Mechanical Engineering, M Sc in Engineering

300 credits

Civilingenjör i maskinteknik

6CMMM

Valid from:

Determined by

Date determined

Entry requirements

Degree in Swedish

Civilingenjör 300 hp och Teknologie master 120 hp

Curriculum

Semester 8 (Spring 2017)

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TEIE77	Civil and Commercial Law	4	G1X	4	E
TEIO20	Entrepreneurship and New Business Development	6*	G2X	4	E
TEIO46	Technology-based Projects and Organisations	6*	G2X	4	E
TETS32	Logistics Analysis - Tools and Models	6	A1X	2	E
TGTU01	Technology and Ethics	6	G1X	1	E
TGTU91	Oral and Written Communication	6	G1F	2	E
TKMJ10	Industrial Ecology	6	A1X	1	E
TKMJ15	Environmental Management Strategies	6	G1X	3	E
TMAL51	Aircraft Conceptual Design	6	A1X	2	E
TMAL56	Aircraft Systems Engineering	6*	A1X	4	E
TMEL53	Switching Circuits and Logical Design	4	G1X	3	E
TMES17	Building Energy Systems	6	A1X	3	E
TMES43	Analysis and Modelling of Industrial Energy Systems	6	A1X	1	E
TMHL41	Continuum Mechanics	6	A1X	2	E
TMHL62	The Finite Element Method; advanced course	6	A1X	4	E
TMHP51	Hydraulic Servo Systems	6	A1X	3	E
TMKA04	Wood - Innovation	6	A1X	1	E
TMKM40	Engineering Materials - New Materials	6	A1X	2	E
TMKT48	Design Optimization	6	A1X	3	E
TMKT59	Computers as Design Tools	6*	G2X	3	E
TMKT74	Advanced CAD	6	A1X	1	E
TMMS30	Multi Body Dynamics and Robotics	6	A1X	3	E
TMMV08	Computational Fluid Dynamics	6	A1X	1	E
TMPS42	Production System Automation	6	A1X	1	E
TMQU31	Statistical Quality Control	6	A1X	2	E
TPPE54	Advanced Planning and Scheduling	6	A1X	1	E

Course code	Course name	Credits	Level	Timetable module	ECV
TRTE16	Basic Principles for Environmental Chemistry	6*	G1X	1	E
TSFS04	Electrical Drives	6	G2X	4	E
TSIU51	Project with Microcontroller	8*	G1X	3	E
TSRT07	Industrial Control Systems	6	A1X	2	E
TMPP02	Project Course - Race Vehicle Engineering	6*	G2X	-	V
Period 2					
TANA31	Computational Methods for Ordinary and Partial Differential Equations	6	A1N	2	E
TDDD12	Database Technology	6	G2F	4	E
TEIO20	Entrepreneurship and New Business Development	6*	G2X	4	E
TEIO46	Technology-based Projects and Organisations	6*	G2X	1	E
TETS36	Sustainable Logistics Systems	6	A1X	4	E
TETS56	Logistics and Quality in Health Care	6	A1X	4	E
TGTU76	Philosophy of Science	6	G1X	4	E
TKMJ29	Resource Efficient Products	6	A1X	1	E
TMAL06	Aircraft Conceptual Design - Project Course	6	A1X	2	E
TMAL56	Aircraft Systems Engineering	6*	A1X	4	E
TMHL61	Damage Mechanics and Life Analysis	6	A1X	2	E
TMKM09	Engineering Materials for Lightweight Applications	6	A1X	3	E
TMKM18	Engineering Materials, Welding and Manufacturing Technology	6	G2X	2	E
TMKT57	Product Modelling	6	A1X	3	E
TMKT59	Computers as Design Tools	6*	G2X	3	E
TMKT69	Conceptual Design - Project Course	6	A1N	4	E
TMME11	Road Vehicle Dynamics	6	A1X	1	E
TMMS10	Fluid Power Systems and Transmissions	6	A1X	2	E
TMMV07	Computational Fluid Dynamics, advanced course	6	A1X	4	E
TMMV56	Aerodynamics, Continued Course	6	A1X	3	E
TMPS27	Production Systems	6	A1X	3	E
TMQU04	Six Sigma Quality	6	A1X	2	E

Course code	Course name	Credits	Level	Timetable module	ECV
TPPE19	Analysing and Improving Manufacturing Operation	6	A1X	4	E
TRTE16	Basic Principles for Environmental Chemistry	6*	G1X	1	E
TSFS03	Vehicle Propulsion Systems	6	A1X	3	E
TSFS06	Diagnosis and Supervision	6	A1N	1	E
TSFS11	Electrical and Energy Technology	6	G2F	4	E
TSIU51	Project with Microcontroller	8*	G1X	-	E
TMPP02	Project Course - Race Vehicle Engineering	6*	G2X	-	V

Specialisation: Aeronautical Engineering

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TMAL51	Aircraft Conceptual Design	6	A1X	2	C
TMAL56	Aircraft Systems Engineering	6*	A1X	4	C
TMMV08	Computational Fluid Dynamics	6	A1X	1	C
Period 2					
TMAL06	Aircraft Conceptual Design - Project Course	6	A1X	2	C
TMAL56	Aircraft Systems Engineering	6*	A1X	4	C
TMKT57	Product Modelling	6	A1X	3	E
TMME11	Road Vehicle Dynamics	6	A1X	1	E
TMMV56	Aerodynamics, Continued Course	6	A1X	3	E

Specialisation: Energy and Environmental Engineering

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TKMJ10	Industrial Ecology	6	A1X	1	C
TEIO46	Technology-based Projects and Organisations	6*	G2X	4	E
TMES17	Building Energy Systems	6	A1X	3	E
Period 2					
TKMJ29	Resource Efficient Products	6	A1X	1	C
TEIO46	Technology-based Projects and Organisations	6*	G2X	1	E

Specialisation: Engineering Design and Product Development

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TEIO46	Technology-based Projects and Organisations	6*	G2X	4	E
TMKA04	Wood - Innovation	6	A1X	1	E
TMKT48	Design Optimization	6	A1X	3	E
TMKT59	Computers as Design Tools	6*	G2X	3	E
Period 2					
TEIO46	Technology-based Projects and Organisations	6*	G2X	1	E
TMKT57	Product Modelling	6	A1X	3	E
TMKT59	Computers as Design Tools	6*	G2X	3	E
TMKT69	Conceptual Design - Project Course	6	A1N	4	E
TMMS10	Fluid Power Systems and Transmissions	6	A1X	2	E

Specialisation: Engineering Mechanics

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TEIO46	Technology-based Projects and Organisations	6*	G2X	4	E
TMHL41	Continuum Mechanics	6	A1X	2	E
TMHL62	The Finite Element Method; advanced course	6	A1X	4	E
TMKM40	Engineering Materials - New Materials	6	A1X	2	E
TMMS30	Multi Body Dynamics and Robotics	6	A1X	3	E
TMMV08	Computational Fluid Dynamics	6	A1X	1	E
Period 2					
TEIO46	Technology-based Projects and Organisations	6*	G2X	1	E
TMHL61	Damage Mechanics and Life Analysis	6	A1X	2	E
TMKM09	Engineering Materials for Lightweight Applications	6	A1X	3	E
TMKM18	Engineering Materials, Welding and Manufacturing Technology	6	G2X	2	E
TMMV07	Computational Fluid Dynamics, advanced course	6	A1X	4	E
TMMV56	Aerodynamics, Continued Course	6	A1X	3	E

Specialisation: Logistics

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TEIO46	Technology-based Projects and Organisations	6*	G2X	4	E
TETS32	Logistics Analysis - Tools and Models	6	A1X	2	E
Period 2					
TEIO46	Technology-based Projects and Organisations	6*	G2X	1	E
TETS36	Sustainable Logistics Systems	6	A1X	4	E
TETS56	Logistics and Quality in Health Care	6	A1X	4	E
TPPE19	Analysing and Improving Manufacturing Operation	6	A1X	4	E

Specialisation: Mechatronics

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TMHP51	Hydraulic Servo Systems	6	A1X	3	C
TEIO46	Technology-based Projects and Organisations	6*	G2X	4	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
Period 2					
TEIO46	Technology-based Projects and Organisations	6*	G2X	1	E
TMME11	Road Vehicle Dynamics	6	A1X	1	E
TMMS10	Fluid Power Systems and Transmissions	6	A1X	2	E

Specialisation: Production Engineering

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TMPS42	Production System Automation	6	A1X	1	C
TEIO46	Technology-based Projects and Organisations	6*	G2X	4	E
TMQU31	Statistical Quality Control	6	A1X	2	E
TPPE54	Advanced Planning and Scheduling	6	A1X	1	E
Period 2					
TEIO46	Technology-based Projects and Organisations	6*	G2X	1	E
TMPS27	Production Systems	6	A1X	3	E
TMQU04	Six Sigma Quality	6	A1X	2	E
TPPE19	Analysing and Improving Manufacturing Operation	6	A1X	4	E

Semester 9 (Autumn 2017)

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TAOP34	Large Scale Optimization	6	A1N	3	E
TBME04	Anatomy and Physiology	6	G2F	3	E
TETS23	Purchasing	6	A1N	2	E
TMAL07	Prototype Realization - Project Course	6	A1X	-	E
TMHL19	Advanced Material and Computational Mechanics	6	A1X	1	E
TMKT77	System Safety	6	A1X	4	E
TMKT79	Collaborative Multidisciplinary Design Optimization	6	A1X	2	E
TMKT96	Product Visualization	6*	A1X	3	E
TMMS13	Electro Hydraulic Systems	6	A1X	2	E
TMMV12	Gas Turbine Engines	6	A1X	4	E
TMPS35	Emerging Factory Technologies	6	A1X	3	E
TMQU13	Customer Focused Product and Service Development	6	A1X	4	E
TPPE73	Operations Management - Project Course	12*	A1X	4	E
TPPE99	Simulation in Production and Logistics	6	A1X	3	E

Course code	Course name	Credits	Level	Timetable module	ECV
TSRT62	Modelling and Simulation	6	A1X	3	E
TSTE25	Power Electronics	6	A1X	3	E
Period 2					
TAOP18	Supply Chain Optimization	6	A1F	1	E
TETS31	Logistics Strategies	6	A1X	4	E
TKMJ32	Integrated Product Service Engineering	6	A1N	3	E
TMAL08	Aircraft Systems Engineering - Project Course	6	A1X	-	E
TMES51	International Energy Markets	6	A1X	1	E
TMHL26	Aircraft Structures - Project Course	6	A1X	-	E
TMKM13	Experimental Evaluation of Engineering Materials	6	A1X	4	E
TMKT96	Product Visualization	6*	A1X	3	E
TMMS20	Structural Optimization	6	A1X	1	E
TMMV17	Aircraft Aerodynamics - Project Course	6	A1X	-	E
TPPE73	Operations Management - Project Course	12*	A1X	4	E
TSTE26	Powergrid and Technology for Renewable Production	6	A1X	3	E

Specialisation: Aeronautical Engineering

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TMAL07	Prototype Realization - Project Course	6	A1X	-	C
TMMV12	Gas Turbine Engines	6	A1X	4	C
TMKM90	Engineering Materials - Deformation and Fracture	6	A1X	4	E
Period 2					
TMAL08	Aircraft Systems Engineering - Project Course	6	A1X	-	C/E
TMHL26	Aircraft Structures - Project Course	6	A1X	-	C/E
TMMV17	Aircraft Aerodynamics - Project Course	6	A1X	-	C/E

Specialisation: Energy and Environmental Engineering

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TMPE08	Project Course Advanced - Energy and Environmental Engineering	12*	A1X	-	C
Period 2					
TMPE08	Project Course Advanced - Energy and Environmental Engineering	12*	A1X	-	C
TKMJ32	Integrated Product Service Engineering	6	A1N	3	E
TMES51	International Energy Markets	6	A1X	1	E

Specialisation: Engineering Design and Product Development

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TMPM05	Project Course Advanced - Design Engineering and Product Development	12*	A1X	-	C
TMKT79	Collaborative Multidisciplinary Design Optimization	6	A1X	2	E
TMKT96	Product Visualization	6*	A1X	3	E
Period 2					
TMPM05	Project Course Advanced - Design Engineering and Product Development	12*	A1X	-	C
TMKT96	Product Visualization	6*	A1X	3	E

Specialisation: Engineering Mechanics

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TMPM07	Project Course Advanced - Applied Mechanics	12*	A1X	-	C
TMHL19	Advanced Material and Computational Mechanics	6	A1X	1	E
Period 2					
TMPM07	Project Course Advanced - Applied Mechanics	12*	A1X	-	C
TMMS20	Structural Optimization	6	A1X	1	E

Specialisation: Logistics

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TETS38	Logistics Project	12*	A1X	4	C
TETS23	Purchasing	6	A1N	2	E
TPPE99	Simulation in Production and Logistics	6	A1X	3	E
Period 2					
TETS38	Logistics Project	12*	A1X	2	C
TAOP18	Supply Chain Optimization	6	A1F	1	E
TETS31	Logistics Strategies	6	A1X	4	E

Specialisation: Mechatronics

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TMPM06	Project Course Advanced - Mechatronics	12*	A1X	-	C/E
TSRT10	Automatic Control - Project Course	12*	A1F	4	C/E
TMMS13	Electro Hydraulic Systems	6	A1X	2	E
TSRT62	Modelling and Simulation	6	A1X	3	E
Period 2					
TMPM06	Project Course Advanced - Mechatronics	12*	A1X	-	C/E
TSRT10	Automatic Control - Project Course	12*	A1F	4	C/E

Specialisation: Production Engineering

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TMPI03	Project Course Advanced - Industrial Manufacturing	12*	A1X	-	C/E
TMPM08	Project Course Advanced - Manufacturing Engineering	12*	A1X	-	C/E
TMPS35	Emerging Factory Technologies	6	A1X	3	E
TMQU13	Customer Focused Product and Service Development	6	A1X	4	E
TPPE16	Manufacturing Strategies	6	A1X	2	E
TPPE99	Simulation in Production and Logistics	6	A1X	3	E
Period 2					
TMPI03	Project Course Advanced - Industrial Manufacturing	12*	A1X	-	C/E
TMPM08	Project Course Advanced - Manufacturing Engineering	12*	A1X	-	C/E

Semester 10 (Spring 2018)

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