Applied Physics and Electrical Engineering - International, M Sc in Engineering

300 credits

Civilingenjör i teknisk fysik och elektroteknik - internationell

6CYYI

Valid from: 2016 Spring semester

Determined by
Board of Studies for Electrical Engineering, Physics and Mathematics

Date determined
2016-01-19

Entry requirements

Degree in Swedish

Civilingenjör 300 hp och Teknologie master 120 hp

Curriculum

Semester 2 (Spring 2017)

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TATA42	Calculus in One Variable 2	6	G1X	1	C
TFYA81	Oscillations and Mechanical Waves	4	G1X	4	C
THSP22	Spanish for Engineers I, part 2	6*	G1X	3	C
TSRT04	Introduction in Matlab	2	G1X	2	C
TBMT32	Perspectives on Biomedical Engineering	2*	G1X	3	E
TFFM12	Perspectives on Physics	2*	G1X	-	E
TSIT04	The Language of Mathematics	4*	G1X	3	E
TATA40	Perspectives on Mathematics	1*	G1X	-	V
TGTU35	Introduction to University Studies	2*	G1X	-	V
Period 2					
TATA43	Calculus in Several Variables	8	G1X	2	C
TFYA84	Optics - Theory and Application	4	G1X	4	C
THSP22	Spanish for Engineers I, part 2	6*	G1X	1	C
TBMT32	Perspectives on Biomedical Engineering	2*	G1X	3	E
TFFM12	Perspectives on Physics	2*	G1X	-	E
TSIT04	The Language of Mathematics	4*	G1X	3	E
TATA40	Perspectives on Mathematics	1*	G1X	-	V
TGTU35	Introduction to University Studies	2*	G1X	-	V

Semester 3 (Autumn 2017)

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TATA44	Vector Analysis	4	G1X	1	C
TFYA76	Mechanics	6	G1X	3	C
THSP41	Spanish for Engineers II, part 1	6*	G1N	4	C
TSTE05	Electronics and Measurement Technology	8*	G1X	2	C
Period 2					
TATA45	Complex Analysis	6	G2X	1	C
THSP41	Spanish for Engineers II, part 1	6*	G1N	4	C
TSTE05	Electronics and Measurement Technology	8*	G1X	3	C

Semester 4 (Spring 2018)

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TAOP07	Introduction to Optimization	6	G1X	3	C
TMME32	Mechanics, second course	4	G1X	4	C
TSEA28	Computer Hardware and Architecture Y	6*	G1X	2	C
TGTU63	Visits to Industry	1*	G1X	-	V
Period 2					
TATA57	Transform Theory	4	G1X	1	C
TFYA13	Electromagnetic Field Theory	8	G2X	2	C
THSP42	Spanish for Engineers II, part 2	2	G1X	4	C
TSEA28	Computer Hardware and Architecture Y	6*	G1X	3	C
TPTE06	Industrial Placement	6	G1X	-	E
TGTU63	Visits to Industry	1*	G1X	-	V

Semester 5 (Autumn 2018)

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TAMS24	Statistics, First Course	4	G2X	4	C
TDDC76	Programming and Data Structures	8*	G2X	2	C
TFYA43	Nanotechnology	6	G2X	3	E
Period 2					
TDDC76	Programming and Data Structures	8*	G2X	2	C
TFYA12	Thermodynamics and Statistical Mechanics	6	G2X	1	C
TSDT18	Signals and Systems	6	G2X	3	C

Semester 6 (Spring 2019)

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TFYA73	Modern Physics I	4	G2X	3	C
TSRT12	Automatic Control	6	G2X	1	C
TFYA75	Applied Physics - Bachelor Project	16*	G2E	2	E
TSEA56	Electronics Engineering - Bachelor Project	16*	G2X	2	E
Period 2					
TAMS14	Probability, first course	4	G1X	4	C
TEAE01	Industrial Economics, Basic Course	6	G1X	2	E
TFYA74	Modern Physics II	4	G2X	1	E
TFYA75	Applied Physics - Bachelor Project	16*	G2E	-	E
TSEA56	Electronics Engineering - Bachelor Project	16*	G2X	-	E
TSKS10	Signals, Information and Communication	4	G2X	3	E

Semester 7 (Autumn 2019)

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
THSP18	Spanish for Engineers III	6*	G2X	-	C
TAMS32	Stochastic Processes	6	A1X	1	E

Course code	Course name	Credits	Level	Timetable module	ECV
TAMS46	Probability Theory, Second Course	6	A1X	3	E
TAOP34	Large Scale Optimization	6	A1X	3	E
TATA34	Real Analysis, Honours Course	6*	G2X	4	E
TATA55	Abstract Algebra	6*	G2X	3	E
TATM85	Functional Analysis	6*	A1X	2	E
TBME04	Anatomy and Physiology	6	G2X	3	E
TBMI19	Medical Information Systems	6*	A1X	2	E
TDDC17	Artificial Intelligence	6	G2X	3	E
TDDD38	Advanced Programming in C++	6*	A1X	2	E
TDTS06	Computer Networks	6	G2X	1	E
TDTS08	Advanced Computer Architecture	6	A1X	2	E
TFFM08	Experimental Physics	6*	A1X	1	E
TFFY54	Quantum Mechanics	6	A1X	2	E
TFKE59	Fundamentals of Chemistry	6	G1X	2	E
TFYA18	Mathematical Methods of Physics	6	A1X	3	E
TFYA43	Nanotechnology	6	G2X	3	E
TFYA88	Additive Manufacturing: Tools, Materials and Methods	6	A1X	3	E
TFYA88	Additive Manufacturing: Tools, Materials and Methods	6	A1X	3	E
TFYA95	Principles of Materials Science	6	A1X	2	E
TFYY67	Classical Electrodynamics	6*	A1X	3	E
TPPE17	Corporate Finance	6	G2X	4	E
TSBB06	Multidimensional Signal Analysis	6*	A1X	2	E
TSBB08	Digital Image Processing	6	A1X	4	E
TSDT14	Signal Theory	6	A1X	1	E
TSFS09	Modelling and Control of Engines and Drivelines	6*	A1X	4	E
TSKS01	Digital Communication	6*	A1X	4	E
TSKS15	Detection and Estimation of Signals	6	A1X	2	E
TSRT62	Modelling and Simulation	6	A1X	3	E
TSTE12	Design of Digital Systems	6	A1X	3	E
TSTE86	Digital Integrated Circuits	6	A1X	2	E

Course code	Course name	Credits	Level	Timetable module	ECV
Period 2					
THSP18	Spanish for Engineers III	6*	G2X	-	C
TAMS17	Statistical Theory, advanced course	6	A1X	1	E
TAMS22	Probability Theory and Bayesian Networks	6	A1X	1	E
TAMS41	Statistical Modelling with Regression Methods	6	A1X	3	E
TAOP04	Mathematical Optimization	6	A1X	4	E
TATA34	Real Analysis, Honours Course	6*	G2X	4	E
TATA55	Abstract Algebra	6*	G2X	3	E
TATA71	Ordinary Differential Equations and Dynamical Systems	6	G2X	2	E
TATM85	Functional Analysis	6*	A1X	1	E
TBME03	Biochemistry and Cell Biology	6	G2X	2	E
TBMI19	Medical Information Systems	6*	A1X	3	E
TBMT01	Biomedical Signal Processing	6	A1X	1	E
TDDD38	Advanced Programming in C++	6*	A1X	-	E
TEAE05	Resource Theory	6	G1N	1	E
TFFM08	Experimental Physics	6*	A1X	1	E
TFFY70	Physics of Condensed Matter part I	6	A1X	2	E
TFYA20	Surface Physics	6	A1X	4	E
TFYA39	Semiconductor Technology	6	A1X	3	E
TFYA60	Astronomy and Geophysics	6	G1X	3	E
TFYA90	Computational Physics	6	A1X	4	E
TFYY67	Classical Electrodynamics	6*	A1X	3	E
TGTU04	Leadership	6	G2X	2	E
TGTU49	History of Technology	6	G1X	3	E
TKMJ24	Environmental Engineering	6	G1N	3	E
TMHL03	Mechanics of Light Structures	6	A1X	3	E
TMKM90	Engineering Materials - Deformation and Fracture	6	A1X	2	E
TMMS07	Biomechanics	6	A1X	4	E
TMMV18	Fluid Mechanics	6	A1X	2	E
TMMV54	Computational Heat Transfer	6	A1X	1	E
TPPE29	Financial Markets and Instruments	6	A1X	2	E

Course code	Course name	Credits	Level	Timetable module	ECV
TSBB06	Multidimensional Signal Analysis	6*	A1X	3	E
TSBB09	Image Sensors	6	A1X	4	E
TSEA81	Computer Engineering and Real-time Systems	6	A1X	4	E
TSEK02	Radio Electronics	6	A1X	3	E
TSEK37	Analog CMOS Integrated Circuits	6	A1X	1	E
TSFS02	Vehicle Dynamics and Control	6	A1X	1	E
TSFS09	Modelling and Control of Engines and Drivelines	6*	A1X	3	E
TSIN02	Internetworking	6	A1N	1	E
TSIT02	Computer Security	6	G2F	2	E
TSKS01	Digital Communication	6*	A1X	4	E
TSKS11	Networks: Models, Algorithms and Applications	6	G2X	3	E
TSRT78	Digital Signal Processing	6	A1X	2	E

Specialisation: Applied Physics - Materials and Nano Physics

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TFFM08	Experimental Physics	6*	A1X	1	C
TFFY54	Quantum Mechanics	6	A1X	2	C
TFYA43	Nanotechnology	6	G2X	3	E
Period 2					
TFFM08	Experimental Physics	6*	A1X	1	C
TFFY70	Physics of Condensed Matter part I	6	A1X	2	C
TFYA20	Surface Physics	6	A1X	4	E
TFYA39	Semiconductor Technology	6	A1X	3	E

Specialisation: Applied physics -Theory, Modelling and Computation

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TFFY54	Quantum Mechanics	6	A1X	2	C
TFYA18	Mathematical Methods of Physics	6	A1X	3	C
TATA75	Theory of Relativity	6*	A1X	-	E
TFYY67	Classical Electrodynamics	6*	A1X	3	E
Period 2					
TFYA90	Computational Physics	6	A1X	4	C
TATA75	Theory of Relativity	6*	A1X	3	E
TDDE01	Machine Learning	6	A1X	1	E
TFFY70	Physics of Condensed Matter part I	6	A1X	2	E
TFYY67	Classical Electrodynamics	6*	A1X	3	E

Specialisation: Biomedical Engineering

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TBME04	Anatomy and Physiology	6	G2X	3	C
TBMI19	Medical Information Systems	6*	A1X	2	E
TSDT14	Signal Theory	6	A1X	1	E
Period 2					
TBMT01	Biomedical Signal Processing	6	A1X	1	C
TBME03	Biochemistry and Cell Biology	6	G2X	2	E
TBMI19	Medical Information Systems	6*	A1X	3	E

Specialisation: Communication

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TSDT14	Signal Theory	6	A1X	1	C
TSKS01	Digital Communication	6*	A1X	4	C
TSKS15	Detection and Estimation of Signals	6	A1X	2	C
TDTS06	Computer Networks	6	G2X	1	E
Period 2					
TSKS01	Digital Communication	6*	A1X	4	C
TSEK02	Radio Electronics	6	A1X	3	E
TSIN02	Internetworking	6	A1N	1	E
TSKS11	Networks: Models, Algorithms and Applications	6	G2X	3	E
TSRT78	Digital Signal Processing	6	A1X	2	E

Specialisation: Control and Information Systems

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TSRT62	Modelling and Simulation	6	A1X	3	C
TSDT14	Signal Theory	6	A1X	1	E
TSFS09	Modelling and Control of Engines and Drivelines	6*	A1X	4	E
TSKS15	Detection and Estimation of Signals	6	A1X	2	E
Period 2					
TSRT78	Digital Signal Processing	6	A1X	2	C
TSEA81	Computer Engineering and Real-time Systems	6	A1X	4	C/E
TSFS02	Vehicle Dynamics and Control	6	A1X	1	E
TSFS09	Modelling and Control of Engines and Drivelines	6*	A1X	3	E

Specialisation: Electronics

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TSKS01	Digital Communication	6*	A1X	4	C
TSTE86	Digital Integrated Circuits	6	A1X	2	C
TSTE12	Design of Digital Systems	6	A1X	3	E
Period 2					
TSEK37	Analog CMOS Integrated Circuits	6	A1X	1	C
TSKS01	Digital Communication	6*	A1X	4	C
TSEK02	Radio Electronics	6	A1X	3	E

Specialisation: Engineering Mathematics

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TAMS32	Stochastic Processes	6	A1X	1	C
TATM85	Functional Analysis	6*	A1X	2	C
TAMS46	Probability Theory, Second Course	6	A1X	3	E
TAOP34	Large Scale Optimization	6	A1X	3	E
TATA55	Abstract Algebra	6*	G2X	3	E
TFYA18	Mathematical Methods of Physics	6	A1X	3	E
TSKS15	Detection and Estimation of Signals	6	A1X	2	E
Period 2					
TATM85	Functional Analysis	6*	A1X	1	C
TAOP04	Mathematical Optimization	6	A1X	4	E
TATA55	Abstract Algebra	6*	G2X	3	E
TATA71	Ordinary Differential Equations and Dynamical Systems	6	G2X	2	E

Specialisation: Financial Mathematics

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TAMS32	Stochastic Processes	6	A1X	1	C
TPPE17	Corporate Finance	6	G2X	4	C
TAMS46	Probability Theory, Second Course	6	A1X	3	E
TATM85	Functional Analysis	6*	A1X	2	E
Period 2					
TAOP04	Mathematical Optimization	6	A1X	4	E
TATM85	Functional Analysis	6*	A1X	1	E
TPPE29	Financial Markets and Instruments	6	A1X	2	E

Specialisation: Mechanics and Control

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TMMV11	Fluid Mechanics and Heat Transfer	6	G2X	2	E
TSFS09	Modelling and Control of Engines and Drivelines	6*	A1X	4	E
TSRT62	Modelling and Simulation	6	A1X	3	E
Period 2					
TSEA81	Computer Engineering and Real-time Systems	6	A1X	4	C
TSFS02	Vehicle Dynamics and Control	6	A1X	1	E
TSFS09	Modelling and Control of Engines and Drivelines	6*	A1X	3	E
TSRT78	Digital Signal Processing	6	A1X	2	E

Specialisation: Signal and Image Processing

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TSBB06	Multidimensional Signal Analysis	6*	A1X	2	C
TSBB08	Digital Image Processing	6	A1X	4	C
TSDT14	Signal Theory	6	A1X	1	C
Period 2					
TSBB06	Multidimensional Signal Analysis	6*	A1X	3	C
TSBB09	Image Sensors	6	A1X	4	C
TSRT78	Digital Signal Processing	6	A1X	2	C

Specialisation: System-on-Chip

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TSTE12	Design of Digital Systems	6	A1X	3	C
TSTE86	Digital Integrated Circuits	6	A1X	2	C
TDTS06	Computer Networks	6	G2X	1	E
TSKS01	Digital Communication	6*	A1X	4	E
Period 2					
TSEA81	Computer Engineering and Real-time Systems	6	A1X	4	E
TSEK37	Analog CMOS Integrated Circuits	6	A1X	1	E
TSKS01	Digital Communication	6*	A1X	4	E

Semester 8 (Spring 2020)

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TAMS29	Stochastic Processes Applied to Financial Models	6	A1X	3	E
TANA15	Numerical Linear Algebra	6	A1X	1	E
TATA27	Partial Differential Equations	6*	A1X	2	E
TATA53	Linear Algebra, Honours Course	6*	G2X	-	E
TATA54	Number Theory	6*	G2X	3	E
TATA66	Fourier and Wavelet Analysis	6*	A1X	4	E

Course code	Course name	Credits	Level	Timetable module	ECV
TATA78	Complex Analysis, second course	6*	A1X	2	E
TBMI01	Medical Decision Support	6	A1X	4	E
TBMI03	Medical Information Models and Ontologies	6	A1X	4	E
TBMI26	Neural Networks and Learning Systems	6	A1X	2	E
TBMT02	Medical Imaging	6	A1F	3	E
TBMT09	Physiological Pressures and Flows	6	A1N	1	E
TDDD76	Software Engineering Project	8*	G2X	2	E
TDDE09	Natural Language Processing	6	A1X	2	E
TDTS07	System Design and Methodology	6	A1X	1	E
TEAE04	Industrial Economics and Organisation	6	G1X	2	E
TEIO94	Entrepreneurship and Idea Development	6*	G2X	4	E
TFFM40	Analytical Methods in Materials Science	6*	A1X	1	E
TFYA21	Physical Metallurgy	6	A1F	3	E
TFYA25	Physics of Condensed Matter part II	6	A1X	2	E
TFYA36	Chaos and Non-Linear Phenomena	6*	A1X	1	E
TFYA71	Cosmology	6*	A1X	1	E
TFYA85	Alternative Energy Sources and their Applications	6	G2X	4	E
TGTU91	Oral and Written Communication	6	G1X	2	E
TGTU94	Technology and Ethics	6	G1X	1	E
TKMJ10	Industrial Ecology	6	A1X	1	E
TKMJ15	Environmental Management Strategies	6	G1F	3	E
TMMS30	Multi Body Dynamics and Robotics	6	A1X	1	E
TNM048	Information Visualisation	6	A1X	3	E
TPPE32	Financial Risk Management	6	A1X	2	E
TSBB15	Computer Vision	12*	A1X	1	E
TSBK07	Computer Graphics	6*	A1X	4	E
TSBK08	Data Compression	6	A1N	2	E
TSEK06	VLSI Design	12*	A1X	4	E
TSEK38	Radio Frequency Transceiver Design	6	A1X	2	E
TSFS04	Electrical Drives	6	G2X	4	E
TSKS13	Wireless Communications	6	A1F	4	E

Course code	Course name	Credits	Level	Timetable module	ECV
TSRT07	Industrial Control Systems	6	A1N	2	E
TSRT09	Control Theory	6	A1N	3	E
TSTE08	Analog and Discrete-Time Integrated Circuits	6	A1X	3	E
TSTE14	Analog Filters	6	A1X	2	E
TSTE93	Analog Circuits	6*	G2X	1	E
Period 2					
TANA31	Computational Methods for Ordinary and Partial Differential Equations	6	A1X	2	E
TAOP24	Optimization, Advanced Course	6	G2X	1	E
TAOP87	Applied Optimization Project Course	6	A1X	3	E
TATA27	Partial Differential Equations	6*	A1X	4	E
TATA53	Linear Algebra, Honours Course	6*	G2X	-	E
TATA54	Number Theory	6*	G2X	1	E
TATA66	Fourier and Wavelet Analysis	6*	A1X	2	E
TATA78	Complex Analysis, second course	6*	A1X	3	E
TBME08	Biomedical Modeling and Simulation	6	A1X	3	E
TBMT26	Technology in Intensive Care and Surgery	6	A1X	1	E
TDDC78	Programming of Parallel Computers - Methods and Tools	6	A1X	3	E
TDDD12	Database Technology	6	G2X	4	E
TDDD76	Software Engineering Project	8*	G2X	2	E
TEAE13	Civil and Commercial Law	6	G1X	2	E
TEIE44	Intellectual Property Rights	4	G1X	1	E
TEIO94	Entrepreneurship and Idea Development	6*	G2X	4	E
TFFM40	Analytical Methods in Materials Science	6*	A1X	1	E
TFMT19	Chemical Sensor Systems	6	A1X	4	E
TFYA19	Quantum Computers	6	A1X	4	E
TFYA36	Chaos and Non-Linear Phenomena	6*	A1X	2	E
TFYA38	Optoelectronics	6	A1X	3	E
TFYA41	Thin Film Physics	6	A1X	2	E
TFYA71	Cosmology	6*	A1X	2	E
TGTU95	Philosophy of Science and Technology	6	G1X	4	E
TKMJ29	Resource Efficient Products	6	A1N	1	E

Course code	Course name	Credits	Level	Timetable module	ECV
TNM079	Modelling and Animation	6	A1X	2	E
TPPE33	Portfolio Management	6	A1X	2	E
TSBB15	Computer Vision	12*	A1X	3	E
TSBK02	Image and Audio Coding	6	A1X	4	E
TSBK07	Computer Graphics	6*	A1X	1	E
TSEK06	VLSI Design	12*	A1X	4	E
TSEK12	Test of Analog/Mixed Signal Integrated Circuits	6	A1X	1	E
TSFS03	Vehicle Propulsion Systems	6	A1X	3	E
TSFS06	Diagnosis and Supervision	6	A1N	1	E
TSFS11	Electrical and Energy Technology	6	G2F	4	E
TSKS14	Multiple Antenna Communications	6	A1X	3	E
TSKS16	Signal Processing for Communications	6	A1N	1	E
TSRT14	Sensor Fusion	6	A1N	2	E
TSTE06	Digital Filters	6	A1X	3	E
TSTE87	Application-Specific Integrated Circuits	6	A1X	2	E
TSTE93	Analog Circuits	6*	G2X	1	E

Specialisation: Applied Physics - Materials and Nano Physics

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TFFM40	Analytical Methods in Materials Science	6*	A1X	1	C
TFYA21	Physical Metallurgy	6	A1F	3	E
TFYA25	Physics of Condensed Matter part II	6	A1X	2	E
Period 2					
TFFM40	Analytical Methods in Materials Science	6*	A1X	1	C
TFMT19	Chemical Sensor Systems	6	A1X	4	E
TFYA38	Optoelectronics	6	A1X	3	E
TFYA41	Thin Film Physics	6	A1X	2	E

Specialisation: Applied physics -Theory, Modelling and Computation

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TATA27	Partial Differential Equations	6*	A1X	2	E
TBMI26	Neural Networks and Learning Systems	6	A1X	2	E
TFYA21	Physical Metallurgy	6	A1F	3	E
TFYA25	Physics of Condensed Matter part II	6	A1X	2	E
TFYA36	Chaos and Non-Linear Phenomena	6*	A1X	1	E
TFYA71	Cosmology	6*	A1X	1	E
TSBK07	Computer Graphics	6*	A1X	4	E
Period 2					
TATA27	Partial Differential Equations	6*	A1X	4	E
TFYA19	Quantum Computers	6	A1X	4	E
TFYA36	Chaos and Non-Linear Phenomena	6*	A1X	2	E
TFYA71	Cosmology	6*	A1X	2	E
TSBK07	Computer Graphics	6*	A1X	1	E

Specialisation: Biomedical Engineering

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TBMT02	Medical Imaging	6	A1F	3	C
TBMT09	Physiological Pressures and Flows	6	A1N	1	C
TBMI01	Medical Decision Support	6	A1X	4	E
TBMI03	Medical Information Models and Ontologies	6	A1X	4	E
TBMI26	Neural Networks and Learning Systems	6	A1X	2	E
Period 2					
TBME08	Biomedical Modeling and Simulation	6	A1X	3	E
TBMT26	Technology in Intensive Care and Surgery	6	A1X	1	E

Specialisation: Communication

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TBMI26	Neural Networks and Learning Systems	6	A1X	2	E
TSBK08	Data Compression	6	A1N	2	E
TSEK38	Radio Frequency Transceiver Design	6	A1X	2	E
TSKS13	Wireless Communications	6	A1F	4	E
Period 2					
TFYA19	Quantum Computers	6	A1X	4	E
TSBK02	Image and Audio Coding	6	A1X	4	E
TSKS14	Multiple Antenna Communications	6	A1X	3	E
TSKS16	Signal Processing for Communications	6	A1N	1	E

Specialisation: Control and Information Systems

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TSRT07	Industrial Control Systems	6	A1N	2	C
TSRT09	Control Theory	6	A1N	3	C
Period 2					
TDDD12	Database Technology	6	G2X	4	C/E
TDDC78	Programming of Parallel Computers - Methods and Tools	6	A1X	3	E
TSFS06	Diagnosis and Supervision	6	A1N	1	E
TSRT14	Sensor Fusion	6	A1N	2	E

Specialisation: Electronics

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TSTE08	Analog and Discrete-Time Integrated Circuits	6	A1X	3	C
TSEK06	VLSI Design	12*	A1X	4	C/E
TSEK38	Radio Frequency Transceiver Design	6	A1X	2	E
TSTE14	Analog Filters	6	A1X	2	E
TSTE93	Analog Circuits	6*	G2X	1	E
Period 2					
TSTE87	Application-Specific Integrated Circuits	6	A1X	2	C
TSEK06	VLSI Design	12*	A1X	4	C/E
TSEK12	Test of Analog/Mixed Signal Integrated Circuits	6	A1X	1	E
TSKS16	Signal Processing for Communications	6	A1N	1	E
TSTE06	Digital Filters	6	A1X	3	E
TSTE93	Analog Circuits	6*	G2X	1	E

Specialisation: Engineering Mathematics

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TANA15	Numerical Linear Algebra	6	A1X	1	C
TATA27	Partial Differential Equations	6*	A1X	2	E
TATA66	Fourier and Wavelet Analysis	6*	A1X	4	E
TSRT09	Control Theory	6	A1N	3	E
Period 2					
TAOP24	Optimization, Advanced Course	6	G2X	1	C
TATA27	Partial Differential Equations	6*	A1X	4	E
TATA66	Fourier and Wavelet Analysis	6*	A1X	2	E
TFYA19	Quantum Computers	6	A1X	4	E

Specialisation: Financial Mathematics

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TAMS29	Stochastic Processes Applied to Financial Models	6	A1X	3	C
TANA15	Numerical Linear Algebra	6	A1X	1	C
TPPE32	Financial Risk Management	6	A1X	2	E
Period 2					
TAOP24	Optimization, Advanced Course	6	G2X	1	E
TDDD12	Database Technology	6	G2X	4	E
TPPE33	Portfolio Management	6	A1X	2	E

Specialisation: Mechanics and Control

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TMMS30	Multi Body Dynamics and Robotics	6	A1X	1	E
TSFS04	Electrical Drives	6	G2X	4	E
TSRT07	Industrial Control Systems	6	A1N	2	E
TSRT09	Control Theory	6	A1N	3	E
Period 2					
TSFS03	Vehicle Propulsion Systems	6	A1X	3	E
TSFS06	Diagnosis and Supervision	6	A1N	1	E
TSRT14	Sensor Fusion	6	A1N	2	E

Specialisation: Signal and Image Processing

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TBMI26	Neural Networks and Learning Systems	6	A1X	2	E
TBMT02	Medical Imaging	6	A1F	3	E
TDDE09	Natural Language Processing	6	A1X	2	E
TNM048	Information Visualisation	6	A1X	3	E
TSBB15	Computer Vision	12*	A1X	1	E
TSBK07	Computer Graphics	6*	A1X	4	E
TSBK08	Data Compression	6	A1N	2	E
Period 2					
TSBB15	Computer Vision	12*	A1X	3	E
TSBK02	Image and Audio Coding	6	A1X	4	E
TSBK07	Computer Graphics	6*	A1X	1	E
TSRT14	Sensor Fusion	6	A1N	2	E

Specialisation: System-on-Chip

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TDTS07	System Design and Methodology	6	A1X	1	C
TSEK06	VLSI Design	12*	A1X	4	C/E
TSBK07	Computer Graphics	6*	A1X	4	E
TSTE08	Analog and Discrete-Time Integrated Circuits	6	A1X	3	E
Period 2					
TSEK06	VLSI Design	12*	A1X	4	C/E
TEIE44	Intellectual Property Rights	4	G1X	1	E
TSBK07	Computer Graphics	6*	A1X	1	E
TSKS16	Signal Processing for Communications	6	A1N	1	E
TSTE06	Digital Filters	6	A1X	3	E
TSTE87	Application-Specific Integrated Circuits	6	A1X	2	E

Semester 9 (Autumn 2020)

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TAMS39	Multivariate Statistical Methods	6	A1X	4	E
TATA32	Discrete Mathematics	8*	G1X	3	E
TATA62	Project - Applied Mathematics	12*	A1X	4	E
TATA75	Theory of Relativity	6*	A1X	-	E
TBMT14	Biomedical Engineering - Project Course	12*	A1X	4	E
TBMT57	Biomedical Optics	6	A1X	1	E
TDDC88	Software Engineering	12*	A1X	1	E
TFKE59	Fundamentals of Chemistry	6	G1X	2	E
TFYA17	Advanced Project Work in Applied Physics	6*	A1F	-	E
TFYA40	Analytical Mechanics	6	A1X	2	E
TFYA91	Quantum Structures: Photonics and Transport	6	A1X	1	E
TFYA92	Project Course in Applied Physics, CDIO	12*	A1X	4	E
TFYY67	Classical Electrodynamics	6*	A1X	3	E
TMES09	Industrial Energy Systems	6	A1X	2	E
TMMS11	Models of Mechanics	6*	A1X	3	E
TMMV01	Aerodynamics	6	A1X	2	E
TNE071	Microwave Engineering	6	A1X	1	E
TNE089	Electromagnetic Compatibility (EMC) and Printed Circuit Board (PCB) Design	6*	A1X	2	E
TNM067	Scientific Visualization	6	A1X	3	E
TPPE53	Financial Valuation Methodology	6	A1X	2	E
TSBB11	Images and Graphics, Project Course CDIO	12*	A1X	4	E
TSBB17	Visual Object Recognition and Detection	6	A1X	2	E
TSBK03	Advanced Game Programming	6*	A1X	1	E
TSEA84	Digital Design Project	6*	A1X	3	E
TSEK03	Radio Frequency Integrated Circuits	6	A1X	2	E
TSEK11	Evaluation of an Integrated Circuit	2	A1X	4	E
TSFS12	Autonomous Vehicles - Planning, Control, and Learning Systems	6	A1X	1	E
TSIN01	Information Networks	6	A1X	3	E
TSIT03	Cryptology	6	A1X	2	E

Course code	Course name	Credits	Level	Timetable module	ECV
TSKS12	Modern Channel Coding, Inference and Learning	6	A1X	1	E
TSKS23	Project Course in Signal Processing, Communications and Networking, CDIO	12*	A1X	4	E
TSRT10	Automatic Control - Project Course	12*	A1F	4	E
TSTE17	System Design	12*	A1F	4	E
TSTE25	Power Electronics	6	A1X	3	E
Period 2					
TATA32	Discrete Mathematics	8*	G1X	1	E
TATA62	Project - Applied Mathematics	12*	A1X	4	E
TATA75	Theory of Relativity	6*	A1X	3	E
TBMI02	Medical Image Analysis	6	A1N	1	E
TBMT14	Biomedical Engineering - Project Course	12*	A1X	4	E
TDDC88	Software Engineering	12*	A1X	1	E
TDDD49	Programming in C# and .NET Framework	4	G2X	3	E
TDDD56	Multicore and GPU Programming	6	A1X	2	E
TFYA17	Advanced Project Work in Applied Physics	6*	A1F	-	E
TFYA27	Elementary Particle Physics	6	A1X	2	E
TFYA28	Quantum Dynamics	6	A1X	1	E
TFYA57	Relativistic Quantum Mechanics	6	A1X	2	E
TFYA92	Project Course in Applied Physics, CDIO	12*	A1X	4	E
TFYY54	Nano Physics	6	A1X	3	E
TFYY67	Classical Electrodynamics	6*	A1X	3	E
TMME50	Flight Mechanics	6	A1X	2	E
TMMS11	Models of Mechanics	6*	A1X	3	E
TNE083	Antenna Theory	6	A1X	2	E
TNE089	Electromagnetic Compatibility (EMC) and Printed Circuit Board (PCB) Design	6*	A1X	1	E
TNM086	Virtual Reality Techniques	6	A1X	2	E
TPPE61	Financial Optimization	6	A1X	2	E
TSBB11	Images and Graphics, Project Course CDIO	12*	A1X	4	E
TSBK03	Advanced Game Programming	6*	A1X	-	E
TSEA26	Design of Embedded DSP Processor	6	A1X	2	E

Course code	Course name	Credits	Level	Timetable module	ECV
TSEA44	Computer Hardware - a System on Chip	6	A1F	1	E
TSEA84	Digital Design Project	6*	A1X	3	E
TSKS23	Project Course in Signal Processing, Communications and Networking, CDIO	12*	A1X	4	E
TSRT08	Optimal Control	6	A1X	3	E
TSRT10	Automatic Control - Project Course	12*	A1F	4	E
TSTE17	System Design	12*	A1F	4	E
TSTE26	Powergrid and Technology for Renewable Production	6	A1X	3	E
TSTE85	Low Power Electronics	6	A1N	2	E

Specialisation: Applied Physics - Materials and Nano Physics

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TFYA92	Project Course in Applied Physics, CDIO	12*	A1X	4	C
TFYA17	Advanced Project Work in Applied Physics	6*	A1F	-	E
TFYA40	Analytical Mechanics	6	A1X	2	E
TFYA91	Quantum Structures: Photonics and Transport	6	A1X	1	E
Period 2					
TFYA92	Project Course in Applied Physics, CDIO	12*	A1X	4	C
TFYY54	Nano Physics	6	A1X	3	C
TFYA17	Advanced Project Work in Applied Physics	6*	A1F	-	E

Specialisation: Applied physics -Theory, Modelling and Computation

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TFYA40	Analytical Mechanics	6	A1X	2	C
TFYA92	Project Course in Applied Physics, CDIO	12*	A1X	4	C
TFYA17	Advanced Project Work in Applied Physics	6*	A1F	-	E
TFYA91	Quantum Structures: Photonics and Transport	6	A1X	1	E
TFYY67	Classical Electrodynamics	6*	A1X	3	E
Period 2					
TFYA92	Project Course in Applied Physics, CDIO	12*	A1X	4	C
TFYA17	Advanced Project Work in Applied Physics	6*	A1F	-	E
TFYA27	Elementary Particle Physics	6	A1X	2	E
TFYA28	Quantum Dynamics	6	A1X	1	E
TFYA57	Relativistic Quantum Mechanics	6	A1X	2	E
TFYY67	Classical Electrodynamics	6*	A1X	3	E

Specialisation: Biomedical Engineering

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TBMT14	Biomedical Engineering - Project Course	12*	A1X	4	C
TAMS39	Multivariate Statistical Methods	6	A1X	4	E
TATM38	Mathematical Models in Biology	6	A1X	3	E
TBMT57	Biomedical Optics	6	A1X	1	E
Period 2					
TBMT14	Biomedical Engineering - Project Course	12*	A1X	4	C
TBMI02	Medical Image Analysis	6	A1N	1	E

Specialisation: Communication

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TSIN01	Information Networks	6	A1X	3	C
TSKS23	Project Course in Signal Processing, Communications and Networking, CDIO	12*	A1X	4	C
TSEK03	Radio Frequency Integrated Circuits	6	A1X	2	E
TSIT03	Cryptology	6	A1X	2	E
TSKS12	Modern Channel Coding, Inference and Learning	6	A1X	1	E
Period 2					
TSKS23	Project Course in Signal Processing, Communications and Networking, CDIO	12*	A1X	4	C

Specialisation: Control and Information Systems

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TATA62	Project - Applied Mathematics	12*	A1X	4	C/E
TSRT10	Automatic Control - Project Course	12*	A1F	4	C/E
TDTS06	Computer Networks	6	G2X	1	E
TSFS12	Autonomous Vehicles - Planning, Control, and Learning Systems	6	A1X	1	E
Period 2					
TATA62	Project - Applied Mathematics	12*	A1X	4	C/E
TSRT10	Automatic Control - Project Course	12*	A1F	4	C/E
TSRT08	Optimal Control	6	A1X	3	E

Specialisation: Electronics

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TSTE17	System Design	12*	A1F	4	C/E
TNE071	Microwave Engineering	6	A1X	1	E
TNE089	Electromagnetic Compatibility (EMC) and Printed Circuit Board (PCB) Design	6*	A1X	2	E
TSEA84	Digital Design Project	6*	A1X	3	E
TSEK03	Radio Frequency Integrated Circuits	6	A1X	2	E
TSEK11	Evaluation of an Integrated Circuit	2	A1X	4	E
TSTE25	Power Electronics	6	A1X	3	E
Period 2					
TSTE17	System Design	12*	A1F	4	C/E
TNE083	Antenna Theory	6	A1X	2	E
TNE089	Electromagnetic Compatibility (EMC) and Printed Circuit Board (PCB) Design	6*	A1X	1	E
TSEA26	Design of Embedded DSP Processor	6	A1X	2	E
TSEA44	Computer Hardware - a System on Chip	6	A1F	1	E
TSEA84	Digital Design Project	6*	A1X	3	E
TSTE26	Powergrid and Technology for Renewable Production	6	A1X	3	E
TSTE85	Low Power Electronics	6	A1N	2	E

Specialisation: Engineering Mathematics

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TATA62	Project - Applied Mathematics	12*	A1X	4	C/E
TSRT10	Automatic Control - Project Course	12*	A1F	4	C/E
TATA75	Theory of Relativity	6*	A1X	-	E
TATM38	Mathematical Models in Biology	6	A1X	3	E
TDDD38	Advanced Programming in C++	6*	A1X	2	E
TFYA40	Analytical Mechanics	6	A1X	2	E
TMMS11	Models of Mechanics	6*	A1X	3	E
TPPE53	Financial Valuation Methodology	6	A1X	2	E
Period 2					
TATA62	Project - Applied Mathematics	12*	A1X	4	C/E
TSRT10	Automatic Control - Project Course	12*	A1F	4	C/E
TATA75	Theory of Relativity	6*	A1X	3	E
TDDD38	Advanced Programming in C++	6*	A1X	-	E
TFYA57	Relativistic Quantum Mechanics	6	A1X	2	E
TMMS11	Models of Mechanics	6*	A1X	3	E
TPPE61	Financial Optimization	6	A1X	2	E

Specialisation: Financial Mathematics

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TATA62	Project - Applied Mathematics	12*	A1X	4	C
TPPE53	Financial Valuation Methodology	6	A1X	2	C
Period 2					
TATA62	Project - Applied Mathematics	12*	A1X	4	C
TPPE61	Financial Optimization	6	A1X	2	C

Specialisation: Mechanics and Control

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TSRT10	Automatic Control - Project Course	12*	A1F	4	C
TFYA40	Analytical Mechanics	6	A1X	2	E
TSFS12	Autonomous Vehicles - Planning, Control, and Learning Systems	6	A1X	1	E
Period 2					
TSRT10	Automatic Control - Project Course	12*	A1F	4	C
TMME50	Flight Mechanics	6	A1X	2	E
TSRT08	Optimal Control	6	A1X	3	E

Specialisation: Signal and Image Processing

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TSBB11	Images and Graphics, Project Course CDIO	12*	A1X	4	C
TNM067	Scientific Visualization	6	A1X	3	E
TSBB17	Visual Object Recognition and Detection	6	A1X	2	E
TSBK03	Advanced Game Programming	6*	A1X	1	E
TSKS15	Detection and Estimation of Signals	6	A1X	2	E
Period 2					
TSBB11	Images and Graphics, Project Course CDIO	12*	A1X	4	C
TBMI02	Medical Image Analysis	6	A1N	1	E
TDDD56	Multicore and GPU Programming	6	A1X	2	E
TDDE01	Machine Learning	6	A1X	1	E
TNM086	Virtual Reality Techniques	6	A1X	2	E
TSBK03	Advanced Game Programming	6*	A1X	-	E

Specialisation: System-on-Chip

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TSTE17	System Design	12*	A1F	4	C/E
TDTS08	Advanced Computer Architecture	6	A1X	2	E
TSEA84	Digital Design Project	6*	A1X	3	E
TSEK11	Evaluation of an Integrated Circuit	2	A1X	4	E
Period 2					
TSEA26	Design of Embedded DSP Processor	6	A1X	2	C
TSTE17	System Design	12*	A1F	4	C/E
TDDD56	Multicore and GPU Programming	6	A1X	2	E
TSEA44	Computer Hardware - a System on Chip	6	A1F	1	E
TSEA84	Digital Design Project	6*	A1X	3	E
TSIT02	Computer Security	6	G2F	2	E
TSTE85	Low Power Electronics	6	A1N	2	E

Semester 10 (Spring 2021)

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TQXX33	Degree project - Master's Thesis	30*	A1X	-	C
Period 2					
TQXX33	Degree project - Master's Thesis	30*	A1X	-	C

ECV = Elective / Compulsory /Voluntary
*The course is divided into several semesters and/or periods