

# Electronics Design Engineering, M Sc in Engineering

300 credits

Civilingenjör i elektronikdesign

6CIEN

Valid from: 2016 Spring semester

#### **Determined by**

Board of Studies for Electrical Engineering, Physics and Mathematics

**Date determined** 

2016-01-19

# **Entry requirements**

Degree in Swedish Civilingenjör 300 hp och Teknologie master 120 hp



# Curriculum

# Semester 2 (Spring 2017)

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TNA003	Calculus I	6	G1X	2	С
TNA005	Applied Mathematics in Science and Technology	6*	G1F	4	С
TNGE37	Circuit Theory	6	G1F	1	С
Period 2					
TNA004	Calculus II	6	G1X	2	С
TNA005	Applied Mathematics in Science and Technology	6*	G1F	4	С
TNGE20	Introduction to Electronics	6	G1X	1	С

# Semester 3 (Autumn 2017)

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TNA006	Calculus III	6	G1X	3	С
TNE043	Mechanics and Wave Physics	6	G2X	1	С
TNGE25	Electronics	6*	G2X	2	С
Period 2					
TNA007	Vector Analysis	6	G2X	4	С
TNE097	Micro Computer Systems	6	G2X	3	С
TNGE25	Electronics	6*	G2X	1	С



# Semester 4 (Spring 2018)

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TNE056	Electromagnetic Field Theory and Electromagnetism	6*	G2X	3	С
TNE087	Electronics Manufacturing Methods and Processes	6	G1X	1	С
TNG032	Applied Transform Theory	6	G2X	4	С
TKMJ24	Environmental Engineering	6	G1N	2	E
Period 2					
TNE056	Electromagnetic Field Theory and Electromagnetism	6*	G2X	2	С
TNG006	Statistics	6	G2X	1	С
TNG015	Signals and Systems	6	G2X	3	С
TPTE06	Industrial Placement	6	G1X	-	E

# Semester 5 (Autumn 2018)

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TNE088	RF Electronics	6*	G2X	4	С
TNE100	Microprocessor Project	2	G2X	3	С
TNE101	Circuit Theory, advanced course	4	G2X	1	С
TNG028	Automatic Control	6	G2X	2	С
Period 2					
TNE088	RF Electronics	6*	G2X	4	С
TNG022	Modelling and Simulation	6	G2X	1	С
TNG033	Programming in C++	6	G2X	3	С



# Semester 6 (Spring 2019)

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TNE026	Analog/Digital System Design	6*	A1X	1	С
TNE041	Modern Physics	6	G2F	2	С
TNE095	Project - Electronic Design with Project Management	16*	G2X	3	С
TNG041	Scientific Methodology, Criticism of the Sources and Report Writing	2	G2X	4	С
TEIE53	Industrial Economics	6	G1N	1	Е
Period 2					
TNE026	Analog/Digital System Design	6*	A1X	2	С
TNE095	Project - Electronic Design with Project Management	16*	G2X	1	С
TND004	Data Structures	6	G2X	3	E
TNG016	Engineering Applications Using Matlab	6	A1X	4	E

#### Semester 7 (Autumn 2019)

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TNE058	Semiconductor Technology	12*	A1X	3	С
TEIO87	Project Management	6*	G2X	1	Е
TGTU01	Technology and Ethics	6	G1X	4	Е
TNE064	Digital Communication Electronics	12*	A1X	2	Е
TSDT14	Signal Theory	6	A1X	1	Е
TSEA26	Design of Embedded DSP Processor	6	A1X	1	Е
TSTE12	Design of Digital Systems	6	A1X	3	Е
Period 2					
TNE058	Semiconductor Technology	12*	A1X	2	С
TEIO87	Project Management	6*	G2X	1	Е
TGTU49	History of Technology	6	G1F	3	Е
TNE024	Molecular Physics	6	A1X	3	E
TNE064	Digital Communication Electronics	12*	A1X	2	E



#### *Specialisation: Emerging electronics*

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Course code	Course name	Credits	Level	Timetable module	ECV	
Period 2						
TNE024	Molecular Physics	6	A1X	3	Е	
Specialisation: Wireless systems  Timetable						
Course	<u>-</u>			Timetable		
Course code	Course name	Credits	Level	Timetable module	ECV	
	<u>-</u>	Credits	Level		ECV	
code	<u>-</u>	Credits 12*	Level A1X		<b>ECV</b>	
code Period 1	Course name			module		

# Semester 8 (Spring 2020)



Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TEIO05	Basic Entrepreneurship and Idea Feasibility Analysis	6*	G2F	2	E
TKMJ15	Environmental Management Strategies	6	G1F	3	Е
TNE062	RF System Design	12*	A1X	2	E
TNE090	Wireless Sensor Networks	6	A1N	4	E
TNE102	Applied Power Electronics	8*	G2X	1	E
TNE103	Organic Electronics 1	6	A1X	4	E
TNKA10	Rethoric in Speech, Texts and Images	6*	G1F	1	E
TSRT09	Control Theory	6	A1N	3	E
Period 2					
TEIO05	Basic Entrepreneurship and Idea Feasibility Analysis	6*	G2F	3	E
TFYA38	Optoelectronics	6	A1X	3	E
TNE062	RF System Design	12*	A1X	4	E
TNE093	Solar Cell Technology	6	A1X	3	E
TNE102	Applied Power Electronics	8*	G2X	2	E
TNK116	Internet of Things	6	A1X	1	E
TNKA10	Rethoric in Speech, Texts and Images	6*	G1F	1	E
TSRT14	Sensor Fusion	6	A1N	2	E
TSTE06	Digital Filters	6	A1X	3	E
TSTE87	Application-Specific Integrated Circuits	6	A1X	2	E
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#### Specialisation: Emerging electronics

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TNE102	Applied Power Electronics	8*	G2X	1	E
TNE103	Organic Electronics 1	6	A1X	4	Е
Period 2					
TNE093	Solar Cell Technology	6	A1X	3	E
TNE102	Applied Power Electronics	8*	G2X	2	E



#### Specialisation: Wireless systems

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TNE062	RF System Design	12*	A1X	2	E
TNE090	Wireless Sensor Networks	6	A1N	4	E
Period 2					
TNE062	RF System Design	12*	A1X	4	E
TNK116	Internet of Things	6	A1X	1	E

# Semester 9 (Autumn 2020)

Course name	Credits	Level	Timetable module	ECV
Project Course CDIO	12*	A1X	3	С
Advanced English	6*	G2F	4	E
Microwave Engineering	6	A1X	1	Е
Electromagnetic Compatibility (EMC) and Printed Circuit Board (PCB) Design	6*	A1X	2	E
Organic Electronics 2	6	A1X	4	E
Project Course CDIO	12*	A1X	3	С
Intellectual Property Rights	6	G1X	2	E
Advanced English	6*	G2F	4	Е
Antenna Theory	6	A1X	2	E
Electromagnetic Compatibility (EMC) and Printed Circuit Board (PCB) Design	6*	A1X	1	E
Computer Engineering and Real-time Systems	6	A1X	4	E
Low Power Electronics	6	A1N	2	E
	Project Course CDIO  Advanced English  Microwave Engineering  Electromagnetic Compatibility (EMC) and Printed Circuit Board (PCB) Design  Organic Electronics 2  Project Course CDIO Intellectual Property Rights  Advanced English  Antenna Theory  Electromagnetic Compatibility (EMC) and Printed Circuit Board (PCB) Design  Computer Engineering and Real-time Systems	Project Course CDIO 12*  Advanced English 6*  Microwave Engineering 6  Electromagnetic Compatibility (EMC) and Printed Circuit Board (PCB) Design 6*  Organic Electronics 2 6  Project Course CDIO 12*  Intellectual Property Rights 6  Advanced English 6*  Antenna Theory 6  Electromagnetic Compatibility (EMC) and Printed Circuit Board (PCB) Design 6*  Computer Engineering and Real-time Systems 6	Project Course CDIO 12* A1X  Advanced English 6* G2F  Microwave Engineering 6 A1X  Electromagnetic Compatibility (EMC) and Printed Circuit Board (PCB) Design 6* A1X  Organic Electronics 2 6 A1X  Project Course CDIO 12* A1X  Intellectual Property Rights 6 G1X  Advanced English 6* G2F  Antenna Theory 6 A1X  Electromagnetic Compatibility (EMC) and Printed Circuit Board (PCB) Design 6* A1X  Computer Engineering and Real-time Systems 6 A1X	Project Course CDIO  12* A1X 3  Advanced English 6* G2F 4  Microwave Engineering 6 A1X 1  Electromagnetic Compatibility (EMC) and Printed Circuit Board (PCB) Design  Organic Electronics 2 6 A1X 4  Project Course CDIO 12* A1X 3  Intellectual Property Rights 6 G1X 2  Advanced English 6* G2F 4  Antenna Theory 6 A1X 2  Electromagnetic Compatibility (EMC) and Printed Circuit Board (PCB) Design  6* A1X 1  Antenna Theory 6 A1X 2  Electromagnetic Compatibility (EMC) and Printed Circuit Board (PCB) Design  Computer Engineering and Real-time Systems 6 A1X 4



#### Specialisation: Emerging electronics

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TNE089	Electromagnetic Compatibility (EMC) and Printed Circuit Board (PCB) Design	6*	A1X	2	E
TNE104	Organic Electronics 2	6	A1X	4	E
Period 2					
TNE089	Electromagnetic Compatibility (EMC) and Printed Circuit Board (PCB) Design	6*	A1X	1	E

#### Specialisation: Wireless systems

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TNE071	Microwave Engineering	6	A1X	1	E
TNE089	Electromagnetic Compatibility (EMC) and Printed Circuit Board (PCB) Design	6*	A1X	2	E
Period 2					
TNE083	Antenna Theory	6	A1X	2	E
TNE089	Electromagnetic Compatibility (EMC) and Printed Circuit Board (PCB) Design	6*	A1X	1	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