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

300 credits

Civilingenjör i teknisk fysik och elektroteknik - internationell

6CYYI

Valid from: 2014 Spring semester

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

Date determined

Entry requirements

Degree in Swedish

Civilingenjör 300 hp och Teknologie master 120 hp

Curriculum

Semester 6 (Spring 2017)

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*	G2X	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*	G2X	-	E
TSEA56	Electronics Engineering - Bachelor Project	16*	G2X	-	E
TSKS10	Signals, Information and Communication	4	G2X	3	E

Semester 7 (Autumn 2017)

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TEIK18	Chinese for Engineers III	6*	G2X	-	C
TAMS22	Probability Theory and Bayesian Networks	6	A1X	2	E
TAMS32	Stochastic Processes	6	A1X	1	E
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

Course code	Course name	Credits	Level	Timetable module	ECV
TDTS06	Computer Networks	6	G2X	1	E
TFFM08	Experimental Physics	6*	A1X	1	E
TFFY54	Quantum Mechanics	6	A1X	2	E
TFYA40	Analytical Mechanics	6	A1X	4	E
TFYA43	Nanotechnology	6	G2X	3	E
TFYA77	Fundamentals in Materials Science	6	A1X	2	E
TFYA88	Additive Manufacturing: Tools, Materials and Methods	6	A1X	3	E
TMKM90	Engineering Materials - Deformation and Fracture	6	A1X	4	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
Period 2					
TEIK18	Chinese for Engineers III	6*	G2X	-	C
TAMS17	Statistical Theory, advanced course	6	A1X	1	E
TAMS38	Experimental Design and Biostatistics	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	3	E
TATM85	Functional Analysis	6*	A1X	1	E
TATM85	Functional Analysis	6	A1X	1	E
TBME03	Biochemistry and Cell Biology	6	G2X	2	E

Course code	Course name	Credits	Level	Timetable module	ECV
TBMI19	Medical Information Systems	6*	A1X	3	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
TDTS08	Advanced Computer Architecture	6	A1X	2	E
TEAE05	Resource Theory	6	G1X	1	E
TFFM08	Experimental Physics	6*	A1X	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
TFYA28	Quantum Dynamics	6	A1X	1	E
TFYA39	Semiconductor Technology	6	A1X	3	E
TFYA60	Astronomy and Geophysics	6	G1X	3	E
TGTU04	Leadership	6	G2X	2	E
TGTU49	History of Technology	6	G1X	3	E
TKMJ24	Environmental Engineering	6	G1X	3	E
TMHL03	Mechanics of Light Structures	6	A1X	3	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
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	A1X	1	E
TSIT02	Computer Security	6	G2X	2	E
TSKS01	Digital Communication	6	A1X	4	E

Course code	Course name	Credits	Level	Timetable module	ECV
TSKS11	Networks: Models, Algorithms and Applications	6	G2X	3	E
TSRT78	Digital Signal Processing	6	A1X	2	E

Specialisation: Applied Mathematics

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TAMS32	Stochastic Processes	6	A1X	1	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
TFYA40	Analytical Mechanics	6	A1X	4	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	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
TDTS06	Computer Networks	6	G2X	1	E
TSKS15	Detection and Estimation of Signals	6	A1X	2	E
Period 2					
TSKS01	Digital Communication	6	A1X	4	C
TSEK02	Radio Electronics	6	A1X	3	E
TSIN02	Internetworking	6	A1X	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					
TSEA81	Computer Engineering and Real-time Systems	6	A1X	4	
TSRT78	Digital Signal Processing	6	A1X	2	C
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: 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: 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
TFYA40	Analytical Mechanics	6	A1X	4	E
TFYA43	Nanotechnology	6	G2X	3	E
Period 2					
TFFM08	Experimental Physics	6*	A1X	1	C
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: Mechatronics

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
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					
TDTS08	Advanced Computer Architecture	6	A1X	2	C
TFYA39	Semiconductor Technology	6	A1X	3	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
TSKS01	Digital Communication	6	A1X	4	E

Specialisation: Theory, Modelling and Visualization

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TFFY54	Quantum Mechanics	6	A1X	2	C
TFYA40	Analytical Mechanics	6	A1X	4	C
TATA75	Theory of Relativity	6	A1X	-	E
TFYA43	Nanotechnology	6	G2X	3	E
Period 2					
TFYA28	Quantum Dynamics	6	A1X	1	C
TATA75	Theory of Relativity	6	A1X	3	E
TFFY70	Physics of Condensed Matter part I	6	A1X	2	E
TFYA57	Relativistic Quantum Mechanics	6	A1X	3	E

Semester 8 (Spring 2018)

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	-	E
TATA66	Fourier and Wavelet Analysis	6*	A1X	4	E
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	A1X	3	E
TBMT09	Physiological Pressures and Flows	6	A1X	1	E
TDDD76	Software Engineering Project	8*	G2X	2	E
TDTS07	System Design and Methodology	6	A1X	1	E
TEIO20	Entrepreneurship and New Business Development	6*	G2X	4	E

Course code	Course name	Credits	Level	Timetable module	ECV
TFFM40	Analytical Methods in Materials Science	6*	A1X	1	E
TFYA04	Materials Optics	6	A1X	4	E
TFYA21	Physical Metallurgy	6	A1X	3	E
TFYA25	Physics of Condensed Matter part II	6	A1X	2	E
TFYA36	Chaos and Non-Linear Phenomena	6*	A1X	3	E
TFYA71	Cosmology	6*	A1X	3	E
TFYA85	Alternative Energy Sources and their Applications	6	G2X	4	E
TFYY67	Classical Electrodynamics	6	A1X	1	E
TGTU01	Technology and Ethics	6	G1X	1	E
TGTU91	Oral and Written Communication	6	G1X	2	E
TKMJ10	Industrial Ecology	6	A1X	1	E
TKMJ15	Environmental Management Strategies	6	G1F	3	E
TMME55	Flight Dynamics	6	A1X	1	E
TMMS30	Multi Body Dynamics and Robotics	6	A1X	3	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	A1X	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	A1X	4	E
TSRT07	Industrial Control Systems	6	A1X	2	E
TSRT09	Control Theory	6	A1X	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

Course code	Course name	Credits	Level	Timetable module	ECV
TATA53	Linear Algebra, Honours Course	6*	G2X	-	E
TATA54	Number Theory	6*	G2X	-	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
TEIO20	Entrepreneurship and New Business 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
TGTU76	Philosophy of Science	6	G1X	4	E
TKMJ29	Resource Efficient Products	6	A1N	1	E
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
TSFS03	Vehicle Propulsion Systems	6	A1X	3	E
TSFS06	Diagnosis and Supervision	6	A1X	1	E
TSFS11	Electrical and Energy Technology	6	G2X	4	E
TSKS14	Multiple Antenna Communications	6	A1X	2	E

Course code	Course name	Credits	Level	Timetable module	ECV
TSRT14	Sensor Fusion	6	A1X	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 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	A1X	3	E
Period 2					
TAOP24	Optimization, Advanced Course	6	G2X	1	C
TATA66	Fourier and Wavelet Analysis	6*	A1X	2	E
TFYA19	Quantum Computers	6	A1X	4	E

Specialisation: Biomedical Engineering

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TBMT02	Medical Imaging	6	A1X	3	C
TBMT09	Physiological Pressures and Flows	6	A1X	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					
TSBK08	Data Compression	6	A1X	2	E
TSEK38	Radio Frequency Transceiver Design	6	A1X	2	E
TSKS13	Wireless Communications	6	A1X	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	2	E

Specialisation: Control and Information Systems

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TSRT07	Industrial Control Systems	6	A1X	2	C
TSRT09	Control Theory	6	A1X	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	A1X	1	E
TSRT14	Sensor Fusion	6	A1X	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
TSTE06	Digital Filters	6	A1X	3	E
TSTE93	Analog Circuits	6*	G2X	1	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
TPPE33	Portfolio Management	6	A1X	2	E

Specialisation: 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
TFYA04	Materials Optics	6	A1X	4	E
TFYA21	Physical Metallurgy	6	A1X	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: Mechatronics

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TMME55	Flight Dynamics	6	A1X	1	E
TMMS30	Multi Body Dynamics and Robotics	6	A1X	3	E
TSFS04	Electrical Drives	6	G2X	4	E
TSRT07	Industrial Control Systems	6	A1X	2	E
TSRT09	Control Theory	6	A1X	3	E
Period 2					
TSFS03	Vehicle Propulsion Systems	6	A1X	3	E
TSFS06	Diagnosis and Supervision	6	A1X	1	E
TSRT14	Sensor Fusion	6	A1X	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	A1X	3	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	A1X	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	A1X	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
TSTE06	Digital Filters	6	A1X	3	E
TSTE87	Application-Specific Integrated Circuits	6	A1X	2	E

Specialisation: Theory, Modelling and Visualization

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TFYY67	Classical Electrodynamics	6	A1X	1	C
TATA27	Partial Differential Equations	6	A1X	2	E
TFYA21	Physical Metallurgy	6	A1X	3	E
TFYA25	Physics of Condensed Matter part II	6	A1X	2	E
TFYA36	Chaos and Non-Linear Phenomena	6*	A1X	3	E
TFYA71	Cosmology	6*	A1X	3	E
TSBK07	Computer Graphics	6*	A1X	4	E
Period 2					
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

Semester 9 (Autumn 2018)

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
TBMT36	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*	A1X	-	E
TFYA18	Mathematical Methods of Physics	6	A1X	3	E
TFYA40	Analytical Mechanics	6	A1X	2	E
TFYA50	Project course in Computational Physics CDIO	12*	A1X	4	E
TFYA91	Quantum Structures: Photonics and Transport	6	A1X	1	E

Course code	Course name	Credits	Level	Timetable module	ECV
TFYA92	Project Course in Applied Physics, CDIO	12*	A1X	4	E
TMES09	Industrial Energy Systems	6	A1X	3	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
TSEA26	Design of Embedded DSP Processor	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
TSIN01	Information Networks	6	A1X	3	E
TSIT03	Cryptology	6	A1X	2	E
TSKS05	Communication Systems, Project Course	12*	A1X	4	E
TSKS12	Modern Channel Coding, Inference and Learning	6	A1X	1	E
TSRT10	Automatic Control - Project Course	12*	A1X	4	E
TSTE17	System Design	12*	A1X	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	A1X	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

Course code	Course name	Credits	Level	Timetable module	ECV
TFYA17	Advanced Project Work in Applied Physics	6*	A1X	-	E
TFYA27	Elementary Particle Physics	6	A1X	2	E
TFYA28	Quantum Dynamics	6	A1X	1	E
TFYA50	Project course in Computational Physics CDIO	12*	A1X	4	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
TMMS11	Models of Mechanics	6*	A1X	4	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
TSEA44	Computer Hardware - a System on Chip	6	A1X	1	E
TSEA84	Digital Design Project	6*	A1X	3	E
TSKS05	Communication Systems, Project Course	12*	A1X	4	E
TSRT08	Optimal Control	6	A1X	3	E
TSRT10	Automatic Control - Project Course	12*	A1X	4	E
TSTE17	System Design	12*	A1X	4	E
TSTE26	Powergrid and Technology for Renewable Production	6	A1X	3	E
TSTE85	Low Power Electronics	6	A1X	2	E

Specialisation: Applied 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*	A1X	4	C/E
TATA75	Theory of Relativity	6*	A1X	-	E
TATM38	Mathematical Models in Biology	6	A1X	3	E
TFYA18	Mathematical Methods of Physics	6	A1X	3	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*	A1X	4	C/E
TATA75	Theory of Relativity	6*	A1X	3	E
TFYA57	Relativistic Quantum Mechanics	6	A1X	2	E
TMMS11	Models of Mechanics	6*	A1X	4	E
TPPE61	Financial Optimization	6	A1X	2	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
TBMT36	Biomedical Optics	6	A1X	1	E
Period 2					
TBMT14	Biomedical Engineering - Project Course	12*	A1X	4	C
TBMI02	Medical Image Analysis	6	A1X	1	E

Specialisation: Communication

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TSIN01	Information Networks	6	A1X	3	C
TSKS05	Communication Systems, Project Course	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					
TSKS05	Communication Systems, Project Course	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*	A1X	4	C/E
TDTS06	Computer Networks	6	G2X	1	E
Period 2					
TATA62	Project - Applied Mathematics	12*	A1X	4	C/E
TSRT10	Automatic Control - Project Course	12*	A1X	4	C/E
TSKS11	Networks: Models, Algorithms and Applications	6	G2X	3	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*	A1X	4	C/E
TNE071	Microwave Engineering	6	A1X	1	E
TNE089	Electromagnetic Compatibility (EMC) and Printed Circuit Board (PCB) Design	6*	A1X	2	E
TSEA26	Design of Embedded DSP Processor	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
TSTE25	Power Electronics	6	A1X	3	E
Period 2					
TSTE17	System Design	12*	A1X	4	C/E
TNE083	Antenna Theory	6	A1X	2	E
TNE089	Electromagnetic Compatibility (EMC) and Printed Circuit Board (PCB) Design	6*	A1X	1	E
TSEA44	Computer Hardware - a System on Chip	6	A1X	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	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: Materials and Nano Physics

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TFYA50	Project course in Computational Physics CDIO	12*	A1X	4	C/E
TFYA92	Project Course in Applied Physics, CDIO	12*	A1X	4	C/E
TFYA17	Advanced Project Work in Applied Physics	6*	A1X	-	E
TFYA40	Analytical Mechanics	6	A1X	2	E
TFYA91	Quantum Structures: Photonics and Transport	6	A1X	1	E
Period 2					
TFYY54	Nano Physics	6	A1X	3	C
TFYA50	Project course in Computational Physics CDIO	12*	A1X	4	C/E
TFYA92	Project Course in Applied Physics, CDIO	12*	A1X	4	C/E
TFYA17	Advanced Project Work in Applied Physics	6*	A1X	-	E

Specialisation: Mechatronics

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TSRT10	Automatic Control - Project Course	12*	A1X	4	C
TFYA40	Analytical Mechanics	6	A1X	2	E
Period 2					
TSRT10	Automatic Control - Project Course	12*	A1X	4	C
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	A1X	1	E
TDDD56	Multicore and GPU Programming	6	A1X	2	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*	A1X	4	C/E
TDTS08	Advanced Computer Architecture	6	A1X	2	E
TSEA26	Design of Embedded DSP Processor	6	A1X	1	E
TSEA84	Digital Design Project	6*	A1X	3	E
TSEK11	Evaluation of an Integrated Circuit	2	A1X	4	E
Period 2					
TSTE17	System Design	12*	A1X	4	C/E
TDDD56	Multicore and GPU Programming	6	A1X	2	E
TSEA44	Computer Hardware - a System on Chip	6	A1X	1	E
TSEA84	Digital Design Project	6*	A1X	3	E
TSIT02	Computer Security	6	G2X	2	E
TSTE85	Low Power Electronics	6	A1X	2	E

Specialisation: Theory, Modelling and Visualization

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TFYA18	Mathematical Methods of Physics	6	A1X	3	C
TFYA40	Analytical Mechanics	6	A1X	2	C
TFYA50	Project course in Computational Physics CDIO	12*	A1X	4	C
TFYA17	Advanced Project Work in Applied Physics	6*	A1X	-	E
TFYA91	Quantum Structures: Photonics and Transport	6	A1X	1	E
Period 2					
TFYA50	Project course in Computational Physics CDIO	12*	A1X	4	C
TFYA17	Advanced Project Work in Applied Physics	6*	A1X	-	E
TFYA27	Elementary Particle Physics	6	A1X	2	E
TFYA28	Quantum Dynamics	6	A1X	1	E
TFYA57	Relativistic Quantum Mechanics	6	A1X	2	E
TFYY54	Nano Physics	6	A1X	3	E

Semester 10 (Spring 2019)

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