			
EMN100	6	A	C, D, E, E, Pi	X	E1	Numerical Methods in CAGD	X	KS KE U W T	1			
EMNN10	8	A	BME, E, I, Pi	X	E1	Numerical Methods for Differential Equations		KS KE U W T		2		
EMNN05	7.5	A	D, E, Pi	X	E1	Simulation Tools		KS KE U W T		2		
EMN140	6	G2	V	-	S	Scientific Computing		KS KE U W T		2	3	
EMNN15	4	A	E, Pi	X	E1	Multigrid Methods for Differential Equations	X	KS KE U W T			3	

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								15/16 sp1	15/16 sp2	15/16 sp3	15/16 sp4		
EMN011	6	G2	C, D	X	E1	Numerical Analysis		KS	KE	U	W	T	4
EMN050	6	G2	BME, E, I	X	E1	Numerical Analysis	X	KS	KE	U	W	T	4

[EMN100](#) (C, D, E, F) Numerical Methods in CAGD: *Please note that the contents of the course are partly (3 credits) the same as in [FMA135](#).*

[FMNN15](#) (E, Pi) Multigrid Methods for Differential Equations: *The course is offered every other academic year and will be given in 2015/16, 2017/18.*

[EMN050](#) (I) Numerical Analysis: *Compulsory course in the elective block 'Mathematical Modelling' for students admitted autumn 2013. The course is also an optional programme course.*

Bachelor's Projects of the Department

The list contains the bachelor's projects which are given by the department and which programme each bachelor's project is included in. The list is not necessarily complete before the academic year 2016/17.

Links

Course Code	Credits	Programme	Course Name	Links
FMSL01	15	C , D , E , F , I , Pi	Bachelor Project in Mathematical Statistics	KS KE U W
FMAL01	15	C , D , E , F , Pi	Bachelor Project in Mathematics	KS KE U
FMNL01	15	D , E , F	Bachelor Project in Numerical Analysis	KS KE U

Degree Projects of the Department

The list contains the degree projects which are given by the department and which programme each degree project is included in.

Links

Course Code	Credits	Programme	Course Name	Links
FMS820	30	BME , C , D , E , F , I , Pi , RH	Degree Project in Mathematical Statistics for Engineers	KS KE U W
FMA820	30	BME , C , D , E , F , I , M , Pi	Degree Project in Mathematics for Engineers	KS KE U W
FMN820	30	D , E , F , I , Pi	Degree Project in Numerical Analysis	KS KE U W