Computer Science and Software Engineering, M Sc in Engineering

300 credits

Civilingenjör i mjukvaruteknik

6CMJU

Valid from: 2017 Spring semester

Determined by
Board of Studies for Computer Science and Media Technology

Date determined
2017-01-25

Entry requirements

Degree in Swedish

Civilingenjör 300 hp och Teknologie master 120 hp

Curriculum

Semester 1 (Autumn 2017)

Course code	Course name	Credits	Level	Timetable module	ECV
Period 0					
TATA65	Discrete Mathematics	6*	G1X	-	C
Period 1					
TATA65	Discrete Mathematics	6*	G1X	2	C
TDDD70	Professionalism for Engineers, part 1	1*	G1X	-	C
TDDE23	Functional and Imperative Programming, Part 1	6	G1X	3	C
TDDE25	Perspectives to Computer and Software Technology	6*	G1X	4	C
Period 2					
TDDD70	Professionalism for Engineers, part 1	1*	G1X	-	C
TDDD72	Logic	6	G1X	2	C
TDDE24	Functional and Imperative Programming, Part 2	5	G1X	3	C
TDDE25	Perspectives to Computer and Software Technology	6*	G1X	4	C

Semester 2 (Spring 2018)

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TDDD78	Object Oriented Programming and Java	6	G1X	1/3	C
TDDD79	Professionalism for Engineers, part 2	1*	G1X	-	C
TDDD80	Project: Mobile and Social Applications	11*	G1X	3/4	C
TDDD94	Professionalism for Engineers, part 4	1*	G1X	-	C
TDDD98	Professionalism for Engineers, part 6	1*	G1X	-	C
TSEA28	Computer Hardware and Architecture Y	6*	G1X	2	C
Period 2					
TDDD79	Professionalism for Engineers, part 2	1*	G1X	-	C
TDDD80	Project: Mobile and Social Applications	11*	G1X	4	C
TDDD85	Formal Languages and Automata Theory	6	G1X	2	C
TDDD94	Professionalism for Engineers, part 4	1*	G1X	-	C
TDDD98	Professionalism for Engineers, part 6	1*	G1X	-	C
TSEA28	Computer Hardware and Architecture Y	6*	G1X	3	C

Semester 3 (Autumn 2018)

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TATA24	Linear Algebra	8*	G1X	4	C
TDDC93	Software Engineering Theory	4	G2X	1	C
TDDD84	Professionalism for Engineers, part 3	1*	G1X	-	C
TDDD86	Data Structures, Algorithms and Programming Paradigms	11*	G1X	2	C
TATA40	Perspectives on Mathematics	1*	G1X	-	V
Period 2					
TATA24	Linear Algebra	8*	G1X	4	C
TATA79	Introductory Course in Calculus	6	G1X	2	C
TDDD84	Professionalism for Engineers, part 3	1*	G1X	-	C
TDDD86	Data Structures, Algorithms and Programming Paradigms	11*	G1X	3	C
TATA40	Perspectives on Mathematics	1*	G1X	-	V

Semester 4 (Spring 2019)

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TATA41	Calculus in One Variable 1	6	G1X	4	C
TDDB68	Concurrent Programming and Operating Systems	6	G2X	3	C
TDDD79	Professionalism for Engineers, part 2	1*	G1X	-	C
TDDD94	Professionalism for Engineers, part 4	1*	G1X	-	C
TDDD98	Professionalism for Engineers, part 6	1*	G1X	-	C
TDDE35	Large-Scale Distributed Systems and Networks	11*	G1X	2	C
THEN18	English	6*	G1X	4	E
TATA40	Perspectives on Mathematics	1*	G1X	-	V
TGTU63	Visits to Industry	1*	G1X	-	V
Period 2					
TATA91	Calculus in One and Several Variables	6	G1X	4	C
TDDD79	Professionalism for Engineers, part 2	1*	G1X	-	C
TDDD94	Professionalism for Engineers, part 4	1*	G1X	-	C
TDDD98	Professionalism for Engineers, part 6	1*	G1X	-	C
TDDE35	Large-Scale Distributed Systems and Networks	11*	G1X	2	C
THEN18	English	6*	G1X	4	E
TPTE06	Industrial Placement	6	G1X	-	E
TATA40	Perspectives on Mathematics	1*	G1X	-	V
TGTU63	Visits to Industry	1*	G1X	-	V

Semester 5 (Autumn 2019)

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TDAB01	Probability and Statistics	6	G2X	2	C
TDDC17	Artificial Intelligence	6	G2X	3	C
TDDD91	Professionalism for Engineers, part 5	1*	G1X	-	C
TDDD92	Artificial Intelligence - Project	5*	G2X	4	C
TGTU63	Visits to Industry	1*	G1X	-	V
Period 2					
TDDD37	Database Technology	6	G2X	1	C
TDDD91	Professionalism for Engineers, part 5	1*	G1X	-	C
TDDD92	Artificial Intelligence - Project	5*	G2X	4	C
TFYA87	Physics and Mechanics	6	G1X	3	C
TGTU63	Visits to Industry	1*	G1X	-	V

Semester 6 (Spring 2020)

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TDDD79	Professionalism for Engineers, part 2	1*	G1X	-	C
TDDD94	Professionalism for Engineers, part 4	1*	G1X	-	C
TDDD96	Software Engineering - Bachelor Project	15*	G2X	2/3	C
TDDD98	Professionalism for Engineers, part 6	1*	G1X	-	C
TSKS21	Signals, Information and Images	8	G2X	1	C
TSRT04	Introduction in Matlab	2	G1X	2	E
Period 2					
TDDD79	Professionalism for Engineers, part 2	1*	G1X	-	C
TDDD94	Professionalism for Engineers, part 4	1*	G1X	-	C
TDDD96	Software Engineering - Bachelor Project	15*	G2X	2/4	C
TDDD98	Professionalism for Engineers, part 6	1*	G1X	-	C
TSRT19	Automatic Control	6	G2X	1	C
TPTE06	Industrial Placement	6	G1X	-	E

Semester 7 (Autumn 2020)

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TAOP33	Combinatorial Optimization, Introductory Course	4	G2X	2	C/E
TAMS22	Probability Theory and Bayesian Networks	6*	A1X	4	E
TANA21	Scientific Computing	6	G1X	3	E
TATA55	Abstract Algebra	6*	G2X	3	E
TBME04	Anatomy and Physiology	6	G2X	3	E
TBMI19	Medical Information Systems	6*	A1X	2	E
TDDC34	Technical, Economic and Societal Evaluation of IT-products	6	A1X	3	E
TDDD04	Software Testing	6	A1X	2	E
TDDD08	Logic Programming	6	A1X	4	E
TDDD23	Design and Programming of Computer Games	6	A1X	2	E
TDDD38	Advanced Programming in C++	6*	A1X	2	E
TDDD43	Advanced Data Models and Databases	6*	A1X	2	E
TDDD53	Advanced Interaction Design	6	A1X	1	E
TDDE45	Software Design and Construction	6	A1X	4	E
TEIO32	Project Management and Organization	6*	G2X	3	E
TGTU91	Oral and Written Communication	6	G1X	2	E
TKMJ24	Environmental Engineering	6	G1X	1	E
TSBB06	Multidimensional Signal Analysis	6*	A1X	2	E
TSBB08	Digital Image Processing	6	A1X	4	E
TSDT14	Signal Theory	6	A1X	1	E
TSIT03	Cryptology	6	A1X	2	E
Period 2					
TAMS22	Probability Theory and Bayesian Networks	6*	A1X	4	E
TANA09	Numerical Algorithms in Computer Science	4	G2X	1	E
TAOP61	Optimization of Realistic Complex Systems	6	A1X	3	E
TATA55	Abstract Algebra	6*	G2X	3	E
TBMI19	Medical Information Systems	6*	A1X	3	E
TDDC73	Interaction Programming	6	G2X	1	E

Course code	Course name	Credits	Level	Timetable module	ECV
TDDD07	Real Time Systems	6	A1X	4	E
TDDD38	Advanced Programming in C++	6*	A1X	-	E
TDDD43	Advanced Data Models and Databases	6*	A1X	2	E
TDDD49	Programming in C# and .NET Framework	4	G2X	3	E
TDDE01	Machine Learning	6	A1X	1	E
TDDE02	Software Entrepreneurship	6	A1X	2	E
TEAE01	Industrial Economics, Basic Course	6	G1X	2	E
TEIM03	Intercultural Communication	4	G1X	4	E
TEIO32	Project Management and Organization	6*	G2X	1	E
TGTU04	Leadership	6	G2X	2	E
TGTU49	History of Technology	6	G1X	3	E
TSBB06	Multidimensional Signal Analysis	6*	A1X	3	E
TSIT02	Computer Security	6	G2X	2	E
TSKS33	Complex networks and big data	6	A1X	3	E
TSRT78	Digital Signal Processing	6	A1X	2	E

Specialisation: AI and Machine Learning

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TDDC17	Artificial Intelligence	6	G2X	3	C
TBMI19	Medical Information Systems	6*	A1X	2	E
TDDD08	Logic Programming	6	A1X	4	E
TSBB06	Multidimensional Signal Analysis	6*	A1X	2	E
TSBB08	Digital Image Processing	6	A1X	4	E
Period 2					
TDDE01	Machine Learning	6	A1X	1	C
TBMI19	Medical Information Systems	6*	A1X	3	E
TSBB06	Multidimensional Signal Analysis	6*	A1X	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	A1X	2	C
TDDC17	Artificial Intelligence	6	G2X	3	E
TDDD53	Advanced Interaction Design	6	A1X	1	E
Period 2					
TDDC73	Interaction Programming	6	G2X	1	C
TDDE02	Software Entrepreneurship	6	A1X	2	E

Specialisation: Industrial Economics

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TEAE01	Industrial Economics, Basic Course	6	G1X	2	C
TEIO32	Project Management and Organization	6*	G2X	3	C
Period 2					
TDDE02	Software Entrepreneurship	6	A1X	2	C
TEIO32	Project Management and Organization	6*	G2X	1	C

Specialisation: International Software Engineering

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TDDD04	Software Testing	6	A1X	2	E
TDDD38	Advanced Programming in C++	6*	A1X	2	E
TDDE45	Software Design and Construction	6	A1X	4	E
Period 2					
TEAE01	Industrial Economics, Basic Course	6	G1X	2	C
TDDD38	Advanced Programming in C++	6*	A1X	-	E
TDDE02	Software Entrepreneurship	6	A1X	2	E
TDEI19	Management Control	6	A1X	2	E
TEIM03	Intercultural Communication	4	G1X	4	E
TSIT02	Computer Security	6	G2X	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	A1X	2	E
TDDE45	Software Design and Construction	6	A1X	4	E
Period 2					
TDDD37	Database Technology	6	G2X	1	E
TDDE02	Software Entrepreneurship	6	A1X	2	E

Specialisation: Medical Informatics

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	C
TDDC17	Artificial Intelligence	6	G2X	3	E
TDDD53	Advanced Interaction Design	6	A1X	1	E
Period 2					
TBMI19	Medical Information Systems	6*	A1X	3	C
TBME03	Biochemistry and Cell Biology	6	G2X	2	E
TBMI04	eHealth: Aims and Applications	6	G2X	2/4	E
TDDD37	Database Technology	6	G2X	1	E
TSIT02	Computer Security	6	G2X	2	E

Specialisation: Programming and Algorithms Specialization

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TDDC17	Artificial Intelligence	6	G2X	3	E
TDDD04	Software Testing	6	A1X	2	E
TDDD08	Logic Programming	6	A1X	4	E
TDDD38	Advanced Programming in C++	6*	A1X	2	E
TDDE45	Software Design and Construction	6	A1X	4	E
Period 2					
TDDC90	Software Security	6	A1X	1	E
TDDD37	Database Technology	6	G2X	1	E
TDDD38	Advanced Programming in C++	6*	A1X	-	E
TSIT02	Computer Security	6	G2X	2	E
TSKS33	Complex networks and big data	6	A1X	3	E

Specialisation: Secure Systems

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TDDE45	Software Design and Construction	6	A1X	4	C
TDDD38	Advanced Programming in C++	6*	A1X	2	E
TDTS06	Computer Networks	6	G2X	1	E
TSIT03	Cryptology	6	A1X	2	E
Period 2					
TDDC90	Software Security	6	A1X	1	C
TSIT02	Computer Security	6	G2X	2	C
TDDD37	Database Technology	6	G2X	1	E
TDDD38	Advanced Programming in C++	6*	A1X	-	E

Semester 8 (Spring 2021)

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TAOP07	Introduction to Optimization	6	G1X	3	C/E

Course code	Course name	Credits	Level	Timetable module	ECV
TANA15	Numerical Linear Algebra	6	A1X	1	E
TATA53	Linear Algebra, Honours Course	6*	G2X	-	E
TATA54	Number Theory	6*	G2X	3	E
TATA64	Graph Theory	6*	A1X	2	E
TBMI26	Neural Networks and Learning Systems	6	A1X	2	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	A1X	3	E
TDDD25	Distributed Systems	6	A1X	2	E
TDDD38	Advanced Programming in C++	6*	A1X	2	E
TDDD41	Data Mining - Clustering and Association Analysis	6	A1X	3	E
TDDD50	Green Computing	4	G2X	4	E
TDDD57	Physical Interaction and Game Programming	6	A1X	1	E
TDDD75	Effect-Driven Development and Human-Centered Design of Interactive Systems	6	G2X	3	E
TDDD95	Algorithmic Problem Solving	6*	A1X	1	E
TDDD97	Web Programming	6	G2X	3	E
TDDE05	AI Robotics	6*	A1X	4	E
TDDE09	Natural Language Processing	6	A1X	2	E
TDDE46	Software Quality	6*	A1X	2	E
TDDE51	Methods and tools for large distributed projects	6*	A1X	4	E
TDTS07	System Design and Methodology	6	A1X	1	E
TDTS21	Advanced Networking	6*	A1X	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	E
TGTU94	Technology and Ethics	6	G1X	1	E
TKMJ15	Environmental Management Strategies	6	G1X	3	E
TNM048	Information Visualisation	6	A1X	3	E
TSBB15	Computer Vision	12*	A1X	1	E
TSBK07	Computer Graphics	6*	A1X	4	E

Course code	Course name	Credits	Level	Timetable module	ECV
TSBK08	Data Compression	6	A1X	2	E
TSRT07	Industrial Control Systems	6	A1X	2	E
Period 2					
TATA53	Linear Algebra, Honours Course	6*	G2X	-	E
TATA54	Number Theory	6*	G2X	1	E
TATA64	Graph Theory	6*	A1X	2	E
TBMT26	Technology in Intensive Care and Surgery	6	A1X	1	E
TDDA69	Data and Program Structures	6*	G2X	1	E
TDDC78	Programming of Parallel Computers - Methods and Tools	6	A1X	3	E
TDDD17	Information Security, Second Course	6*	A1X	4	E
TDDD27	Advanced Web Programming	6	A1X	3	E
TDDD38	Advanced Programming in C++	6*	A1X	-	E
TDDD48	Automated Planning	6	A1X	1	E
TDDD95	Algorithmic Problem Solving	6*	A1X	4	E
TDDE05	AI Robotics	6*	A1X	4	E
TDDE07	Bayesian Learning	6	A1X	2	E
TDDE31	Big Data Analytics	6	A1X	3	E
TDDE34	Software Verification	6	A1X	1	E
TDDE41	Software Architectures	6	A1X	1	E
TDDE46	Software Quality	6*	A1X	2	E
TDDE51	Methods and tools for large distributed projects	6*	A1X	4	E
TDTS21	Advanced Networking	6*	A1X	1	E
TEAE13	Civil and Commercial Law	6	G1X	2	E
TEIE44	Intellectual Property Rights	4	G1X	1	E
TEIO06	Innovative Entrepreneurship	6	A1X	2	E
TEIO94	Entrepreneurship and Idea Development	6*	G2X	4	E
TGTU95	Philosophy of Science and Technology	6	G1X	4	E
TNM079	Modelling and Animation	6	A1X	2	E
TSBB15	Computer Vision	12*	A1X	3	E
TSBK07	Computer Graphics	6*	A1X	1	E
TSFS06	Diagnosis and Supervision	6	A1X	1	E

Course code	Course name	Credits	Level	Timetable module	ECV
TSRT14	Sensor Fusion	6	A1X	2	E

Specialisation: AI and Machine Learning

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TBMI26	Neural Networks and Learning Systems	6	A1X	2	E
TDDD20	Design and Analysis of Algorithms	6	A1X	3	E
TDDD41	Data Mining - Clustering and Association Analysis	6	A1X	3	E
TDDD95	Algorithmic Problem Solving	6*	A1X	1	E
TDDE05	AI Robotics	6*	A1X	4	E
TDDE09	Natural Language Processing	6	A1X	2	E
TSRT07	Industrial Control Systems	6	A1X	2	E
Period 2					
TDDD48	Automated Planning	6	A1X	1	E
TDDD95	Algorithmic Problem Solving	6*	A1X	4	E
TDDE05	AI Robotics	6*	A1X	4	E
TDDE07	Bayesian Learning	6	A1X	2	E
TDDE31	Big Data Analytics	6	A1X	3	E
TSFS06	Diagnosis and Supervision	6	A1X	1	E
TSRT14	Sensor Fusion	6	A1X	2	E

Specialisation: Computer Games Programming

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

Specialisation: Industrial Economics

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

Specialisation: Large Scale Software Engineering

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TDDE46	Software Quality	6*	A1X	2	E
TDDE51	Methods and tools for large distributed projects	6*	A1X	4	E
Period 2					
TDDE34	Software Verification	6	A1X	1	E
TDDE41	Software Architectures	6	A1X	1	E
TDDE46	Software Quality	6*	A1X	2	E
TDDE51	Methods and tools for large distributed projects	6*	A1X	4	E

Specialisation: Medical Informatics

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TBMI26	Neural Networks and Learning Systems	6	A1X	2	E
TBMI31	Medical Information and Knowledge	6	A1X	4	E
TDDD17	Information Security, Second Course	6*	A1X	4	E
Period 2					
TBMT26	Technology in Intensive Care and Surgery	6	A1X	1	E
TDDD17	Information Security, Second Course	6*	A1X	4	E
TDDE31	Big Data Analytics	6	A1X	3	E
TEIO95	eHealth: Innovation and Entrepreneurship	6	G2X	2/4	E

Specialisation: Programming and Algorithms Specialization

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TATA64	Graph Theory	6*	A1X	2	E
TDDA69	Data and Program Structures	6*	G2X	3	E
TDDD20	Design and Analysis of Algorithms	6	A1X	3	E
TDDD38	Advanced Programming in C++	6*	A1X	2	E
TDDD41	Data Mining - Clustering and Association Analysis	6	A1X	3	E
TDDD95	Algorithmic Problem Solving	6*	A1X	1	E
TDDE09	Natural Language Processing	6	A1X	2	E
Period 2					
TATA64	Graph Theory	6*	A1X	2	E
TDDA69	Data and Program Structures	6*	G2X	1	E
TDDC78	Programming of Parallel Computers - Methods and Tools	6	A1X	3	E
TDDD38	Advanced Programming in C++	6*	A1X	-	E
TDDD95	Algorithmic Problem Solving	6*	A1X	4	E
TDDE34	Software Verification	6	A1X	1	E
TDDE41	Software Architectures	6	A1X	1	E

Specialisation: Secure Systems

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TDDD17	Information Security, Second Course	6*	A1X	4	C
TDDD38	Advanced Programming in C++	6*	A1X	2	E
TDDD97	Web Programming	6	G2X	3	E
TDDE46	Software Quality	6*	A1X	2	E
TDTS21	Advanced Networking	6*	A1X	1	E
Period 2					
TDDD17	Information Security, Second Course	6*	A1X	4	C
TDDD27	Advanced Web Programming	6	A1X	3	E
TDDD38	Advanced Programming in C++	6*	A1X	-	E
TDDE46	Software Quality	6*	A1X	2	E
TDTS21	Advanced Networking	6*	A1X	1	E

Semester 9 (Autumn 2021)

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TBMI28	eHealth Project	12*	A1X	2/4	E
TDDD53	Advanced Interaction Design	6	A1X	1	E
TDDE15	Advanced Machine Learning	6	A1X	1	E
TDDE19	Advanced Project Course - AI and Machine Learning	6*	A1X	4	E
TDDE20	Advanced Project Course - Game, App and Web Development	6*	A1X	4	E
TDDE21	Advanced Project Course: Secure Distributed and Embedded Systems	6*	A1X	4	E
TDDE52	Programming Project with Open Source Code	6*	A1X	4	E
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	A1X	2	E

Course code	Course name	Credits	Level	Timetable module	ECV
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	E
TSBB19	Machine Learning for Computer Vision	6	A1X	2	E
TSBK03	Advanced Game Programming	6*	A1X	1	E
TSFS12	Autonomous Vehicles - Planning, Control, and Learning Systems	6	A1X	1	E
TSIN01	Information Networks	6	A1X	3	E
TSKS12	Modern Channel Coding, Inference and Learning	6	A1X	1	E
TSRT92	Modelling and Learning for Dynamical Systems	6	A1X	3	E
Period 2					
TDDD89	Scientific Method	6	A1X	3	C
TBMI02	Medical Image Analysis	6	A1X	1	E
TBMI28	eHealth Project	12*	A1X	-	E
TDDB44	Compiler Construction	6	A1X	1	E
TDDC90	Software Security	6	A1X	1	E
TDDD56	Multicore and GPU Programming	6	A1X	2	E
TDDE13	Multi Agent Systems	6	A1X	1	E
TDDE16	Text Mining	6	A1X	2	E
TDDE19	Advanced Project Course - AI and Machine Learning	6*	A1X	4	E
TDDE20	Advanced Project Course - Game, App and Web Development	6*	A1X	4	E
TDDE21	Advanced Project Course: Secure Distributed and Embedded Systems	6*	A1X	4	E
TDDE52	Programming Project with Open Source Code	6*	A1X	4	E
TNM086	Virtual Reality Techniques	6	A1X	2	E
TSBK03	Advanced Game Programming	6*	A1X	-	E
TSIN02	Internetworking	6	A1X	1	E

Specialisation: AI and Machine Learning

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TDDE19	Advanced Project Course - AI and Machine Learning	6*	A1X	4	C
TDDE15	Advanced Machine Learning	6	A1X	1	E
TSBB19	Machine Learning for Computer Vision	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	E
Period 2					
TDDE19	Advanced Project Course - AI and Machine Learning	6*	A1X	4	C
TDDE13	Multi Agent Systems	6	A1X	1	E
TDDE16	Text Mining	6	A1X	2	E

Specialisation: Computer Games Programming

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TSBK03	Advanced Game Programming	6*	A1X	1	C
TDDE20	Advanced Project Course - Game, App and Web Development	6*	A1X	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	-	C
TDDE20	Advanced Project Course - Game, App and Web Development	6*	A1X	4	E
TSBB11	Images and Graphics, Project Course CDIO	12*	A1X	4	E
TSIN02	Internetworking	6	A1X	1	E

Specialisation: Industrial Economics

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TEIM11	Industrial Marketing	6	G2X	3	C
TEIO90	Innovation Management	6	A1X	2	C
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					
TDDD69	Software Engineering - Company Project	6*	A1X	1	C
TDDD04	Software Testing	6	A1X	2	E
TDDD38	Advanced Programming in C++	6*	A1X	2	E
TDDD43	Advanced Data Models and Databases	6*	A1X	2	E
TDDE45	Software Design and Construction	6	A1X	4	E
TDEI13	Enterprise Resource Planning Systems: Process and Implementation	6	A1X	2	E
Period 2					
TDDC34	Technical, Economic and Societal Evaluation of IT-products	6	A1X	4	C
TDDD69	Software Engineering - Company Project	6*	A1X	1	C
TDDC90	Software Security	6	A1X	1	E
TDDD07	Real Time Systems	6	A1X	4	E
TDDD38	Advanced Programming in C++	6*	A1X	-	E
TDDD43	Advanced Data Models and Databases	6*	A1X	2	E
TDEI19	Management Control	6	A1X	2	E
TEIM13	Intercultural Communication	6	G1X	4	E

Specialisation: Large Scale Software Engineering

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TDDE52	Programming Project with Open Source Code	6*	A1X	4	E
Period 2					
TDDE52	Programming Project with Open Source Code	6*	A1X	4	E

Specialisation: Medical Informatics

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TBMI28	eHealth Project	12*	A1X	2/4	E
TBMT14	Biomedical Engineering - Project Course	12*	A1X	4	E
TDDD43	Advanced Data Models and Databases	6*	A1X	2	E
Period 2					
TBMI28	eHealth Project	12*	A1X	-	E
TBMT14	Biomedical Engineering - Project Course	12*	A1X	4	E
TDDD43	Advanced Data Models and Databases	6*	A1X	2	E
TDDE01	Machine Learning	6	A1X	1	E

Specialisation: Programming and Algorithms Specialization

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

Specialisation: Secure Systems

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TDDD04	Software Testing	6	A1X	2	C
TDDD38	Advanced Programming in C++	6*	A1X	2	E
TDDE21	Advanced Project Course: Secure Distributed and Embedded Systems	6*	A1X	4	E
TSIT03	Cryptology	6	A1X	2	E
Period 2					
TDDC90	Software Security	6	A1X	1	C
TDDD38	Advanced Programming in C++	6*	A1X	-	E
TDDE21	Advanced Project Course: Secure Distributed and Embedded Systems	6*	A1X	4	E

Semester 10 (Spring 2022)

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

Common rules

Structure and organisation of study programmes

The contents and design of the programmes are to be continuously revised such that new knowledge is integrated into courses and specialisations. Within one programme, several study specialisations or profiles may be available. The identities of the study specialisations or profiles and the regulations governing how these may be selected are given in the syllabus and curriculum for the particular field of study and programmes.

The structure and organisation of the programmes are to follow specified criteria that are summarised in the syllabus for each programme.

- The syllabus defines the aims of the study programme.
- The curriculum, which constitutes one part of the syllabus for the field of study, gives details of the terms in which the various courses have been timetabled, and their scheduling through the academic year.
- The course syllabus specifies, among other things, the aim and contents of the course, and the prior knowledge that a student must have in order to be able to benefit from the course.

Qualification requirements

The qualification requirements specified in the Higher Education Ordinance 2007 apply to students admitted after 1 July 2007. A student who has completed components of a programme after 1 July 2007 has the right to be assessed with respect to the qualification requirements specified by the Higher Education Ordinance 2007. In addition, local regulations laid down by the faculty boards and university board apply, see
http://styrdokument.liu.se/Regelsamling/VisaBeslut/622693.

Higher Education Act Chapter 1, Section 8:

First-cycle courses and study programmes are to develop:

- the ability to make independent and critical assessments
- the ability to identify, formulate and solve problems autonomously, and
- the preparedness to deal with changes in working life.

In addition to knowledge and skills in their field of study, students shall develop the ability to:

- gather and interpret information at a scholarly level
- stay abreast of the development of knowledge, and
- communicate their knowledge to others, including those who lack specialist knowledge in the field.

Qualifications within a study programme

Qualification requirements that are specific to a study programme are given in the syllabus for that programme.

Matriculation and postponement of matriculation

A person who has been accepted for a study programme is to start their studies (matriculate) in the term that is specified in the decision about admission. The date and location of the compulsory matriculation procedure will be communicated to those admitted to the first term of the programme.

At any one admission occasion, it is possible to be admitted to only one place on a study programme. A student who has been granted a place on a study programme and who is offered and accepts a place on another study programme during a supplementary round of admission will lose the place offered for the first study programme.

Regulations concerning postponement of matriculation have been laid down in the admission regulations for Linköping University, http://styrdokument.liu.se/Regelsamling/VisaBeslut/622645.

A person who has been granted postponement must present to the admitting authority, before the term in which the studies are to be started and before the date of application, a renewed registration for the programme and a copy of the decision granting postponement.

Admission to a later part of a programme

Admission to a part of a study programme is used here to refer to admission with the purpose of completing the programme and taking a degree. Admission to a later part of a programme may take place only if sufficient resources and space on the programme are available. Furthermore, the applicant must satisfy the entry requirements for the relevant term of the programme, as specified in http://styrdokument.liu.se/Regelsamling/Innehall/Utbildning_pa_grund-_och_avancerad_niva/Tekniska_fakulteten.

Interruption in studies

Notification of an interruption in studies is to be made through the Student Portal. If such a notification is not made and if the student does not register for the first term during which the interruption is to take place, the interruption will be considered to be a withdrawal. An interruption in studies must cover a complete term, and notification of interruptions can be given for a maximum of two consecutive terms. Notification of resumption of studies is to take place at the term registration for the term that follows the interruption. If the student does not register at the term registration, this will be regarded as withdrawal from studies.

A student who is taking an interruption in studies may during this period retake examinations if he or she has re-registered for the most recent study term of the programme. A student who wishes to take another course during the interruption in studies must apply for this separately. The student is responsible that

registration for courses is carried out at the correct times in preparation for the resumption of studies.

Withdrawal from a study programme

A student who wishes to withdraw from a study programme must notify the study guidance counsellor. A student who leaves the studies without giving notification of an interruption in study and who fails to register for the immediately subsequent term is considered to have withdrawn. A student who has withdrawn may return to the study programme if a vacancy is available that is not required for students returning after an interruption in study, and not required for students who are changing their location of study and/or study programme.

Interrupting a course

The vice-chancellor's decision concerning regulations for registration, deregistration and reporting results (Dnr LiU-2015-01241) states that interruptions in study are to be recorded in Ladok. Thus, all students who do not participate in a course for which they have registered must record the interruption, such that the registration on the course can be removed. Deregistration from a course is carried out using a web-based form: www.lith.liu.se/for-studenter/kurskomplettering?l=sv.

Courses within a study programme

The curriculum for the various years of a study programme specify which courses are compulsory (o), elective (v) and voluntary (f). If a student wishes to study a different combination than the one specified in the curriculum, an application must be made to the board of studies.

Registration for programme courses

Registration for courses that are given as part of a study programme must be made during the specified period, which has been preliminarily set to 1-10 April for the autumn term, and 1-10 October for the spring term. Information about course registration is published on a webpage, sent to students by email, and disseminated at scheduled information meetings.

Registration for programme courses as single-subject courses

Admission to a programme course as a single-subject subject course may take place only if sufficient resources and space on the course are available. Furthermore, the applicant must satisfy the entry requirements for the relevant course.

Cancelled courses

Courses with few participants (fewer than 10) may be cancelled or organised in a

manner that differs from that stated in the course syllabus. The board of studies is to deliberate and decide whether a course is to be cancelled or changed from the course syllabus.

Timetabling

Courses are timetabled after a decision has been made concerning the assignment of the course to a study period. A central timetable is not drawn up for courses with fewer than five participants. Most project courses do not have a central timetable.

Study planning

Students who require support in planning their continued studies can contact the study guidance counsellor of the programme. Study planning involves the student and the study guidance counsellor together drawing up an individual plan for studies during the subsequent term. The individual plan may allow the student to deviate from the general curriculum.

Completed first-cycle courses are a precondition for successful studies at more advanced levels. For this reason, study planning is based on giving priority to courses from earlier years of study that have not been completed. If further capacity is available, new courses may be taken.

Study planning takes place on a regular basis if the student:

- does not satisfy the requirements for progression to later terms. In order for a student to be able to participate in courses from later years in such cases, a decision of exemption is required.
- does not satisfy the requirements for starting a degree project.

Other situations in which study planning may be required:

- A student has fallen behind during the early part of a study programme and has failed to complete several courses.
- A student has not satisfied the entry requirements for a degree project before term 6 of an engineering degree.
- A student has applied for admission to a later part of a programme.
- Studies have been carried out abroad.
- A study programme is to be resumed after an interruption.

In these cases the study guidance counsellor supports the student in planning the continued studies, also in situations in which the student can register for the relevant courses without the need for a special decision for the continued studies.

Part of education abroad

Students can exchange study at LiTH for study at an institute of higher education abroad, and/or work on a degree project abroad.

In the event that study (courses) at LiTH are exchanged for study abroad, the

relevant board of studies (faculty programme director) is responsible for a decision about an individual study plan, which is to be drawn up in advance, and about the final course approval and its inclusion in the qualification requirements. For this reason, students who plan to participate in an exchange should contact the faculty programme director (or equivalent) at the Dean's Office of the Institute of Technology.

Regulations for entry requirements, ranking and nomination for study abroad through LiTH's exchange agreements are specified in: http://styrdokument.liu.se/Regelsamling/VisaBeslut/622362. Special regulations apply for the compulsory study abroad within Ii (Industrial Engineering and Management – International) and Yi (Applied Physics and Electrical Engineering – International).

Regulations (apply to LiU in its entirety)

The university is a government agency whose operations are regulated by legislation and ordinances, which include the Higher Education Act and the Higher Education Ordinance. In addition to legislation and ordinances, operations are subject to several policy documents. The Linköping University rule book collects currently valid decisions of a regulatory nature taken by the university board, the vice-chancellor and faculty/department boards.

LiU's rule book for education at first-cycle and second-cycle levels is available at http://styrdokument.liu.se/Regelsamling/Innehall/Utbildning_pa_grund-_och_avancerad_niva.