

# Information Technology, M Sc in Engineering

300 credits

Civilingenjör i informationsteknologi

6CITE

Valid from: 2016 Spring semester

**Determined by** 

Board of Studies for Computer Science and Media Technology

**Date determined** 2016-01-19

# **Entry requirements**

Degree in Swedish Civilingenjör 300 hp och Teknologie master 120 hp



# Curriculum

# Semester 2 (Spring 2017)

Course name	Credits	Level	Timetable module	ECV
Calculus in One Variable 1	6	G1F	4	С
Computer Networks and Internet Protocols	6	G1F	2	С
Man and Technology at the Workplace	4*	G1X	3	С
Introduction in Matlab	2	G1X	2	E
Introduction to University Studies	2*	G1X	-	V
Calculus in One Variable 2	6	G1F	2	С
Models in Physics	8	G1X	1	С
Man and Technology at the Workplace	4*	G1X	3	С
Introduction to University Studies	2*	G1X	-	V
	Calculus in One Variable 1  Computer Networks and Internet Protocols  Man and Technology at the Workplace  Introduction in Matlab  Introduction to University Studies  Calculus in One Variable 2  Models in Physics  Man and Technology at the Workplace	Calculus in One Variable 1 6  Computer Networks and Internet Protocols 6  Man and Technology at the Workplace 4*  Introduction in Matlab 2  Introduction to University Studies 2*  Calculus in One Variable 2 6  Models in Physics 8  Man and Technology at the Workplace 4*	Calculus in One Variable 1 6 G1F  Computer Networks and Internet Protocols 6 G1F  Man and Technology at the Workplace 4* G1X  Introduction in Matlab 2 G1X  Introduction to University Studies 2* G1X  Calculus in One Variable 2 6 G1F  Models in Physics 8 G1X  Man and Technology at the Workplace 4* G1X	Calculus in One Variable 1 6 G1F 4  Computer Networks and Internet Protocols 6 G1F 2  Man and Technology at the Workplace 4* G1X 3  Introduction in Matlab 2 G1X 2  Introduction to University Studies 2* G1X -  Calculus in One Variable 2 6 G1F 2  Models in Physics 8 G1X 1  Man and Technology at the Workplace 4* G1X 3

# Semester 3 (Autumn 2017)

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TATA24	Linear Algebra	8*	G1N	4	С
TDDC91	Data Structures and Algorithms	6	G1X	3	С
TDDD35	System Usability Issues	6	G1X	2	С
TATA40	Perspectives on Mathematics	1*	G1N	-	V
Period 2					
TATA24	Linear Algebra	8*	G1N	4	С
TDDD13	Interaction Programming	6	G2X	1	С
TDDE17	Introduction to Language Technology	4	G2X	3	С
TATA40	Perspectives on Mathematics	1*	G1N	-	V



# Semester 4 (Spring 2018)

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TATA76	Multivariable Calculus	4	G1F	4	С
TFYA94	Principles of Physics in Information Technology	8*	G2X	3	С
TSEA48	Computer Hardware and Architecture	4	G1X	1	С
TSKS06	Linear Systems for Communication	10*	G2X	2	С
THEN18	English	6*	G1N	1	E
TATA40	Perspectives on Mathematics	1*	G1N	-	V
TGTU63	Visits to Industry	1*	G1X	-	V
Period 2					
TAMS36	Probability, First Course	4	G1X	4	С
TFYA94	Principles of Physics in Information Technology	8*	G2X	1	С
TSKS06	Linear Systems for Communication	10*	G2X	2	С
THEN18	English	6*	G1N	3	E
TPTE06	Industrial Placement	6	G1X	-	E
TATA40	Perspectives on Mathematics	1*	G1N	-	V
TGTU63	Visits to Industry	1*	G1X	-	V

# Semester 5 (Autumn 2018)

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TAOP86	Combinatorial Optimization with Environmental Applications	8	G2X	2	С
TDDD66	Mobile Networks	6	G2X	3	С
TGTU63	Visits to Industry	1*	G1X	-	V
Period 2					
TDDD46	Database Technology	8	G2X	1	С
TSRT91	Automatic Control	8	G2X	3	С
TGTU63	Visits to Industry	1*	G1X	-	V



# Semester 6 (Spring 2019)

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TDDD82	Project Semester including Bachelor Thesis Project: Secure, Mobile Systems	30*	G2X	-	С
Period 2					
TDDD82	Project Semester including Bachelor Thesis Project: Secure, Mobile Systems	30*	G2X	-	С

# Semester 7 (Autumn 2019)

Period 1           TANA21 Scientific Computing         6 G1F 3 C/E           TAMS24 Statistics, First Course         4 G2F 4 E           TAMS32 Stochastic Processes         6 A1N 1 E           TATA55 Abstract Algebra         6* G2F 3 E           TATA77 Fourier Analysis         6 G2F 1 E           TBME04 Anatomy and Physiology         6 G2F 3 E           TBMI19 Medical Information Systems         6* A1N 2 E           TDDC17 Artificial Intelligence         6 G2F 3 E           TDDC34 Technical, Economic and Societal Evaluation of IT-products         6 A1X 3 E           TDDD04 Software Testing         6 A1N 2 E           TDDD08 Logic Programming         6 A1N 4 E           TDDD23 Design and Programming of Computer Games         6 A1N 2 E           TDDD38 Advanced Programming in C++ 6* A1N 2 E         E           TDDD53 Advanced Interaction Design         6 A1N 1 E           TDDE18 Programming C++ 6* G2F 2 E         E           TDDE45 Software Design and Construction         6 A1N 4 E           TDTS08 Advanced Computer Architecture         6 A1N 2 E           TEAE01 Industrial Economics, Basic Course         6 G1X 2 E           TEIO32 Project Management and Organization         6* G2X 3 E	Course code	Course name	Credits	Level	Timetable module	ECV
TAMS24 Statistics, First Course 4 G2F 4 E  TAMS32 Stochastic Processes 6 A1N 1 E  TATA55 Abstract Algebra 6* G2F 3 E  TATA77 Fourier Analysis 6 G2F 1 E  TBME04 Anatomy and Physiology 6 G2F 3 E  TBMI19 Medical Information Systems 6* A1N 2 E  TDDC17 Artificial Intelligence 6 G2F 3 E  TDDC34 Technical, Economic and Societal Evaluation of IT-products 6 A1N 2 E  TDDD08 Logic Programming 6 A1N 4 E  TDDD08 Logic Programming of Computer Games 6 A1N 2 E  TDDD38 Advanced Programming in C++ 6* A1N 2 E  TDDD53 Advanced Interaction Design 6 A1N 1 E  TDDE18 Programming C++ 6* G2F 2 E  TDDE45 Software Design and Construction 6 A1N 4 E  TDTS06 Computer Networks 6 G2F 1 E  TDTS08 Advanced Computer Architecture 6 A1N 2 E  TEAE01 Industrial Economics, Basic Course 6 G1X 2 E	Period 1					
TAMS32 Stochastic Processes 6 A1N 1 E  TATA55 Abstract Algebra 6* G2F 3 E  TATA77 Fourier Analysis 6 G2F 1 E  TBME04 Anatomy and Physiology 6 G2F 3 E  TBMI19 Medical Information Systems 6* A1N 2 E  TDDC17 Artificial Intelligence 6 G2F 3 E  TDDC34 Technical, Economic and Societal Evaluation of IT-products 6 A1N 2 E  TDDD08 Logic Programming 6 A1N 4 E  TDDD03 Design and Programming of Computer Games 6 A1N 2 E  TDDD3 Advanced Programming 10 C++ 6* A1N 2 E  TDDD5 Advanced Interaction Design 6 A1N 1 E  TDDE18 Programming C++ 6* G2F 2 E  TDDE45 Software Design and Construction 6 A1N 4 E  TDTS06 Computer Networks 6 G2F 1 E  TDTS08 Advanced Computer Architecture 6 A1N 2 E  TEAE01 Industrial Economics, Basic Course 6 G1X 2 E	TANA21	Scientific Computing	6	G1F	3	C/E
TATA55 Abstract Algebra 6* G2F 3 E  TATA77 Fourier Analysis 6 G2F 1 E  TBME04 Anatomy and Physiology 6 G2F 3 E  TBMI19 Medical Information Systems 6* A1N 2 E  TDDC17 Artificial Intelligence 6 G2F 3 E  TDDC34 Technical, Economic and Societal Evaluation of IT-products 6 A1N 2 E  TDDD08 Software Testing 6 A1N 2 E  TDDD09 Logic Programming 6 A1N 4 E  TDDD23 Design and Programming of Computer Games 6 A1N 2 E  TDDD38 Advanced Programming 6 A1N 2 E  TDDD53 Advanced Interaction Design 6 A1N 1 E  TDDE18 Programming C++ 6* G2F 2 E  TDDE45 Software Design and Construction 6 A1N 4 E  TDTS06 Computer Networks 6 G2F 1 E  TDTS08 Advanced Computer Architecture 6 A1N 2 E	TAMS24	Statistics, First Course	4	G2F	4	Е
TATA77 Fourier Analysis 6 G2F 1 E TBME04 Anatomy and Physiology 6 G2F 3 E TBMI19 Medical Information Systems 6* A1N 2 E TDDC17 Artificial Intelligence 6 G2F 3 E TDDC34 Technical, Economic and Societal Evaluation of IT-products  TDDD04 Software Testing 6 A1N 2 E TDDD08 Logic Programming 6 A1N 4 E TDDD23 Design and Programming of Computer Games 6 A1N 2 E TDDD38 Advanced Programming in C++ 6* A1N 2 E TDDD53 Advanced Interaction Design 6 A1N 1 E TDDE18 Programming C++ 6* G2F 2 E TDDE45 Software Design and Construction 6 A1N 4 E TDTS06 Computer Networks 6 G2F 1 E TDTS08 Advanced Computer Architecture 6 A1N 2 E	TAMS32	Stochastic Processes	6	A1N	1	Е
TBME04 Anatomy and Physiology 6 G2F 3 E  TBMI19 Medical Information Systems 6* A1N 2 E  TDDC17 Artificial Intelligence 6 G2F 3 E  TDDC34 Technical, Economic and Societal Evaluation of IT-products 6 A1X 3 E  TDDD04 Software Testing 6 A1N 2 E  TDDD08 Logic Programming 6 A1N 4 E  TDDD23 Design and Programming of Computer Games 6 A1N 2 E  TDDD38 Advanced Programming in C++ 6* A1N 2 E  TDDD53 Advanced Interaction Design 6 A1N 1 E  TDDE18 Programming C++ 6* G2F 2 E  TDDE45 Software Design and Construction 6 A1N 4 E  TDTS06 Computer Networks 6 G2F 1 E  TDTS08 Advanced Computer Architecture 6 A1N 2 E	TATA55	Abstract Algebra	6*	G2F	3	E
TBMI19 Medical Information Systems 6* A1N 2 E  TDDC17 Artificial Intelligence 6 G2F 3 E  TDDC34 Technical, Economic and Societal Evaluation of IT-products 6 A1N 3 E  TDDD04 Software Testing 6 A1N 2 E  TDDD08 Logic Programming 6 A1N 4 E  TDDD23 Design and Programming of Computer Games 6 A1N 2 E  TDDD38 Advanced Programming in C++ 6* A1N 2 E  TDDD53 Advanced Interaction Design 6 A1N 1 E  TDDE18 Programming C++ 6* G2F 2 E  TDDE45 Software Design and Construction 6 A1N 4 E  TDTS06 Computer Networks 6 G2F 1 E  TDTS08 Advanced Computer Architecture 6 A1N 2 E  TEAE01 Industrial Economics, Basic Course 6 G1X 2 E	TATA77	Fourier Analysis	6	G2F	1	E
TDDC17 Artificial Intelligence 6 G2F 3 E  TDDC34 Technical, Economic and Societal Evaluation of IT-products 6 A1X 3 E  TDDD04 Software Testing 6 A1N 2 E  TDDD08 Logic Programming 6 A1N 4 E  TDDD23 Design and Programming of Computer Games 6 A1N 2 E  TDDD38 Advanced Programming in C++ 6* A1N 2 E  TDDD53 Advanced Interaction Design 6 A1N 1 E  TDDE18 Programming C++ 6* G2F 2 E  TDDE45 Software Design and Construction 6 A1N 4 E  TDTS06 Computer Networks 6 G2F 1 E  TDTS08 Advanced Computer Architecture 6 A1N 2 E  TEAE01 Industrial Economics, Basic Course 6 G1X 2 E	TBME04	Anatomy and Physiology	6	G2F	3	E
TDDC34 Technical, Economic and Societal Evaluation of IT-products  TDDD04 Software Testing  6 A1N 2 E  TDDD08 Logic Programming  6 A1N 4 E  TDDD23 Design and Programming of Computer Games  6 A1N 2 E  TDDD38 Advanced Programming in C++ 6* A1N 2 E  TDDD53 Advanced Interaction Design  6 A1N 1 E  TDDE18 Programming C++ 6* G2F 2 E  TDDE45 Software Design and Construction  6 A1N 4 E  TDTS06 Computer Networks  6 G2F 1 E  TDTS08 Advanced Computer Architecture  6 A1N 2 E	TBMI19	Medical Information Systems	6*	A1N	2	E
TDDD04 Software Testing 6 A1N 2 E  TDDD08 Logic Programming 6 A1N 4 E  TDDD23 Design and Programming of Computer Games 6 A1N 2 E  TDDD38 Advanced Programming in C++ 6* A1N 2 E  TDDD53 Advanced Interaction Design 6 A1N 1 E  TDDE18 Programming C++ 6* G2F 2 E  TDDE45 Software Design and Construction 6 A1N 4 E  TDTS06 Computer Networks 6 G2F 1 E  TDTS08 Advanced Computer Architecture 6 A1N 2 E	TDDC17	Artificial Intelligence	6	G2F	3	E
TDDD08Logic Programming6A1N4ETDDD23Design and Programming of Computer Games6A1N2ETDDD38Advanced Programming in C++6*A1N2ETDDD53Advanced Interaction Design6A1N1ETDDE18Programming C++6*G2F2ETDDE45Software Design and Construction6A1N4ETDTS06Computer Networks6G2F1ETDTS08Advanced Computer Architecture6A1N2ETEAE01Industrial Economics, Basic Course6G1X2E	TDDC34		6	A1X	3	E
TDDD23 Design and Programming of Computer Games 6 A1N 2 E  TDDD38 Advanced Programming in C++ 6* A1N 2 E  TDDD53 Advanced Interaction Design 6 A1N 1 E  TDDE18 Programming C++ 6* G2F 2 E  TDDE45 Software Design and Construction 6 A1N 4 E  TDTS06 Computer Networks 6 G2F 1 E  TDTS08 Advanced Computer Architecture 6 A1N 2 E  TEAE01 Industrial Economics, Basic Course 6 G1X 2 E	TDDD04	Software Testing	6	A1N	2	Е
TDDD38Advanced Programming in C++6*A1N2ETDDD53Advanced Interaction Design6A1N1ETDDE18Programming C++6*G2F2ETDDE45Software Design and Construction6A1N4ETDTS06Computer Networks6G2F1ETDTS08Advanced Computer Architecture6A1N2ETEAE01Industrial Economics, Basic Course6G1X2E	TDDD08	Logic Programming	6	A1N	4	E
TDDD53 Advanced Interaction Design 6 A1N 1 E  TDDE18 Programming C++ 6* G2F 2 E  TDDE45 Software Design and Construction 6 A1N 4 E  TDTS06 Computer Networks 6 G2F 1 E  TDTS08 Advanced Computer Architecture 6 A1N 2 E  TEAE01 Industrial Economics, Basic Course 6 G1X 2 E	TDDD23	Design and Programming of Computer Games	6	A1N	2	E
TDDE18Programming C++6*G2F2ETDDE45Software Design and Construction6A1N4ETDTS06Computer Networks6G2F1ETDTS08Advanced Computer Architecture6A1N2ETEAE01Industrial Economics, Basic Course6G1X2E	TDDD38	Advanced Programming in C++	6*	A1N	2	E
TDDE45 Software Design and Construction 6 A1N 4 E  TDTS06 Computer Networks 6 G2F 1 E  TDTS08 Advanced Computer Architecture 6 A1N 2 E  TEAE01 Industrial Economics, Basic Course 6 G1X 2 E	TDDD53	Advanced Interaction Design	6	A1N	1	Е
TDTS06Computer Networks6G2F1ETDTS08Advanced Computer Architecture6A1N2ETEAE01Industrial Economics, Basic Course6G1X2E	TDDE18	Programming C++	6*	G2F	2	Е
TDTS08Advanced Computer Architecture6A1N2ETEAE01Industrial Economics, Basic Course6G1X2E	TDDE45	Software Design and Construction	6	A1N	4	E
TEAE01 Industrial Economics, Basic Course 6 G1X 2 E	TDTS06	Computer Networks	6	G2F	1	E
	TDTS08	Advanced Computer Architecture	6	A1N	2	E
TEIO32 Project Management and Organization 6* G2X 3 E	TEAE01	Industrial Economics, Basic Course	6	G1X	2	E
	TEIO32	Project Management and Organization	6*	G2X	3	Е



Course code	Course name	Credits	Level	Timetable module	ECV
TGTU91	Oral and Written Communication	6	G1F	2	E
THFR05	Communicative French	6*	G1X	4	E
THSP05	Spanish	6*	G1X	4	E
THTY05	German	6*	G1X	4	E
TSBB06	Multidimensional Signal Analysis	6*	A1X	2	E
TSBB08	Digital Image Processing	6	A1X	4	Е
TSDT14	Signal Theory	6	A1X	1	E
TSEA29	Microcomputer, Project Laboratory	8*	G2X	3	Е
TSFS12	Autonomous Vehicles - Planning, Control, and Learning Systems	6	A1X	1	E
TSKS01	Digital Communication	6*	A1X	4	Е
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	Е
TSTE86	Digital Integrated Circuits	6	A1X	2	E
Period 2					
TANA09	Numerical Algorithms in Computer Science	4	G2F	1	C/E
TAMS22	Probability Theory and Bayesian Networks	6	A1X	1	Е
TAOP04	Mathematical Optimization	6	A1N	4	E
TATA55	Abstract Algebra	6*	G2F	3	Е
TBMI02	Medical Image Analysis	6	A1N	1	E
TBMI04	eHealth: Aims and Applications	6	G2F	2/4	Е
TBMI19	Medical Information Systems	6*	A1N	3	E
TDDC73	Interaction Programming	6	G2F	1	E
TDDC90	Software Security	6	A1N	1	E
TDDD07	Real Time Systems	6	A1N	4	E
TDDD38	Advanced Programming in C++	6*	A1N	-	Е
TDDD49	Programming in C# and .NET Framework	4	G2F	3	E
TDDD55	Compilers and Interpreters	4	G2F	1	E
TDDE01	Machine Learning	6	A1N	1	E
TDDE02	Software Entrepreneurship	6	A1N	2	E
TDDE18	Programming C++	6*	G2F	1	E



Course code	Course name	Credits	Level	Timetable module	ECV
TDDI07	Distributed Embedded Software and Networks	4	G2X	1	E
TDEI19	Management Control	6	A1X	2	Е
TDEI21	Strategic Organisational Application of IT - Workflow and Knowledge Management	6	A1X	4	E
TEIM03	Intercultural Communication	4	G1X	4	Е
TEIO32	Project Management and Organization	6*	G2X	1	Е
TGTU04	Leadership	6	G2X	2	E
TGTU49	History of Technology	6	G1F	3	Е
THFR05	Communicative French	6*	G1X	4	Е
THSP05	Spanish	6*	G1X	4	Е
THTY05	German	6*	G1X	4	E
TKMJ24	Environmental Engineering	6	G1N	3	E
TSBB06	Multidimensional Signal Analysis	6*	A1X	3	E
TSBB09	Image Sensors	6	A1X	4	Е
TSEA29	Microcomputer, Project Laboratory	8*	G2X	-	Е
TSEK37	Analog CMOS Integrated Circuits	6	A1X	1	E
TSFS02	Vehicle Dynamics and Control	6	A1X	1	Е
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
TSRT08	Optimal Control	6	A1X	3	E
TSRT78	Digital Signal Processing	6	A1X	2	Е



# Specialisation: AI and Machine Learning

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TDDC17	Artificial Intelligence	6	G2F	3	С
TAMS24	Statistics, First Course	4	G2F	4	Е
TBMI19	Medical Information Systems	6*	A1N	2	Е
TDDD08	Logic Programming	6	A1N	4	Е
TSBB06	Multidimensional Signal Analysis	6*	A1X	2	Е
TSBB08	Digital Image Processing	6	A1X	4	Е
Period 2					
TDDE01	Machine Learning	6	A1N	1	С
TBMI19	Medical Information Systems	6*	A1N	3	Е
TSBB06	Multidimensional Signal Analysis	6*	A1X	3	Е
TSRT78	Digital Signal Processing	6	A1X	2	Е

#### $Specialisation: Autonomous \, Systems$

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TDDC17	Artificial Intelligence	6	G2F	3	С
TSBB08	Digital Image Processing	6	A1X	4	С
TSFS12	Autonomous Vehicles - Planning, Control, and Learning Systems	6	A1X	1	С
Period 2					
TSIT02	Computer Security	6	G2F	2	E
TSRT08	Optimal Control	6	A1X	3	E



#### Specialisation: Communication

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TSDT14	Signal Theory	6	A1X	1	С
TSKS01	Digital Communication	6*	A1X	4	С
TSKS15	Detection and Estimation of Signals	6	A1X	2	С
TDTS06	Computer Networks	6	G2F	1	E
Period 2					
TSKS01	Digital Communication	6*	A1X	4	С
TDDE01	Machine Learning	6	A1N	1	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: Computer Games Programming

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TDDD23	Design and Programming of Computer Games	6	A1N	2	С
TDDC17	Artificial Intelligence	6	G2F	3	E
TDDD53	Advanced Interaction Design	6	A1N	1	E
Period 2					
TDDC73	Interaction Programming	6	G2F	1	С
TDDE02	Software Entrepreneurship	6	A1N	2	E



#### Specialisation: Computer Systems Architecture

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TDDD04	Software Testing	6	A1N	2	E
TDTS06	Computer Networks	6	G2F	1	E
TDTS08	Advanced Computer Architecture	6	A1N	2	E
TSTE86	Digital Integrated Circuits	6	A1X	2	E
Period 2					
TDDD07	Real Time Systems	6	A1N	4	E
TSIT02	Computer Security	6	G2F	2	E

#### Specialisation: Industrial Economics

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TEAE01	Industrial Economics, Basic Course	6	G1X	2	С
TEIO32	Project Management and Organization	6*	G2X	3	С
Period 2					
TDDE02	Software Entrepreneurship	6	A1N	2	С
TEIO32	Project Management and Organization	6*	G2X	1	С

### Specialisation: International Software Engineering

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TDDD04	Software Testing	6	A1N	2	E
TDDD38	Advanced Programming in C++	6*	A1N	2	E
TDDE45	Software Design and Construction	6	A1N	4	E
Period 2					
TEAE01	Industrial Economics, Basic Course	6	G1X	2	С
TDDD38	Advanced Programming in C++	6*	A1N	-	E
TDDE02	Software Entrepreneurship	6	A1N	2	E
TDEI19	Management Control	6	A1X	2	E
TEIM03	Intercultural Communication	4	G1X	4	E
TSIT02	Computer Security	6	G2F	2	E



#### Specialisation: Large Scale Software Engineering

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TDDC34	Technical, Economic and Societal Evaluation of IT-products	6	A1X	3	E
TDDD04	Software Testing	6	A1N	2	E
TDDE45	Software Design and Construction	6	A1N	4	E
Period 2					
TDDD37	Database Technology	6	G2F	1	E
TDDE02	Software Entrepreneurship	6	A1N	2	Е

#### Specialisation: Medical Informatics

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TBME04	Anatomy and Physiology	6	G2F	3	С
TBMI19	Medical Information Systems	6*	A1N	2	С
TDDC17	Artificial Intelligence	6	G2F	3	E
TDDD53	Advanced Interaction Design	6	A1N	1	E
Period 2					
TBMI19	Medical Information Systems	6*	A1N	3	С
TBME03	Biochemistry and Cell Biology	6	G2F	2	E
TBMI04	eHealth: Aims and Applications	6	G2F	2/4	E
TDDD37	Database Technology	6	G2F	1	E
TSIT02	Computer Security	6	G2F	2	E



#### Specialisation: Programming and Algorithms Specialization

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TDDC17	Artificial Intelligence	6	G2F	3	E
TDDD04	Software Testing	6	A1N	2	E
TDDD08	Logic Programming	6	A1N	4	E
TDDD38	Advanced Programming in C++	6*	A1N	2	E
TDDE45	Software Design and Construction	6	A1N	4	E
Period 2					
TDDC90	Software Security	6	A1N	1	E
TDDD37	Database Technology	6	G2F	1	E
TDDD38	Advanced Programming in C++	6*	A1N	-	E
TSIT02	Computer Security	6	G2F	2	E
TSKS11	Networks: Models, Algorithms and Applications	6	G2X	3	E

### Specialisation: Secure Systems

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TDDE45	Software Design and Construction	6	A1N	4	С
TDDD38	Advanced Programming in C++	6*	A1N	2	E
TDTS06	Computer Networks	6	G2F	1	Е
TSIT03	Cryptology	6	A1X	2	E
Period 2					
TDDC90	Software Security	6	A1N	1	С
TSIT02	Computer Security	6	G2F	2	С
TDDD37	Database Technology	6	G2F	1	Е
TDDD38	Advanced Programming in C++	6*	A1N	-	E



#### Specialisation: Signal and Image Processing

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

# Semester 8 (Spring 2020)

Period 1  TANA15 Numerical Linear Algebra 6 A1N 1 E  TATA53 Linear Algebra, Honours Course 6* G2F - E  TATA54 Number Theory 6* G2F 3 E  TATA64 Graph Theory 6* A1N 2 E  TBMI01 Medical Decision Support 6 A1X 4 E  TBMI03 Medical Information Models and Ontologies 6 A1X 4 E  TBMI06 Neural Networks and Learning Systems 6 A1N 2 E  TBMT09 Medical Imaging 6 A1F 3 E  TBMT09 Physiological Pressures and Flows 6 A1N 1 E  TBMT32 Perspectives on Biomedical Engineering 2* G1N 3 E  TDDA69 Data and Program Structures 6* G2X 3 E  TDDD17 Information Security, Second Course 6* A1X 4 E  TDDD20 Design and Analysis of Algorithms 6 A1N 2 E  TDDD38 Advanced Programming in C++ 6* A1N 2 E  TDDD41 Data Mining - Clustering and Association Analysis 6 Gener Computing 4 G2F 4 E	Course code	Course name	Credits	Level	Timetable module	ECV
TATA53 Linear Algebra, Honours Course  FATA54 Number Theory  G* G2F 3 E  TATA64 Graph Theory  G* A1N 2 E  TBMI01 Medical Decision Support  G* A1X 4 E  TBMI03 Medical Information Models and Ontologies  FATA66 Neural Networks and Learning Systems  G* A1X 4 E  TBMT02 Medical Imaging  G* A1F 3 E  TBMT09 Physiological Pressures and Flows  FATA69 Data and Program Structures  FATA69 Data and Program Structures  FATA69 Design and Analysis of Algorithms  G* A1N 3 E  TDDD20 Design and Analysis of Algorithms  G* A1N 2 E  TDDD38 Advanced Programming in C++  G* A1N 2 E  TDDD41 Data Mining - Clustering and Association Analysis  FATA69 A1N 3 E  FATA69 Data Mining - Clustering and Association Analysis  FATA60 Data Mining - Clustering and Association Analysis  FATA60 G2F 3 E  FATA60 G2F A  FATA60 G2F	Period 1					
TATA54 Number Theory 6* G2F 3 E  TATA64 Graph Theory 6* A1N 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 A1N 2 E  TBMT02 Medical Imaging 6 A1F 3 E  TBMT09 Physiological Pressures and Flows 6 A1N 1 E  TBMT32 Perspectives on Biomedical Engineering 2* G1N 3 E  TDDA69 Data and Program Structures 6* G2X 3 E  TDDD17 Information Security, Second Course 6* A1N 4 E  TDDD20 Design and Analysis of Algorithms 6 A1N 3 E  TDDD25 Distributed Systems 6 A1N 2 E  TDDD38 Advanced Programming in C++ 6* A1N 2 E  TDDD41 Data Mining - Clustering and Association Analysis 6 A1N 3 E	TANA15	Numerical Linear Algebra	6	A1N	1	E
TATA64 Graph Theory  6* A1N 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 A1N 2 E  TBMT02 Medical Imaging  6 A1F 3 E  TBMT09 Physiological Pressures and Flows  6 A1N 1 E  TBMT32 Perspectives on Biomedical Engineering  7 G1N 3 E  TDDA69 Data and Program Structures  6* G2X 3 E  TDDD17 Information Security, Second Course  6* A1X 4 E  TDDD20 Design and Analysis of Algorithms  6 A1N 3 E  TDDD25 Distributed Systems  6 A1N 2 E  TDDD38 Advanced Programming in C++  6* A1N 2 E  TDDD41 Data Mining - Clustering and Association Analysis	TATA53	Linear Algebra, Honours Course	6*	G2F	-	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 A1N 2 E  TBMT02 Medical Imaging 6 A1F 3 E  TBMT09 Physiological Pressures and Flows 6 A1N 1 E  TBMT32 Perspectives on Biomedical Engineering 2* G1N 3 E  TDDA69 Data and Program Structures 6* G2X 3 E  TDDD17 Information Security, Second Course 6* A1X 4 E  TDDD20 Design and Analysis of Algorithms 6 A1N 3 E  TDDD25 Distributed Systems 6 A1N 2 E  TDDD38 Advanced Programming in C++ 6* A1N 2 E  TDDD41 Data Mining - Clustering and Association Analysis 6 A1N 3 E	TATA54	Number Theory	6*	G2F	3	Е
TBMI03 Medical Information Models and Ontologies 6 A1X 4 E  TBMI26 Neural Networks and Learning Systems 6 A1N 2 E  TBMT02 Medical Imaging 6 A1F 3 E  TBMT09 Physiological Pressures and Flows 6 A1N 1 E  TBMT32 Perspectives on Biomedical Engineering 2* G1N 3 E  TDDA69 Data and Program Structures 6* G2X 3 E  TDDD17 Information Security, Second Course 6* A1X 4 E  TDDD20 Design and Analysis of Algorithms 6 A1N 3 E  TDDD25 Distributed Systems 6 A1N 2 E  TDDD38 Advanced Programming in C++ 6* A1N 2 E  TDDD41 Data Mining - Clustering and Association Analysis 6 A1N 3 E	TATA64	Graph Theory	6*	A1N	2	Е
TBMI26 Neural Networks and Learning Systems 6 A1N 2 E  TBMT02 Medical Imaging 6 A1F 3 E  TBMT09 Physiological Pressures and Flows 6 A1N 1 E  TBMT32 Perspectives on Biomedical Engineering 2* G1N 3 E  TDDA69 Data and Program Structures 6* G2X 3 E  TDDD17 Information Security, Second Course 6* A1X 4 E  TDDD20 Design and Analysis of Algorithms 6 A1N 3 E  TDDD25 Distributed Systems 6 A1N 2 E  TDDD38 Advanced Programming in C++ 6* A1N 2 E  TDDD41 Data Mining - Clustering and Association Analysis 6 A1N 3 E	TBMI01	Medical Decision Support	6	A1X	4	E
TBMT02 Medical Imaging 6 A1F 3 E  TBMT09 Physiological Pressures and Flows 6 A1N 1 E  TBMT32 Perspectives on Biomedical Engineering 2* G1N 3 E  TDDA69 Data and Program Structures 6* G2X 3 E  TDDD17 Information Security, Second Course 6* A1X 4 E  TDDD20 Design and Analysis of Algorithms 6 A1N 3 E  TDDD25 Distributed Systems 6 A1N 2 E  TDDD38 Advanced Programming in C++ 6* A1N 2 E  TDDD41 Data Mining - Clustering and Association Analysis 6 A1N 3 E	TBMI03	Medical Information Models and Ontologies	6	A1X	4	Е
TBMT09 Physiological Pressures and Flows 6 A1N 1 E  TBMT32 Perspectives on Biomedical Engineering 2* G1N 3 E  TDDA69 Data and Program Structures 6* G2X 3 E  TDDD17 Information Security, Second Course 6* A1X 4 E  TDDD20 Design and Analysis of Algorithms 6 A1N 3 E  TDDD25 Distributed Systems 6 A1N 2 E  TDDD38 Advanced Programming in C++ 6* A1N 2 E  TDDD41 Data Mining - Clustering and Association Analysis 6 A1N 3 E	TBMI26	Neural Networks and Learning Systems	6	A1N	2	E
TBMT32 Perspectives on Biomedical Engineering 2* G1N 3 E  TDDA69 Data and Program Structures 6* G2X 3 E  TDDD17 Information Security, Second Course 6* A1X 4 E  TDDD20 Design and Analysis of Algorithms 6 A1N 3 E  TDDD25 Distributed Systems 6 A1N 2 E  TDDD38 Advanced Programming in C++ 6* A1N 2 E  TDDD41 Data Mining - Clustering and Association Analysis 6 A1N 3 E	TBMT02	Medical Imaging	6	A1F	3	E
TDDA69Data and Program Structures6*G2X3ETDDD17Information Security, Second Course6*A1X4ETDDD20Design and Analysis of Algorithms6A1N3ETDDD25Distributed Systems6A1N2ETDDD38Advanced Programming in C++6*A1N2ETDDD41Data Mining - Clustering and Association Analysis6A1N3E	ТВМТ09	Physiological Pressures and Flows	6	A1N	1	E
TDDD17 Information Security, Second Course 6* A1X 4 E  TDDD20 Design and Analysis of Algorithms 6 A1N 3 E  TDDD25 Distributed Systems 6 A1N 2 E  TDDD38 Advanced Programming in C++ 6* A1N 2 E  TDDD41 Data Mining - Clustering and Association Analysis 6 A1N 3 E	TBMT32	Perspectives on Biomedical Engineering	2*	G1N	3	E
TDDD20Design and Analysis of Algorithms6A1N3ETDDD25Distributed Systems6A1N2ETDDD38Advanced Programming in C++6*A1N2ETDDD41Data Mining - Clustering and Association Analysis6A1N3E	TDDA69	Data and Program Structures	6*	G2X	3	Е
TDDD25Distributed Systems6A1N2ETDDD38Advanced Programming in C++6*A1N2ETDDD41Data Mining - Clustering and Association Analysis6A1N3E	TDDD17	Information Security, Second Course	6*	A1X	4	E
TDDD38 Advanced Programming in C++ 6* A1N 2 E  TDDD41 Data Mining - Clustering and Association Analysis 6 A1N 3 E	TDDD20	Design and Analysis of Algorithms	6	A1N	3	E
TDDD41 Data Mining - Clustering and Association Analysis 6 A1N 3 E	TDDD25	Distributed Systems	6	A1N	2	E
Analysis 6 AIN 3 E	TDDD38	Advanced Programming in C++	6*	A1N	2	E
TDDD50 Green Computing 4 G2F 4 E	TDDD41		6	A1N	3	E
	TDDD50	Green Computing	4	G2F	4	E
TDDD57 Physical Interaction and Game Programming 6 A1N 1 E	TDDD57	Physical Interaction and Game Programming	6	A1N	1	E



Course code	Course name	Credits	Level	Timetable module	ECV
TDDD75	Effect-Driven Development and Human- Centered Design of Interactive Systems	6	G2X	3	E
TDDD76	Software Engineering Project	8*	G2X	2	E
TDDD95	Algorithmic Problem Solving	6*	A1F	1	Е
TDDD97	Web Programming	6	G2F	3	Е
TDDE05	Al Robotics	6*	A1N	4	Е
TDDE06	Large-Scale Software Development - Structures and Processes	6*	A1X	4	E
TDDE09	Natural Language Processing	6	A1F	2	E
TDDE46	Software Quality	6*	A1N	2	E
TDTS07	System Design and Methodology	6	A1N	1	E
TDTS21	Advanced Networking	6*	A1N	1	E
TEIE88	Computer Law	4	G1X	1	E
TEIO13	Leadership and Organizational Change	6	A1X	4	E
TEIO94	Entrepreneurship and Idea Development	6*	G2X	4	Е
TGTU94	Technology and Ethics	6	G1F	1	E
THFR05	Communicative French	6*	G1X	4	Е
THSP05	Spanish	6*	G1X	4	Е
THTY05	German	6*	G1X	4	E
TKMJ15	Environmental Management Strategies	6	G1F	3	Е
TNM048	Information Visualisation	6	A1X	3	E
TSBB15	Computer Vision	12*	A1X	1	Е
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
TSKS13	Wireless Communications	6	A1F	4	E
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	Е
TSTE14	Analog Filters	6	A1X	2	E
TSTE93	Analog Circuits	6*	G2F	1	Е
Period 2					



Course code	Course name	Credits	Level	Timetable module	ECV
TAOP87	Applied Optimization Project Course	6	A1N	3	Е
TATA53	Linear Algebra, Honours Course	6*	G2F	-	Е
TATA54	Number Theory	6*	G2F	1	E
TATA64	Graph Theory	6*	A1N	2	Е
TBMT26	Technology in Intensive Care and Surgery	6	A1N	1	E
TBMT32	Perspectives on Biomedical Engineering	2*	G1N	3	E
TDDA69	Data and Program Structures	6*	G2X	1	E
TDDC78	Programming of Parallel Computers - Methods and Tools	6	A1X	3	E
TDDD14	Formal Languages and Automata Theory	6	G2F	2	E
TDDD17	Information Security, Second Course	6*	A1X	4	E
TDDD27	Advanced Web Programming	6	A1N	3	Е
TDDD38	Advanced Programming in C++	6*	A1N	-	Е
TDDD48	Automated Planning	6	A1N	1	E
TDDD76	Software Engineering Project	8*	G2X	2	Е
TDDD95	Algorithmic Problem Solving	6*	A1F	4	E
TDDE05	Al Robotics	6*	A1N	4	E
TDDE06	Large-Scale Software Development - Structures and Processes	6*	A1X	4	E
TDDE07	Bayesian Learning	6	A1F	2	Е
TDDE31	Big Data Analytics	6	A1F	3	E
TDDE34	Software Verification	6	A1N	1	Е
TDDE41	Software Architectures	6	A1N	1	E
TDDE46	Software Quality	6*	A1N	2	Е
TDEI35	Strategy and Management Control	6	A1X	2	E
TDTS21	Advanced Networking	6*	A1N	1	Е
TEAE13	Civil and Commercial Law	6	G1X	2	E
TEIE44	Intellectual Property Rights	4	G1X	1	E
TEIO06	Innovative Entrepreneurship	6	A1X	2	Е
TEIO94	Entrepreneurship and Idea Development	6*	G2X	4	E
TEIO95	eHealth: Innovation and Entrepreneurship	6	G2F	2/4	E
TFYA19	Quantum Computers	6	A1X	4	E
TGTU95	Philosophy of Science and Technology	6	G1F	4	Е



Course code	Course name	Credits	Level	Timetable module	ECV
THFR05	Communicative French	6*	G1X	4	Е
THSP05	Spanish	6*	G1X	4	Е
THTY05	German	6*	G1X	4	E
TNM079	Modelling and Animation	6	A1X	2	Е
TSBB15	Computer Vision	12*	A1X	3	Е
TSBK02	Image and Audio Coding	6	A1X	4	E
TSBK07	Computer Graphics	6*	A1X	1	Е
TSEK06	VLSI Design	12*	A1X	4	E
TSFS06	Diagnosis and Supervision	6	A1N	1	Е
TSKS14	Multiple Antenna Communications	6	A1F	3	E
TSKS16	Signal Processing for Communications	6	A1N	1	E
TSRT14	Sensor Fusion	6	A1N	2	Е
TSTE06	Digital Filters	6	A1X	3	E
TSTE87	Application-Specific Integrated Circuits	6	A1X	2	E
TSTE93	Analog Circuits	6*	G2F	1	E

 $Specialisation: AI\ and\ Machine\ Learning$ 



Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TBMI26	Neural Networks and Learning Systems	6	A1N	2	Е
TDDD20	Design and Analysis of Algorithms	6	A1N	3	Е
TDDD41	Data Mining - Clustering and Association Analysis	6	A1N	3	E
TDDD95	Algorithmic Problem Solving	6*	A1F	1	Е
TDDE05	Al Robotics	6*	A1N	4	E
TDDE09	Natural Language Processing	6	A1F	2	E
TSRT07	Industrial Control Systems	6	A1N	2	E
Period 2					
TDDD48	Automated Planning	6	A1N	1	E
TDDD95	Algorithmic Problem Solving	6*	A1F	4	E
TDDE05	Al Robotics	6*	A1N	4	E
TDDE07	Bayesian Learning	6	A1F	2	E
TDDE31	Big Data Analytics	6	A1F	3	E
TSFS06	Diagnosis and Supervision	6	A1N	1	E
TSRT14	Sensor Fusion	6	A1N	2	E

#### Specialisation: Autonomous Systems

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TSRT07	Industrial Control Systems	6	A1N	2	С
TDDE05	Al Robotics	6*	A1N	4	E
TSBB15	Computer Vision	12*	A1X	1	E
TSRT09	Control Theory	6	A1N	3	E
Period 2					
TDDE05	Al Robotics	6*	A1N	4	E
TSBB15	Computer Vision	12*	A1X	3	E
TSFS06	Diagnosis and Supervision	6	A1N	1	E
TSRT14	Sensor Fusion	6	A1N	2	E



#### Specialisation: Communication

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TBMI26	Neural Networks and Learning Systems	6	A1N	2	Е
TDTS21	Advanced Networking	6*	A1N	1	Е
TSBK08	Data Compression	6	A1N	2	Е
TSKS13	Wireless Communications	6	A1F	4	E
Period 2					
TDTS21	Advanced Networking	6*	A1N	1	Е
TFYA19	Quantum Computers	6	A1X	4	E
TSBK02	Image and Audio Coding	6	A1X	4	Е
TSKS14	Multiple Antenna Communications	6	A1F	3	Е
TSKS16	Signal Processing for Communications	6	A1N	1	E

#### Specialisation: Computer Games Programming

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TDDD57	Physical Interaction and Game Programming	6	A1N	1	С
TSBK07	Computer Graphics	6*	A1X	4	С
TBMI26	Neural Networks and Learning Systems	6	A1N	2	E
Period 2					
TSBK07	Computer Graphics	6*	A1X	1	С
TNM079	Modelling and Animation	6	A1X	2	E



#### Specialisation: Computer Systems Architecture

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TDDA69	Data and Program Structures	6*	G2X	3	Е
TDDD25	Distributed Systems	6	A1N	2	E
TDDD38	Advanced Programming in C++	6*	A1N	2	Е
TDDD97	Web Programming	6	G2F	3	E
TDTS07	System Design and Methodology	6	A1N	1	E
TDTS21	Advanced Networking	6*	A1N	1	E
Period 2					
TDDA69	Data and Program Structures	6*	G2X	1	E
TDDC78	Programming of Parallel Computers - Methods and Tools	6	A1X	3	E
TDDD14	Formal Languages and Automata Theory	6	G2F	2	Е
TDDD27	Advanced Web Programming	6	A1N	3	E
TDDD38	Advanced Programming in C++	6*	A1N	-	Е
TDDE34	Software Verification	6	A1N	1	E
TDDE41	Software Architectures	6	A1N	1	E
TDTS21	Advanced Networking	6*	A1N	1	E

### $Specialisation: Industrial\ Economics$

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TEIO13	Leadership and Organizational Change	6	A1X	4	С
Period 2					
TEIO06	Innovative Entrepreneurship	6	A1X	2	С



#### Specialisation: Large Scale Software Engineering

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TDDE06	Large-Scale Software Development - Structures and Processes	6*	A1X	4	E
TDDE46	Software Quality	6*	A1N	2	E
Period 2					
TDDE06	Large-Scale Software Development - Structures and Processes	6*	A1X	4	E
TDDE34	Software Verification	6	A1N	1	E
TDDE41	Software Architectures	6	A1N	1	E
TDDE46	Software Quality	6*	A1N	2	E

# $Specialisation: Medical\ Informatics$

Course name	Credits	Level	Timetable module	ECV
Medical Decision Support	6	A1X	4	E
Medical Information Models and Ontologies	6	A1X	4	E
Neural Networks and Learning Systems	6	A1N	2	E
Information Security, Second Course	6*	A1X	4	E
Technology in Intensive Care and Surgery	6	A1N	1	E
Information Security, Second Course	6*	A1X	4	E
Big Data Analytics	6	A1F	3	Е
eHealth: Innovation and Entrepreneurship	6	G2F	2/4	E
	Medical Decision Support  Medical Information Models and Ontologies  Neural Networks and Learning Systems  Information Security, Second Course  Technology in Intensive Care and Surgery  Information Security, Second Course  Big Data Analytics	Medical Decision Support 6  Medical Information Models and Ontologies 6  Neural Networks and Learning Systems 6  Information Security, Second Course 6*  Technology in Intensive Care and Surgery 6  Information Security, Second Course 6*  Big Data Analytics 6	Medical Decision Support 6 A1X  Medical Information Models and Ontologies 6 A1X  Neural Networks and Learning Systems 6 A1N  Information Security, Second Course 6* A1X  Technology in Intensive Care and Surgery 6 A1N  Information Security, Second Course 6* A1X  Big Data Analytics 6 A1F	Medical Decision Support 6 A1X 4  Medical Information Models and Ontologies 6 A1X 4  Neural Networks and Learning Systems 6 A1N 2  Information Security, Second Course 6* A1X 4  Technology in Intensive Care and Surgery 6 A1N 1  Information Security, Second Course 6* A1X 4  Big Data Analytics 6 A1F 3



#### Specialisation: Programming and Algorithms Specialization

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TDDA69	Data and Program Structures	6*	G2X	3	Е
TDDD20	Design and Analysis of Algorithms	6	A1N	3	E
TDDD38	Advanced Programming in C++	6*	A1N	2	E
TDDD41	Data Mining - Clustering and Association Analysis	6	A1N	3	E
TDDD95	Algorithmic Problem Solving	6*	A1F	1	E
TDDE09	Natural Language Processing	6	A1F	2	E
Period 2					
TDDA69	Data and Program Structures	6*	G2X	1	E
TDDC78	Programming of Parallel Computers - Methods and Tools	6	A1X	3	E
TDDD14	Formal Languages and Automata Theory	6	G2F	2	Е
TDDD38	Advanced Programming in C++	6*	A1N	-	E
TDDD95	Algorithmic Problem Solving	6*	A1F	4	E
TDDE34	Software Verification	6	A1N	1	E
TDDE41	Software Architectures	6	A1N	1	E

### Specialisation: Secure Systems

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TDDD17	Information Security, Second Course	6*	A1X	4	С
TDDD38	Advanced Programming in C++	6*	A1N	2	Е
TDDD97	Web Programming	6	G2F	3	E
TDDE46	Software Quality	6*	A1N	2	E
TDTS21	Advanced Networking	6*	A1N	1	E
Period 2					
TDDD17	Information Security, Second Course	6*	A1X	4	С
TDDD27	Advanced Web Programming	6	A1N	3	E
TDDD38	Advanced Programming in C++	6*	A1N	-	E
TDDE46	Software Quality	6*	A1N	2	E
TDTS21	Advanced Networking	6*	A1N	1	E



#### Specialisation: Signal and Image Processing

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

# Semester 9 (Autumn 2020)

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TANA21	Scientific Computing	6	G1F	3	C/E
TBMI28	eHealth Project	12*	A1F	2/4	Е
TBMT14	Biomedical Engineering - Project Course	12*	A1F	4	E
TDDD43	Advanced Data Models and Databases	6*	A1N	2	E
TDDD53	Advanced Interaction Design	6	A1N	1	E
TDDE14	Large-Scale Software Development: Contributions and Evolution	6*	A1X	4	E
TDDE15	Advanced Machine Learning	6	A1F	1	E
TDDE19	Advanced Project Course - Al and Machine Learning	6*	A1F	4	E
TDDE20	Advanced Project Course - Game, App and Web Development	6*	A1F	4	E
TDDE21	Advanced Project Course: Secure Distributed and Embedded Systems	6*	A1F	4	E
TDDE45	Software Design and Construction	6	A1N	4	E



Course code	Course name	Credits	Level	Timetable module	ECV
TDEI13	Enterprise Resource Planning Systems: Process and Implementation	6	A1X	2	E
TDEI72	Strategy and Digitisation - Technology, Standards and Network Effects	6	A1X	4	E
TEIM11	Industrial Marketing	6	G2X	3	E
TEIO90	Innovation Management	6	A1N	2	E
TNCG15	Advanced Global Illumination and Rendering	6	A1X	4	E
TNM067	Scientific Visualization	6	A1X	3	E
TNM095	Artificial Intelligence for Interactive Media	6	A1X	2	Е
TSBB11	Images and Graphics, Project Course CDIO	12*	A1X	4	E
TSBB17	Visual Object Recognition and Detection	6	A1X	2	Е
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	Е
TSKS12	Modern Channel Coding, Inference and Learning	6	A1N	1	E
TSRT10	Automatic Control - Project Course	12*	A1F	4	Е
TSTE17	System Design	12*	A1F	4	E
TSTE25	Power Electronics	6	A1X	3	E
Period 2					
TDDD89	Scientific Method	6	A1F	3	С
TANA09	Numerical Algorithms in Computer Science	4	G2F	1	C/E
TAOP61	Optimization of Realistic Complex Systems	6	A1N	3	E
TBMI28	eHealth Project	12*	A1F	-	E
TBMT14	Biomedical Engineering - Project Course	12*	A1F	4	Е
TDDB44	Compiler Construction	6	A1X	1	E
TDDD43	Advanced Data Models and Databases	6*	A1N	2	E
TDDD56	Multicore and GPU Programming	6	A1N	2	E



Course code	Course name	Credits	Level	Timetable module	ECV
TDDE13	Multi Agent Systems	6	A1N	1	E
TDDE14	Large-Scale Software Development: Contributions and Evolution	6*	A1X	4	E
TDDE16	Text Mining	6	A1F	2	E
TDDE19	Advanced Project Course - Al and Machine Learning	6*	A1F	4	E
TDDE20	Advanced Project Course - Game, App and Web Development	6*	A1F	4	E
TDDE21	Advanced Project Course: Secure Distributed and Embedded Systems	6*	A1F	4	E
TNM086	Virtual Reality Techniques	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
TSEA44	Computer Hardware - a System on Chip	6	A1F	1	E
TSEA84	Digital Design Project	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: AI and Machine Learning

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TDDE19	Advanced Project Course - Al and Machine Learning	6*	A1F	4	С
TDDE15	Advanced Machine Learning	6	A1F	1	Е
TSBB17	Visual Object Recognition and Detection	6	A1X	2	E
TSFS12	Autonomous Vehicles - Planning, Control, and Learning Systems	6	A1X	1	E
TSRT92	Modelling and Learning for Dynamical Systems	6	A1X	3	Е
Period 2					
TDDE19	Advanced Project Course - Al and Machine Learning	6*	A1F	4	С
TDDE13	Multi Agent Systems	6	A1N	1	E
TDDE16	Text Mining	6	A1F	2	E

#### $Specialisation: Autonomous \, Systems$

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TSBB17	Visual Object Recognition and Detection	6	A1X	2	E
TSRT10	Automatic Control - Project Course	12*	A1F	4	E
Period 2					
TDDE01	Machine Learning	6	A1N	1	С
TSRT10	Automatic Control - Project Course	12*	A1F	4	E



#### Specialisation: Communication

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TSIN01	Information Networks	6	A1X	3	E
TSIT03	Cryptology	6	A1X	2	E
TSKS12	Modern Channel Coding, Inference and Learning	6	A1N	1	E
TSKS23	Project Course in Signal Processing, Communications and Networking, CDIO	12*	A1X	4	E
Period 2					
TDDD07	Real Time Systems	6	A1N	4	E
TSKS23	Project Course in Signal Processing, Communications and Networking, CDIO	12*	A1X	4	E

#### Specialisation: Computer Games Programming

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Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TSBK03	Advanced Game Programming	6*	A1X	1	С
TDDE20	Advanced Project Course - Game, App and Web Development	6*	A1F	4	E
TNCG15	Advanced Global Illumination and Rendering	6	A1X	4	E
TSBB11	Images and Graphics, Project Course CDIO	12*	A1X	4	E
Period 2					
TSBK03	Advanced Game Programming	6*	A1X	-	С
TDDE20	Advanced Project Course - Game, App and Web Development	6*	A1F	4	E
TSBB11	Images and Graphics, Project Course CDIO	12*	A1X	4	E
TSIN02	Internetworking	6	A1N	1	E



#### Specialisation: Computer Systems Architecture

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TDDD43	Advanced Data Models and Databases	6*	A1N	2	Е
TDDE21	Advanced Project Course: Secure Distributed and Embedded Systems	6*	A1F	4	Е
TSIT03	Cryptology	6	A1X	2	E
TSKS01	Digital Communication	6*	A1X	4	E
Period 2					
TDDB44	Compiler Construction	6	A1X	1	E
TDDC90	Software Security	6	A1N	1	Е
TDDD37	Database Technology	6	G2F	1	E
TDDD43	Advanced Data Models and Databases	6*	A1N	2	E
TDDD56	Multicore and GPU Programming	6	A1N	2	E
TDDE21	Advanced Project Course: Secure Distributed and Embedded Systems	6*	A1F	4	E
TSEA26	Design of Embedded DSP Processor	6	A1X	2	Е
TSIN02	Internetworking	6	A1N	1	E
TSKS01	Digital Communication	6*	A1X	4	E

### Specialisation: Industrial Economics

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TEIM11	Industrial Marketing	6	G2X	3	С
TEIO90	Innovation Management	6	A1N	2	С
TDEI72	Strategy and Digitisation - Technology, Standards and Network Effects	6	A1X	4	E



#### Specialisation: International Software Engineering

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TDDC34	Technical, Economic and Societal Evaluation of IT-products	6	A1X	3	С
TDDD69	Software Engineering - Company Project	6*	A1N	1	С
TDDD04	Software Testing	6	A1N	2	E
TDDD38	Advanced Programming in C++	6*	A1N	2	Е
TDDD43	Advanced Data Models and Databases	6*	A1N	2	E
TDDE45	Software Design and Construction	6	A1N	4	Е
TDEI13	Enterprise Resource Planning Systems: Process and Implementation	6	A1X	2	E
Period 2					
TDDD69	Software Engineering - Company Project	6*	A1N	1	С
TDDC90	Software Security	6	A1N	1	E
TDDD07	Real Time Systems	6	A1N	4	E
TDDD38	Advanced Programming in C++	6*	A1N	-	E
TDDD43	Advanced Data Models and Databases	6*	A1N	2	E
TDEI19	Management Control	6	A1X	2	E
TEIM03	Intercultural Communication	4	G1X	4	Е

### Specialisation: Large Scale Software Engineering

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TDDE14	Large-Scale Software Development: Contributions and Evolution	6*	A1X	4	E
Period 2					
TDDE14	Large-Scale Software Development: Contributions and Evolution	6*	A1X	4	Е



#### Specialisation: Medical Informatics

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TBMI28	eHealth Project	12*	A1F	2/4	E
TBMT14	Biomedical Engineering - Project Course	12*	A1F	4	E
TDDC17	Artificial Intelligence	6	G2F	3	E
TDDD43	Advanced Data Models and Databases	6*	A1N	2	E
Period 2					
TBMI28	eHealth Project	12*	A1F	-	E
TBMT14	Biomedical Engineering - Project Course	12*	A1F	4	E
TDDD43	Advanced Data Models and Databases	6*	A1N	2	E
TDDE01	Machine Learning	6	A1N	1	E

### $Specialisation: Programming\ and\ Algorithms\ Specialization$

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TDDD08	Logic Programming	6	A1N	4	Е
TDDE45	Software Design and Construction	6	A1N	4	E
TSIT03	Cryptology	6	A1X	2	E
Period 2					
TDDB44	Compiler Construction	6	A1X	1	E
TDDD56	Multicore and GPU Programming	6	A1N	2	E



#### Specialisation: Secure Systems

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TDDD04	Software Testing	6	A1N	2	С
TDDD38	Advanced Programming in C++	6*	A1N	2	E
TDDE21	Advanced Project Course: Secure Distributed and Embedded Systems	6*	A1F	4	E
TDTS06	Computer Networks	6	G2F	1	E
TSIT03	Cryptology	6	A1X	2	E
Period 2					
TDDC90	Software Security	6	A1N	1	С
TDDD37	Database Technology	6	G2F	1	E
TDDD38	Advanced Programming in C++	6*	A1N	-	E
TDDE21	Advanced Project Course: Secure Distributed and Embedded Systems	6*	A1F	4	E

### Specialisation: Signal and Image Processing

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



# Semester 10 (Spring 2021)

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



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