

Engineering Mathematics

Study Year 1, Academic Year 2010/11 (Mandatory Courses)

Course Code	Credits	Cycle	S.Ex. stud.	Language	Course Name	Footnote	Links	10/11 sp4
FMA420	6	G1	-	S	Linear Algebra		KS KE U W	
EMAA05	15	G1	-	S	Calculus in One Variable		KS KE U W	
FMA085	4.5	G1	-	S	Mathematical Communication		KS KE U W	1
FMA045	4.5	G1	-	S	Mathematical Modelling		KS KE U W	
EDA011	7.5	G1	-	S	Programming, First Course		KS KE U W	
FMA435	7.5	G1	-	S	Calculus in Several Variables		KS KE U W	1
EMEA15	7.5	G1	-	S	Mechanics - Statics and Dynamics		KS KE U W	1
FAF220	7.5	G1	-	S	Physics		KS KE U W	1

Study Year 2, Academic Year 2011/12 (Mandatory Courses)

Course Code	Credits	Cycle	S.Ex. stud.	Language		Footnote	Links	
EXTA40	6	G1	-	S		Introduction to Microeconomic Theory	KS KE U W T	
EMAF01	7	G2	-	S		Mathematics - Analytic Functions	KS KE U W T	
EDAA01	7.5	G1	-	S		Programming - Second Course	KS KE U W T	
EMAF05	7	G2	-	S		Mathematics - Systems and Transforms	KS KE U W T	
FMS012	9	G2	-	S		Mathematical Statistics, Basic Course	KS KE U W T	
ERT010	7.5	G2	-	E2		Automatic Control, Basic Course	KS KE U W T	
EMA021	7.5	A	-	S		Applied Mathematics	KS KE U W T	1
EMS045	6	G2	-	S		Stationary Stochastic Processes	KS KE U W T	1

Study Year 2, Academic Year 2011/12 (Elective Mandatory Courses)

Course Code	Credits	Cycle	S.Ex. stud.	Language		Footnote	Links	
ERT130	3	G2	-	E2		Control Theory	KS KE U W T	
EMA023	3	A	-	E1		Applied Mathematics, Project	KS KE U W T	1
EMS047	3	A	-	S		Stationary Stochastic Processes, Project Work	KS KE U W T	1

Study Year 3, Academic Year 2012/13 (Mandatory Courses)

Course Code	Credits	Cycle	S.Ex. stud.	Language	Course Name	Footnote	Links	12/13	12/13	12/13	12/13
								sp1	sp2	sp3	sp4
ETEF01	7	G2	-	S	Electromagnetic Field Theory		KS KE U W T	1			
EMA120	6	A	X	E2	Matrix Theory		KS KE U W T	1	2		
EMNN10	8	A	X	E1	Numerical Methods for Differential Equations		KS KE U W T		2		
EMIF10	6	G2	-	S	Environmental Systems Studies and Sustainable Development		KS KE U W T		2	3	
EMA111	6	A	-	S	Mathematical Structures		KS KE U W T			3	
EMNN15	4	A	X	E1	Multigrid Methods for Differential Equations		KS KE U W T			3	
TEK290	7.5	G2	X	E1	Biology, Introductory Course		KS KE U W T			3	4

Course Code	Credits	Cycle	S.Ex. stud.	Language	Course Name	Footnote	Links					
							12/13 sp1	12/13 sp2	12/13 sp3	12/13 sp4		
EDAF15	5	G2	-	S	Algorithm Implementation		KS	KE	U	W	T	4
FRT095	4.5	A	-	S	Mathematical Modelling, Advanced Course		KS	KE	U	W	T	4

Specialisation pv - Software

Course Code	Credits	Mand./ Elect.		Year	From year	S.Ex. stud.	Language		Course Name	Footnote	Links	
		Cycle										sp4
FMA190	6	A	V	2 - 11/12	2	X	E2		Algebra		KS KE U T	
FMA051	6	A	V	3 - 12/13	3	X	E1		Optimization		KS KE U W T	
FMA240	6	G2	V	3 - 12/13	3	X	E2		Linear and Combinatorial Optimization		KS KE U W T	
EDA040	6	G2	O	4 - 13/14	4	X	E1		Concurrent Programming		KS KE U W T	1
EDAF05	5	G2	O	4 - 13/14	4	-	S		Algorithms, Data Structures and Complexity		KS KE U W T	
EDAN55	7.5	A	V	4 - 13/14	4	X	E		Advanced Algorithms		KS KE U W T	1
EDAN20	7.5	A	V	4 - 13/14	4	X	E		Language Technology		KS KE U W T	1
FRTN01	10	A	V	4 - 13/14	4	X	E1		Real-Time Systems		KS KE U W T	1
EDAN10	7.5	A	V	4 - 13/14	4	X	E		Configuration Management		KS KE U W T	
EDIN01	7.5	A	V	4 - 13/14	4	X	E1		Cryptography		KS KE U W T	
EDAN40	7.5	A	V	4 - 13/14	4	X	E		Functional Programming		KS KE U W T	
FMNN05	7.5	A	V	4 - 13/14	4	X	E1		Simulation Tools		KS KE U W T	
EDAN01	7.5	A	V	4 - 13/14	4	X	E		Constraint Programming		KS KE U W T	
EDIN05	7.5	A	V	4 - 13/14	4	X	E1		Mathematical Cryptology		KS KE U W T	
ETS200	7.5	A	V	4 - 13/14	4	X	E		Software Testing		KS KE U W T	
EDA031	7.5	G2	V	4 - 13/14	4	X	S		C++ Programming		KS KE U W T	
EDA180	7.5	G2	V	4 - 13/14	4	X	E1		Compiler Construction		KS KE U W T	
EDA216	7.5	G2	V	4 - 13/14	4	X	S		Database Technology		KS KE U W T	

Course Code	Credits	Cycle	Mand./ Elect.	Year	From year	S.Ex. stud.	Language	Course Name	Footnote	Links
EDAN25	6	A	V	4 - 13/14	4	-	S	Multicore Programming		KS KE U W T

Specialisation ssr - Systems, Signals and Control

Course Code	Credits	Mand./ Elect.		Year	From year	S.Ex. stud.	Language	Course Name	Footnote	Links	sp4
		Cycle									
FMA190	6	A	V	2 - 11/12	2	X	E2	Algebra		KS KE U T	
EMA051	6	A	V	3 - 12/13	3	X	E1	Optimization		KS KE U W T	
EDA221	7.5	G2	V	4 - 13/14	4	X	E	Computer Graphics		KS KE U W T	1
ETT051	7.5	G2	V	4 - 13/14	4	X	E	Digital Communications		KS KE U W T	1
FMA170	6	A	V	4 - 13/14	4	X	E1	Image Analysis		KS KE U W T	1
EMSE15	7.5	G2	V	4 - 13/14	4	X	E1	Markov Processes		KS KE U W T	1
FRTN10	7.5	A	V	4 - 13/14	4	X	E1	Multivariable Control		KS KE U W T	1
ETT10	7.5	A	V	4 - 13/14	4	X	E1	Optimum Signal Processing		KS KE U W T	1

Course Code	Credits	Cycle	Mand./ Elect.	Year	From year	S.Ex. stud.	Language	Course Name	Footnote	Links	sp4
EIT020	9	G2	V	4 - 13/14	4	-	S	Design of Digital Circuits – A Systems Approach		KS KE U W T	1
EMA260	7.5	A	V	4 - 13/14	4	X	E1	Functional Analysis and Harmonic Analysis		KS KE U W T	1
EMA140	6	A	V	4 - 13/14	4	X	E1	Non-Linear Dynamical Systems		KS KE U W T	1
ETT05	7.5	A	V	4 - 13/14	4	X	E	Adaptive Signal Processing		KS KE U W T	
FMS051	7.5	A	V	4 - 13/14	4	X	E1	Mathematical Statistics, Time Series Analysis		KS KE U W T	
FMSN20	7.5	A	V	4 - 13/14	4	X	E1	Spatial Statistics with Image Analysis		KS KE U W T	
EMA270	6	A	V	4 - 13/14	4	X	E1	Computer Vision		KS KE U W T	
ERT05	7.5	A	V	4 - 13/14	4	X	E1	Non-Linear Control and Servo Systems		KS KE U W T	
FMSN35	7.5	A	V	4 - 13/14	4	X	E1	Stationary and Non-stationary Spectral Analysis		KS KE U W T	
FRT041	7.5	A	V	4 - 13/14	4	X	E1	System Identification		KS KE U W T	
EITN45	7.5	A	V	4 - 13/14	4	X	E1	Information Theory		KS KE U T	

Specialisation bm - Biological and Medical Modelling

Course Code	Credits	Mand./ Elect.		Year	From year	S.Ex. stud.	Language	Course Name	Footnote	Links	sp4
		Cycle									
EMA051	6	A	V	3 - 12/13	3	X	E1	Optimization		KS KE U W T	
TEK292	7.5	A	V	4 - 13/14	4	-	S	Biological Systems	X	KS KE U W T	1
FHLE05	7.5	G2	V	4 - 13/14	4	X	E	Biomechanics	X	KS KE U W T	1
EMA170	6	A	V	4 - 13/14	4	X	E1	Image Analysis		KS KE U W T	1
EMSE15	7.5	G2	V	4 - 13/14	4	X	E1	Markov Processes		KS KE U W T	1
TEK267	7.5	A	V	4 - 13/14	4	X	E	Theoretical Biophysics	X	KS KE U W T	1
EMA140	6	A	V	4 - 13/14	4	X	E1	Non-Linear Dynamical Systems		KS KE U W T	1
EEME05	7.5	G2	V	4 - 13/14	4	-	S	Biomedical Measurements	X	KS KE U W T	
FMS051	7.5	A	V	4 - 13/14	4	X	E1	Mathematical Statistics, Time Series Analysis		KS KE U W T	
FAFF20	7.5	G2	V	4 - 13/14	4	X	E	Multi-spectral Imaging		KS KE U W T	
TEK171	7.5	A	V	4 - 13/14	4	-	S	Quantitative Human Physiology		KS KE U W T	

Course Code	Credits	Mand./ Elect.		Year	From year	S.Ex. stud.	Language		Course Name	Footnote	Links	
		Cycle										
EMSN10	7.5	A	V	4 - 13/14	4	X	E1		Survival Analysis	X	KS KE U W T	
FMS091	7.5	A	V	4 - 13/14	4	X	E1		Monte Carlo and Empirical Methods for Stochastic Inference		KS KE U W T	
FMAN01	7.5	A	V	4 - 13/14	4	X	E1		Biomathematics	X	KS KE U T	
ETIF15	7.5	G2	V	4 - 13/14	4	X	E1		Biomedical Signal Processing		KS KE U W T	
FMS072	7.5	G2	V	4 - 13/14	4	X	E1		Design of Experiments		KS KE U W T	
KFK090	7.5	G2	V	4 - 13/14	4	-	S		Molecular Interactions and Dynamics		KS KE U W T	

[TEK292](#) Biological Systems: *The course is offered every other academic year and will be given in 2013/14, 2015/16.*

[FHLF05](#) Biomechanics: *Replaces the course [FHL110](#).*

[TEK267](#) Theoretical Biophysics: *The course is given by the Faculty of Science and does not follow the study period structure.*

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

[EMSN10](#) Survival Analysis: *The course is offered every other academic year and will be given in 2013/14, 2015/16.*

[FMAN01](#) Biomathematics: *The course is offered every other academic year and will be given in 2013/14, 2015/16.*

Specialisation bs - Computation and Simulation

Course Code	Credits	Mand./ Elect.		Year	From year	S.Ex. stud.	Language	Course Name	Footnote	Links	sp4
		Cycle									
EMA051	6	A	V	3 - 12/13	3	X	E1	Optimization		KS KE U W T	
VSMN25	7.5	A	O	4 - 13/14	4	X	E1	The Finite Element Method - Flow Analysis		KS KE U W T	1
EHLN05	7.5	A	V	4 - 13/14	4	-	S	Computational Inelasticity		KS KE U W T	1
EMEN20	8	A	V	4 - 13/14	4	X	E	Continuum Mechanics		KS KE U W T	1
ETEN05	7.5	A	V	4 - 13/14	4	X	E	Electromagnetic Wave Propagation		KS KE U W T	1
EMNN01	7.5	A	V	4 - 13/14	4	X	E	Numerical Linear Algebra		KS KE U W T	1
EMA260	7.5	A	V	4 - 13/14	4	X	E1	Functional Analysis and Harmonic Analysis		KS KE U W T	1
EHL066	7.5	A	V	4 - 13/14	4	X	S	Finite Element Method for Non-linear Systems		KS KE U W T	
EMEN10	8	A	V	4 - 13/14	4	X	E	Mechanical Vibrations		KS KE U W T	
EMNN20	7.5	A	V	4 - 13/14	4	X	E1	Numerical Analysis for Elliptic and Parabolic Differential Equations	X	KS KE U T	

Course Code	Credits	Mand./ Elect.		Year	From year	S.Ex. stud.	Language		Course Name	Footnote	Links	
		Cycle										sp4
FMNN05	7.5	A	V	4 - 13/14	4	X	E1		Simulation Tools		KS KE U W T	
EHL105	4.5	G1	V	4 - 13/14	4	-	S		Solid Mechanics, Basic Course		KS KE U W T	
VSMN30	7.5	A	V	4 - 13/14	4	X	E1		The Finite Element Method - Structural Analysis		KS KE U W T	
MMV211	7.5	G2	V	4 - 13/14	4	X	S		Fluid Mechanics		KS KE U W T	
FMS091	7.5	A	V	4 - 13/14	4	X	E1		Monte Carlo and Empirical Methods for Stochastic Inference		KS KE U W T	
VSMN10	7.5	A	V	4 - 13/14	4	X	E1		Structural Dynamic Computing		KS KE U W T	
FMA200	6	A	V	4 - 13/14	4	X	E1		Calculus of Variations		KS KE U T	
MVKN45	7.5	A	V	4 - 13/14	4	X	E		Applied Computational Fluid Mechanics		KS KE U W T	
KFK090	7.5	G2	V	4 - 13/14	4	-	S		Molecular Interactions and Dynamics		KS KE U W T	
EMA250	7.5	A	V	4 - 13/14	4	X	E1		Partial Differential Equations with Distribution Theory	X	KS KE U W T	Course on hold

[FMNN20](#) Numerical Analysis for Elliptic and Parabolic Differential Equations: *The course is offered every other academic year and will be given in 2013/14, 2015/16.*

[FMA250](#) Partial Differential Equations with Distribution Theory: *The course is offered every other academic year and will next be offered in 2014/15.*

Specialisation fm - Financial Modelling

Course Code	Credits	Mand./ Elect.		Year	From year	S.Ex. stud.	Language	Course Name	Footnote	Links	sp4
		Cycle									
FMA051	6	A	V	3 - 12/13	3	X	E1	Optimization		KS KE U W T	
FMA240	6	G2	V	3 - 12/13	3	X	E2	Linear and Combinatorial Optimization		KS KE U W T	
EXTF45	6	G2	O	4 - 13/14	4	-	S	Financial Management		KS KE U W T	
FMSF15	7.5	G2	V	4 - 13/14	4	X	E1	Markov Processes		KS KE U W T	1
EXTF50	7.5	G2	V	4 - 13/14	4	-	S	Microeconomic Analysis	X	KS KE U W T	1
FMA140	6	A	V	4 - 13/14	4	X	E1	Non-Linear Dynamical Systems		KS KE U W T	1
EXTN80	7.5	A	V	4 - 13/14	4	X	E	Economic and Financial Decision-making	X	KS KE U W T	
TEK110	7.5	A	V	4 - 13/14	4	X	E	Economics, Empirical Finance	X	KS KE U W T	
FMS161	7.5	A	V	4 - 13/14	4	X	E1	Financial Statistics		KS KE U W T	
FMS051	7.5	A	V	4 - 13/14	4	X	E1	Mathematical Statistics, Time Series Analysis		KS KE U W T	
FMF170	7.5	G2	V	4 - 13/14	4	X	E	Complex Economy	X	KS KE U W T	
TEK180	7.5	A	V	4 - 13/14	4	X	E	Financial Valuation and Risk Management	X	KS KE U W T	
EXTF50	7.5	G2	V	4 - 13/14	4	-	S	Microeconomic Analysis	X	KS KE U W T	
FMS091	7.5	A	V	4 - 13/14	3	X	E1	Monte Carlo and Empirical Methods for Stochastic Inference		KS KE U W T	
FMSF05	7.5	G2	V	4 - 13/14	4	X	E1	Probability Theory		KS KE U W T	
FMA200	6	A	V	4 - 13/14	4	X	E1	Calculus of Variations		KS KE U T	
FRTN20	7.5	A	V	4 - 13/14	4	X	E1	Market-driven Systems		KS KE U W T	
FMS155	7.5	A	V	4 - 13/14	4	X	E1	Statistical Modelling of Extreme Values		KS KE U W T	

Course Code	Credits	Cycle	Mand./ Elect.	Year	From year	S.Ex. stud.	Language	Course Name	Footnote	Links	sp4
TEK103	7.5	A	V	5 - 14/15	4	X	E	Financial Economics, Advanced Course	X	KS KE U W T	1
EMSN25	7.5	A	V	5 - 14/15	4	X	E1	Valuation of Derivative Assets		KS KE U W T	1

[EXTE50](#) Microeconomic Analysis: *The course is to be studied together with NEKG21, 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.*

[TEK110](#) 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.*

[FMF170](#) Complex Economy: *The course is offered every other academic year and will be given in 2013/14, 2015/16.*

[TEK180](#) 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.*

[TEK103](#) 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 mrk - Environment, Risk and Climate

Course Code	Credits	Mand./ Elect.		Year	From year	S.Ex. stud.	Language	Course Name	Footnote	Links	sp4
		Cycle									
EMA051	6	A	V	3 - 12/13	3	X	E1	Optimization		KS KE U W T	
TEK292	7.5	A	V	4 - 13/14	4	-	S	Biological Systems	X	KS KE U W T	1
VVRN10	7.5	A	V	4 - 13/14	4	X	E	Rainfall Runoff Modelling		KS KE U W T	1
EMS065	7.5	G2	V	4 - 13/14	4	-	E1	Statistical Methods for Safety Analysis		KS KE U W T	1
EXTP20	15	A	V	4 - 13/14	3	X	E	Climate Change and its Impacts on the Environment	X	KS KE U W	1
EMA140	6	A	V	4 - 13/14	4	X	E1	Non-Linear Dynamical Systems		KS KE U W T	1
VBR180	15	A	V	4 - 13/14	4	-	S	Risk Analysis Methods		KS KE U	1
EMS051	7.5	A	V	4 - 13/14	4	X	E1	Mathematical Statistics, Time Series Analysis		KS KE U W T	
FAFF20	7.5	G2	V	4 - 13/14	4	X	E	Multi-spectral Imaging		KS KE U W T	
FMSN20	7.5	A	V	4 - 13/14	4	X	E1	Spatial Statistics with Image Analysis		KS KE U W T	
FMSN10	7.5	A	V	4 - 13/14	4	X	E1	Survival Analysis	X	KS KE U W T	

Course Code	Credits	Cycle	Mand./ Elect.		Year	From year	S.Ex. stud.	Language	Course Name	Footnote	Links	sp4
FMS091	7.5	A	V		4 - 13/14	4	X	E1	Monte Carlo and Empirical Methods for Stochastic Inference		KS KE U W T	
FMSF05	7.5	G2	V		4 - 13/14	3	X	E1	Probability Theory		KS KE U W T	
FMS072	7.5	G2	V		4 - 13/14	4	X	E1	Design of Experiments		KS KE U W T	
EXTN15	7.5	A	V		4 - 13/14	4	X	E	Remote Sensing, Digital Methods	X	KS KE U W T	
FMS155	7.5	A	V		4 - 13/14	4	X	E1	Statistical Modelling of Extreme Values		KS KE U W T	

[TEK292](#) Biological Systems: *The course is offered every other academic year and will be given in 2013/14, 2015/16.*

[EXTP20](#) Climate Change and its Impacts on the Environment: *The date and time of the exam is announced by the course lecturer.*

[FMSN10](#) Survival Analysis: *The course is offered every other academic year and will be given in 2013/14, 2015/16.*

[EXTN15](#) Remote Sensing, Digital Methods: *The date and time of the exam is announced by the course lecturer.*

Elective Courses - Pi

Course Code	Credits	Cycle		Language			Course Name	Footnote	Links	
		Year	From year	S.Ex. stud.						sp4
FMA135	6	G1	1 - 10/11	1	X	E2	Geometry		KS KE U W	
FMA091	6	G1	1 - 10/11	1	-	S	Discrete Mathematics		KS KE U W	
FMF061	4.5	G2	2 - 11/12	2	-	S	Theory of Relativity		KS KE U W T	
FMA190	6	A	2 - 11/12	2	X	E2	Algebra		KS KE U T	
FMIF20	7.5	G2	3 - 12/13	3	X	E	Environmental Issues		KS KE U W T	1
FMA125	3	A	3 - 12/13	3	-	E1	Matrix Theory, Project		KS KE U T	
FMA051	6	A	3 - 12/13	3	X	E1	Optimization		KS KE U W T	
FMA240	6	G2	3 - 12/13	3	X	E2	Linear and Combinatorial Optimization		KS KE U W T	
FMSN05	3	A	3 - 12/13	3	X	E	International Project Course-Mathematical Modelling	X	KS KE U W T	
EDAN55	7.5	A	4 - 13/14	4	X	E	Advanced Algorithms		KS KE U W T	1
FMNN25	7.5	A	4 - 13/14	4	X	E1	Advanced Course in Numerical Algorithms with Python/SciPy		KS KE U W T	1
TEK292	7.5	A	4 - 13/14	4	-	S	Biological Systems	X	KS KE U W T	1
FHLEF05	7.5	G2	4 - 13/14	4	X	E	Biomechanics	X	KS KE U W T	1

Course Code	Credits	Cycle		From year	S.Ex. stud.	Language		Course Name	Footnote	Links	
		Year									sp4
EDAA25	3	G1	4 - 13/14	4	X	S		C Programming		KS KE U W T	1
FHLN05	7.5	A	4 - 13/14	4	-	S		Computational Inelasticity		KS KE U W T	1
ETS052	4.5	G2	4 - 13/14	4	-	S		Computer Communication		KS KE U W T	1
EDA221	7.5	G2	4 - 13/14	4	X	E		Computer Graphics		KS KE U W T	1
FMEN20	8	A	4 - 13/14	4	X	E		Continuum Mechanics		KS KE U W T	1
ETT051	7.5	G2	4 - 13/14	4	X	E		Digital Communications		KS KE U W T	1
ETIN20	7.5	A	4 - 13/14	4	X	E		Digital IC-design		KS KE U W T	1

Course Code	Credits	Cycle		Language			Course Name	Footnote	Links	
		Year	From year	S.Ex. stud.						sp4
ETEN05	7.5	A	4 - 13/14	4	X	E	Electromagnetic Wave Propagation		KS KE U W T	1
EDI042	7.5	A	4 - 13/14	4	X	E	Error Control Coding		KS KE U W T	1
EMA170	6	A	4 - 13/14	4	X	E1	Image Analysis		KS KE U W T	1
EDAN20	7.5	A	4 - 13/14	4	X	E	Language Technology		KS KE U W T	1
MTTF01	5	G2	4 - 13/14	4	-	S	Logistics		KS KE U W T	1
MIO012	6	G1	4 - 13/14	4	-	S	Managerial Economics, Basic Course	X	KS KE U W T	1
EMSF15	7.5	G2	4 - 13/14	4	X	E1	Markov Processes		KS KE U W T	1

Course Code	Credits	Cycle		From year	S.Ex. stud.	Language	Course Name	Footnote	Links	sp4
		Year								
EXTF50	7.5	G2	4 - 13/14	4	-	S	Microeconomic Analysis	X	KS KE U W T	1
ERTN10	7.5	A	4 - 13/14	4	X	E1	Multivariable Control		KS KE U W T	1
EMNN01	7.5	A	4 - 13/14	4	X	E	Numerical Linear Algebra		KS KE U W T	1
EDA230	7.5	A	4 - 13/14	4	X	S	Optimising Compilers		KS KE U W T	1
ETTN10	7.5	A	4 - 13/14	4	X	E1	Optimum Signal Processing		KS KE U W T	1
EMEN05	7.5	A	4 - 13/14	4	-	E1	Project - Engineering Mechanics		KS KE U W T	1
VVRN10	7.5	A	4 - 13/14	4	X	E	Rainfall Runoff Modelling		KS KE U W T	1

Course Code	Credits	Cycle		Language			Course Name	Footnote	Links	
		Year	From year	S.Ex. stud.						sp4
ETSN05	7.5	A	4 - 13/14	4	-	S	Software Development for Large Systems		KS KE U W T	1
EMS065	7.5	G2	4 - 13/14	4	-	E1	Statistical Methods for Safety Analysis		KS KE U W T	1
VSMN25	7.5	A	4 - 13/14	4	X	E1	The Finite Element Method - Flow Analysis		KS KE U W T	1
TEK267	7.5	A	4 - 13/14	4	X	E	Theoretical Biophysics	X	KS KE U W T	1
KFK080	7.5	G1	4 - 13/14	4	-	S	Thermodynamics		KS KE U W T	1
EIEF01	10	G2	4 - 13/14	4	X	E1	Applied Mechatronics		KS KE U W T	1
EDA040	6	G2	4 - 13/14	4	X	E1	Concurrent Programming		KS KE U W T	1

Course Code	Credits	Cycle		Language			Course Name	Footnote	Links	sp4
		Year	From year	S.Ex. stud.						
EIT020	9	G2	4 - 13/14	4	-	S	Design of Digital Circuits – A Systems Approach		KS KE U W T	1
EMI050	7.5	A	4 - 13/14	4	-	S	Energy Systems Analysis: Energy, Environment and Natural Resources		KS KE U W T	1
GEMA20	7.5	G1	4 - 13/14	1	-	E	English for Engineers		KS KE U W T	1
FMA260	7.5	A	4 - 13/14	4	X	E1	Functional Analysis and Harmonic Analysis		KS KE U W T	1
GEMA25	7.5	G1	4 - 13/14	1	-	S	German for Engineers		KS KE U W T	1
GEMA50	4.5	G1	4 - 13/14	1	-	S	History of Technology		KS KE U W T	1
GEMA60	7.5	G1	4 - 13/14	1	-	S	Law for Engineers, Introductory Course in Business Law		KS KE U W T	1

Course Code	Credits	Cycle		Language			Course Name	Footnote	Links	
		Year	From year	S.Ex. stud.					sp4	
EMA140	6	A	4 - 13/14	4	X	E1	Non-Linear Dynamical Systems		KS KE U W T	1
ERTN15	7.5	A	4 - 13/14	4	X	E1	Predictive Control		KS KE U W T	1
EIE061	7.5	A	4 - 13/14	4	X	E1	Project in Industrial Electrical Engineering and Automation		KS KE U W T	1
ERTN01	10	A	4 - 13/14	4	X	E1	Real-Time Systems		KS KE U W T	1
VBR180	15	A	4 - 13/14	4	-	S	Risk Analysis Methods		KS KE U	1
GEMA70	15	G1	4 - 13/14	1	-	S	Japanese for Engineers		KS KE U W T	1
MVKN05	7.5	A	4 - 13/14	4	-	S	Project - Formula Student		KS KE U W T	1
ETTNO5	7.5	A	4 - 13/14	4	X	E	Adaptive Signal Processing		KS KE U W T	
ETEN10	7.5	A	4 - 13/14	4	X	E	Antenna Technology		KS KE U W T	

Course Code	Credits	Cycle		Language			Course Name	Footnote	Links	
		Year	From year	S.Ex. stud.						sp4
FHLN15	7.5	A	4 - 13/14	4	X	E	Biomechanics, Advanced Course		KS KE U T	
EEMF05	7.5	G2	4 - 13/14	4	-	S	Biomedical Measurements	X	KS KE U W T	
TEK210	4.5	G1	4 - 13/14	4	-	S	Cognition		KS KE U W T	
EDAN10	7.5	A	4 - 13/14	4	X	E	Configuration Management		KS KE U W T	
EDIN01	7.5	A	4 - 13/14	4	X	E1	Cryptography		KS KE U W T	
EXTN80	7.5	A	4 - 13/14	4	X	E	Economic and Financial Decision-making	X	KS KE U W T	
TEK110	7.5	A	4 - 13/14	4	X	E	Economics, Empirical Finance	X	KS KE U W T	
EXTF45	6	G2	4 - 13/14	4	-	S	Financial Management		KS KE U W T	
FMS161	7.5	A	4 - 13/14	4	X	E1	Financial Statistics		KS KE U W T	
FHL066	7.5	A	4 - 13/14	4	X	S	Finite Element Method for Non-linear Systems		KS KE U W T	
EDAN40	7.5	A	4 - 13/14	4	X	E	Functional Programming		KS KE U W T	
EDAN35	7.5	A	4 - 13/14	4	X	E	High Performance Computer Graphics		KS KE U W T	
FMA175	3	A	4 - 13/14	4	X	E1	Image Analysis, Project		KS KE U W T	
EITF25	6	G2	4 - 13/14	4	X	E	Internet - Techniques and Applications		KS KE U W T	
EDAN60	7.5	A	4 - 13/14	4	X	E1	Language Technology: Project		KS KE U W T	
MIO012	6	G1	4 - 13/14	4	-	S	Managerial Economics, Basic Course	X	KS KE U W T	
FMS051	7.5	A	4 - 13/14	4	X	E1	Mathematical Statistics, Time Series Analysis		KS KE U W T	
FMEN10	8	A	4 - 13/14	4	X	E	Mechanical Vibrations		KS KE U W T	
EXTP15	7.5	A	4 - 13/14	4	-	E	Microeconomics - Individual Choice	X	KS KE U T	
FAFF20	7.5	G2	4 - 13/14	4	X	E	Multi-spectral Imaging		KS KE U W T	
FMA145	3	A	4 - 13/14	4	X	E1	Non-linear Dynamical Systems, Project		KS KE U W T	
FMNN20	7.5	A	4 - 13/14	4	X	E1	Numerical Analysis for Elliptic and Parabolic Differential Equations	X	KS KE U T	
FRTF01	5	G2	4 - 13/14	4	-	S	Physiological Models and Computations		KS KE U W T	
FMEN05	7.5	A	4 - 13/14	4	-	E1	Project - Engineering Mechanics		KS KE U W T	
TEK171	7.5	A	4 - 13/14	4	-	S	Quantitative Human Physiology		KS KE U W T	
FMNN05	7.5	A	4 - 13/14	4	X	E1	Simulation Tools		KS KE U W T	
FHL105	4.5	G1	4 - 13/14	4	-	S	Solid Mechanics, Basic Course		KS KE U W T	
FMSN20	7.5	A	4 - 13/14	4	X	E1	Spatial Statistics with Image Analysis		KS KE U W T	
FMSN10	7.5	A	4 - 13/14	4	X	E1	Survival Analysis	X	KS KE U W T	
VSMN30	7.5	A	4 - 13/14	4	X	E1	The Finite Element Method - Structural Analysis		KS KE U W T	
FME150	7.5	A	4 - 13/14	4	X	E1	Thermodynamics and Statistical Physics		KS KE U W T	
MVK140	7.5	A	4 - 13/14	4	X	E	Turbulence – Theory and Modelling		KS KE U W T	
EDA260	6	G2	4 - 13/14	4	-	S	Software Development in Teams – Project		KS KE U W T	

Course Code	Credits	Cycle		From year	S.Ex. stud.	Language		Course Name	Footnote	Links	
		Year									
ETEN15	7.5	A	4 - 13/14	4	X	E1		Accelerators, Particles and Fields		KS KE U W T	
ETIN80	7.5	A	4 - 13/14	4	X	E1		Algorithms in Signal Processors – Project Course		KS KE U W T	
EDA132	7.5	G2	4 - 13/14	4	X	E		Applied Artificial Intelligence		KS KE U W T	
MMKF15	7.5	G2	4 - 13/14	4	X	E1		Applied Robotics		KS KE U W T	
FMS210	7.5	G2	4 - 13/14	4	-	S		Chemometrics		KS KE U T	
FMF170	7.5	G2	4 - 13/14	4	X	E		Complex Economy	X	KS KE U W T	
EIT070	6	G2	4 - 13/14	4	-	S		Computer Organization		KS KE U W T	
FMA270	6	A	4 - 13/14	4	X	E1		Computer Vision		KS KE U W T	
EDAN01	7.5	A	4 - 13/14	4	X	E		Constraint Programming		KS KE U W T	
FFFF01	7.5	G2	4 - 13/14	4	-	S		Electronic Materials		KS KE U W T	
TEK180	7.5	A	4 - 13/14	4	X	E		Financial Valuation and Risk Management	X	KS KE U W T	
MMV211	7.5	G2	4 - 13/14	4	X	S		Fluid Mechanics		KS KE U W T	
MIO040	6	G2	4 - 13/14	4	-	S		Managerial Economics, Advanced Course		KS KE U W T	
EDIN05	7.5	A	4 - 13/14	4	X	E1		Mathematical Cryptology		KS KE U W T	
EXTF50	7.5	G2	4 - 13/14	4	-	S		Microeconomic Analysis	X	KS KE U W T	
EXTP10	7.5	A	4 - 13/14	4	-	E		Microeconomics - Strategic Interaction	X	KS KE U T	
FMS091	7.5	A	4 - 13/14	4	X	E1		Monte Carlo and Empirical Methods for Stochastic Inference		KS KE U W T	
FRTN05	7.5	A	4 - 13/14	4	X	E1		Non-Linear Control and Servo Systems		KS KE U W T	
ETIA10	7.5	G1	4 - 13/14	4	X	E		Patent and Intellectual Property Rights		KS KE U W T	
FMSF05	7.5	G2	4 - 13/14	4	X	E1		Probability Theory		KS KE U W T	
FMEN05	7.5	A	4 - 13/14	4	-	E1		Project - Engineering Mechanics		KS KE U W T	
ETS200	7.5	A	4 - 13/14	4	X	E		Software Testing		KS KE U W T	
FMSN35	7.5	A	4 - 13/14	4	X	E1		Stationary and Non-stationary Spectral Analysis		KS KE U W T	
VSMN10	7.5	A	4 - 13/14	4	X	E1		Structural Dynamic Computing		KS KE U W T	
FHLN01	7.5	A	4 - 13/14	4	X	E		Structural Optimization		KS KE U W T	
FMAN01	7.5	A	4 - 13/14	4	X	E1		Biomathematics	X	KS KE U T	
EDA031	7.5	G2	4 - 13/14	4	X	S		C++ Programming		KS KE U W T	
FMA200	6	A	4 - 13/14	4	X	E1		Calculus of Variations		KS KE U T	
GEMA65	7.5	G1	4 - 13/14	1	-	S		Chinese for Engineers		KS KE U T	
EDA180	7.5	G2	4 - 13/14	4	X	E1		Compiler Construction		KS KE U W T	
EDA216	7.5	G2	4 - 13/14	4	X	S		Database Technology		KS KE U W T	
EIEN20	7.5	A	4 - 13/14	4	X	E1		Design of Electrical Machines		KS KE U W T	

Course Code	Credits	Cycle		Language			Course Name	Footnote	Links	sp4
		Year	From year	S.Ex. stud.						
FMI040	7.5	A	4 - 13/14	4	-	S	Energy Systems Analysis: Renewable Sources of Energy		KS KE U W T	
GEMA20	7.5	G1	4 - 13/14	1	-	E	English for Engineers		KS KE U W T	
GEMA40	7.5	G1	4 - 13/14	1	-	S	Entrepreneurship and Business Development		KS KE U W T	
FMIN05	7.5	A	4 - 13/14	4	-	S	Environmental System Studies: Climate, Science and Politics		KS KE U W T	
GEMA01	7.5	G1	4 - 13/14	1	-	S	French for Engineers: Language, Culture and Society, First Course		KS KE U W T	
GEMA60	7.5	G1	4 - 13/14	1	-	S	Law for Engineers, Introductory Course in Business Law		KS KE U W T	
GEMA55	6	G1	4 - 13/14	1	-	S	Medicine for Engineers		KS KE U W T	
EIE061	7.5	A	4 - 13/14	4	X	E1	Project in Industrial Electrical Engineering and Automation		KS KE U W T	
FRT041	7.5	A	4 - 13/14	4	X	E1	System Identification		KS KE U W T	
GEMA45	3	G1	4 - 13/14	1	-	S	Teaching and Learning		KS KE U W T	
EDAF05	5	G2	4 - 13/14	4	-	S	Algorithms, Data Structures and Complexity		KS KE U W T	
MVKN45	7.5	A	4 - 13/14	4	X	E	Applied Computational Fluid Mechanics		KS KE U W T	
ETIF15	7.5	G2	4 - 13/14	4	X	E1	Biomedical Signal Processing		KS KE U W T	
FMA272	3	A	4 - 13/14	4	X	E1	Computer Vision, Project		KS KE U T	
FMS072	7.5	G2	4 - 13/14	4	X	E1	Design of Experiments		KS KE U W T	
ETE115	7.5	G2	4 - 13/14	3	-	S	Electromagnetics and Electronics		KS KE U W T	
FMI070	7.5	A	4 - 13/14	4	X	E	Environmental Issues, Thematic Course		KS KE U W T	
FHL090	7.5	A	4 - 13/14	4	X	E1	Fracture Mechanics, Advanced Course		KS KE U W T	
EITN45	7.5	A	4 - 13/14	4	X	E1	Information Theory		KS KE U T	
EDAN50	7.5	A	4 - 13/14	4	X	E1	Intelligent Systems - Project		KS KE U W T	
FMSN30	7.5	A	4 - 13/14	4	X	E1	Linear and Logistic Regression		KS KE U W T	
MIO040	6	G2	4 - 13/14	4	-	S	Managerial Economics, Advanced Course		KS KE U W T	
FRTN20	7.5	A	4 - 13/14	4	X	E1	Market-driven Systems		KS KE U W T	
FAF150	7.5	A	4 - 13/14	4	X	E	Medical Optics	X	KS KE U W T	
FHLN10	7.5	A	4 - 13/14	3	X	E	Modern Experimental Mechanics		KS KE U T	
KFK090	7.5	G2	4 - 13/14	4	-	S	Molecular Interactions and Dynamics		KS KE U W T	
EDAN25	6	A	4 - 13/14	4	-	S	Multicore Programming		KS KE U W T	
EMEN25	7.5	A	4 - 13/14	4	X	E1	Nano Mechanics and Multiscale Modelling		KS KE U W T	
EDA050	4.5	G2	4 - 13/14	4	X	S	Operating Systems		KS KE U W T	

Course Code	Credits	Cycle	Language				Course Name	Footnote	Links	sp4
			Year	From year	S.Ex. stud.					
EDAF01	3	G2	4 - 13/14	4	X	S	Operating Systems - Project		KS KE U W T	
EDAN30	7.5	A	4 - 13/14	4	X	E	Photo-realistic Computer Graphics		KS KE U W T	
FMEN05	7.5	A	4 - 13/14	4	-	E1	Project - Engineering Mechanics		KS KE U W T	
FRT090	7.5	A	4 - 13/14	4	X	E1	Project in Automatic Control		KS KE U W T	
EXTN15	7.5	A	4 - 13/14	4	X	E	Remote Sensing, Digital Methods	X	KS KE U W T	
ETIF10	7.5	G2	4 - 13/14	4	X	E1	Signal Processing - Design and Implementation		KS KE U W T	
ETS061	7.5	A	4 - 13/14	4	X	E1	Simulation		KS KE U W T	
VSMN20	7.5	A	4 - 13/14	4	-	S	Software Development for Technical Applications		KS KE U W T	
FMS155	7.5	A	4 - 13/14	4	X	E1	Statistical Modelling of Extreme Values		KS KE U W T	
MAMN10	7.5	A	4 - 13/14	4	-	S	Interaction 1: Neuro modelling, Cognitive Robotics and Agents	X	KS KE U W T	Course on hold
MAMN15	7.5	A	4 - 13/14	4	-	S	Interaction 2: Virtuality and Cognitive Modelling	X	KS KE U W T	Course on hold
FMA250	7.5	A	4 - 13/14	4	X	E1	Partial Differential Equations with Distribution Theory	X	KS KE U W T	Course on hold
EITN35	7.5	A	5 - 14/15	4	X	E1	Advanced Course in Electrical and Information Technology	X	KS KE U W T	1
EITN35								X		
FMSN15	7.5	A	5 - 14/15	5	X	E1	Statistical Modelling of Multivariate Extreme Values		KS KE U W T	
EITN35	7.5	A	5 - 14/15	4	X	E1	Advanced Course in Electrical and Information Technology	X	KS KE U W T	
EITN35								X		
MVK135	7.5	A	5 - 14/15	4	X	E	Turbulent Combustion	X	KS KE U W T	Course on hold

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

[TEK292](#) Biological Systems: *The course is offered every other academic year and will be given in 2013/14, 2015/16.*

[FHLF05](#) Biomechanics: *Replaces the course [FHL110](#).*

[MIO012](#) Managerial Economics, Basic Course: *Only one of the courses [MIO012](#) and [MIOA01](#) may be included in a degree.*

[EXTF50](#) Microeconomic Analysis: *The course is to be studied together with NEKG21, which is given by the Department of Economics. Does not follow the study period structure.*

[TEK267](#) Theoretical Biophysics: *The course is given by the Faculty of Science and does not follow the study period structure.*

[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.*

[TEK110](#) 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.*

[EXTP15](#) Microeconomics - Individual Choice: *The course is to be studied together with NEKP21, which is given by the Department of Economics. Does not follow the study period structure.*

[FMNN20](#) Numerical Analysis for Elliptic and Parabolic Differential Equations: *The course is offered every other academic year and will be given in 2013/14, 2015/16.*

[FMSN10](#) Survival Analysis: *The course is offered every other academic year and will be given in 2013/14, 2015/16.*

[FMF170](#) Complex Economy: *The course is offered every other academic year and will be given in 2013/14, 2015/16.*

[TEK180](#) 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.*

[EXTP10](#) Microeconomics - Strategic Interaction: *The course is offered every other academic year and will be offered in 2013/14, 2015/16.*

[EMAN01](#) Biomathematics: *The course is offered every other academic year and will be given in 2013/14, 2015/16.*

[FAF150](#) Medical Optics: *Examination for higher grade after agreement with the course coordinator.*

[EXTN15](#) Remote Sensing, Digital Methods: *The date and time of the exam is announced by the course lecturer.*

[MAMN10](#) Interaction 1: Neuro modelling, Cognitive Robotics and Agents: *The course is offered every other academic year and will next be offered in 2014/15.*

[MAMN15](#) Interaction 2: Virtuality and Cognitive Modelling: *The course is offered every other academic year and will next be offered in 2014/15.*

[FMA250](#) Partial Differential Equations with Distribution Theory: *The course is offered every other academic year and will next be offered in 2014/15.*

[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.*

[MVK135](#) Turbulent Combustion: *The course is offered every other academic year and will next be offered in 2015/16.*

Bachelor's Projects - Pi

The list contains the bachelor's projects that are included in the Pi programme. The list is not necessarily complete before the academic year 2016/17.

Links

Course Code Credits

Course Name

FMSL01	15	Bachelor Project in Mathematical Statistics KS KE U W
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Degree Projects - Pi

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

Links

Course Code	Credits	Course Name	Links
FRT820	30	Degree Project in Automatic Control for Engineers	KS KE U W
FRT820			
EDA920	30	Degree Project in Computer Sciences for Engineers	KS KE U W
TEK920	30	Degree Project in Ecology	KS KE U W
EITM01	30	Degree Project in Electrical and Information Technology	KS KE U W
FMS820	30	Degree Project in Mathematical Statistics for Engineers	KS KE U W
FMA820	30	Degree Project in Mathematics for Engineers	KS KE U W
FMN820	30	Degree Project in Numerical Analysis	KS KE U W
PHYM01	30	Degree Project in Physics	KS KE U W
FHL820	30	Degree Project in Solid Mechanics for Engineers	KS KE U W
VSM920	30	Degree Project in Structural Mechanics for Engineers	KS KE U