

# Communication and Transportation Engineering, M Sc in Engineering

300 credits

Civilingenjör i kommunikation, transport och

samhälle

6CKTS

Valid from: 2015 Spring semester

**Determined by** Board of Studies for Industrial Engineering and Logistics

Date determined

## Entry requirements

# Degree in Swedish

Civilingenjör 300 hp och Teknologie master 120 hp



# Curriculum

### Semester 4 (Spring 2017)

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TND002	Object-Oriented Programming	6	G1X	1	С
TNG032	Applied Transform Theory	6	G2X	4	С
TNK061	Traffic Infrastructure	6*	G2X	2	С
Period 2					
TNG006	Statistics	6	G2X	1	С
TNG015	Signals and Systems	6	G2X	3	С
TNK061	Traffic Infrastructure	6*	G2X	2	С
TPTE06	Industrial Placement	6	G1X	-	V

### Semester 5 (Autumn 2017)

Course name	Credits	Level	Timetable module	ECV
Automatic Control	6	G2X	2	С
Optimization and System Analysis	6*	G2X	4	С
Queueing Theory	6	G2X	1	С
Modelling and Simulation	6	G2X	1	С
Optimization and System Analysis	6*	G2X	4	С
Computer Networking	6	G2X	3	С
	Automatic Control   Optimization and System Analysis   Queueing Theory   Modelling and Simulation   Optimization and System Analysis	Automatic Control 6   Optimization and System Analysis 6*   Queueing Theory 6   Modelling and Simulation 6   Optimization and System Analysis 6*	Automatic Control6G2XOptimization and System Analysis6*G2XQueueing Theory6G2XModelling and Simulation6G2XOptimization and System Analysis6*G2X	Course nameCreditsLevelmoduleAutomatic Control6G2X2Optimization and System Analysis6*G2X4Queueing Theory6G2X1Modelling and Simulation6G2X1Optimization and System Analysis6*G2X4Modelling and Simulation6G2X1



### Semester 6 (Spring 2018)

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TNG041	Scientific Methodology, Criticism of the Sources and Report Writing	2	G2F	4	С
TNK089	Discrete-Event Simulation	6	G2X	2	С
TNK093	Mobile Communication	6*	G2X	1	С
TNK111	Communication and Transportation - project	16*	G2X	3	С
Period 2					
TNK093	Mobile Communication	6*	G2X	4	С
TNK111	Communication and Transportation - project	16*	G2X	1	С

### Semester 7 (Autumn 2018)

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TEIO87	Project Management	6*	G2X	1	С
TNK106	Positioning Systems	6	A1X	2	С
TGTU01	Technology and Ethics	6	G1X	4	Е
THEN09	Advanced English	6*	G2X	4	E
TNK051	Planning of Air Traffic	6	A1X	3	E
TNK091	Traffic Safety Management	6	A1X	3	E
TNK104	Applied Optimization I	6	A1X	4	E
Period 2					
TDDC28	Applications of Discrete-Event Simulation	6	A1X	3	С
TEIO87	Project Management	6*	G2X	1	С
TEAE11	Intellectual Property Rights	6	G1X	2	E
THEN09	Advanced English	6*	G2X	4	E
TMQU08	Quality and Business Development	6	G2X	2	E
TNG033	Programming in C++	6	G2X	3	E
TNK105	Applied Optimization II	6	A1X	3	E
TNK115	Smart Cities	6	A1X	4	E



Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TNK104	Applied Optimization I	6	A1X	4	С

#### Specialisation: Master Profile Quantitative Logistics

### Semester 8 (Spring 2019)

Course name	Credits	Level	Timetable module	ECV
Basic Entrepreneurship and Idea Feasibility Analysis	6*	G2F	2	Е
Logistics Networks and Transports	6	A1X	3	E
Smart Cities	6	A1X	4	E
Transport Demand Forecasting	6	A1X	2	E
Rethoric in Speech, Texts and Images	6*	G1X	1	E
Basic Entrepreneurship and Idea Feasibility Analysis	6*	G2F	3	E
Engineering Applications Using Matlab	6	A1X	4	E
Logistics Resource Planning	6	A1X	3	E
Internet of Things	6	A1X	1	E
Traffic Theory and Simulation	6	A1X	2	E
Rethoric in Speech, Texts and Images	6*	G1X	1	E
	Basic Entrepreneurship and Idea Feasibility Analysis Logistics Networks and Transports Smart Cities Transport Demand Forecasting Rethoric in Speech, Texts and Images Basic Entrepreneurship and Idea Feasibility Analysis Engineering Applications Using Matlab Logistics Resource Planning Internet of Things Traffic Theory and Simulation	Basic Entrepreneurship and Idea Feasibility Analysis6*Logistics Networks and Transports6Smart Cities6Transport Demand Forecasting6Rethoric in Speech, Texts and Images6*Basic Entrepreneurship and Idea Feasibility Analysis6*Engineering Applications Using Matlab6Logistics Resource Planning6Internet of Things6Traffic Theory and Simulation6	Basic Entrepreneurship and Idea Feasibility Analysis6*G2FLogistics Networks and Transports6A1XSmart Cities6A1XTransport Demand Forecasting6A1XRethoric in Speech, Texts and Images6*G1XBasic Entrepreneurship and Idea Feasibility Analysis6*G2FEngineering Applications Using Matlab6A1XInternet of Things6A1XTraffic Theory and Simulation6A1X	Course nameCreditsLevelmoduleBasic Entrepreneurship and Idea Feasibility Analysis6*G2F2Logistics Networks and Transports6A1X3Smart Cities6A1X4Transport Demand Forecasting6A1X2Rethoric in Speech, Texts and Images6*G1X1Basic Entrepreneurship and Idea Feasibility Analysis6*G2F3Internet of Speech Planning6*A1X4Logistics Resource Planning6A1X3Internet of Things6A1X1Traffic Theory and Simulation6A1X2

### Specialisation: Master Profile Quantitative Logistics

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
ТNК099	Logistics Networks and Transports	6	A1X	3	С
Period 2					
TNK100	Logistics Resource Planning	6	A1X	3	С



Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TNK115	Smart Cities	6	A1X	4	С
Period 2					
TNK116	Internet of Things	6	A1X	1	С

#### Specialisation: Master Profile Smart Cities

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TNK118	Transport Demand Forecasting	6	A1X	2	С
Period 2					
TNK119	Traffic Theory and Simulation	6	A1X	2	С

#### Specialisation: Master Profile Traffic Analysis

### Semester 9 (Autumn 2019)

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TNK051	Planning of Air Traffic	6	A1X	3	E
TNK104	Applied Optimization I	6	A1X	4	E
TNK114	Logistics in Supply Chains	6	A1X	1	E
TNK117	Data Analytics for Smart Cities	6	A1X	3	E
TNK120	Traffic State Estimation, Prediction and Control	6	A1N	1	E
TNSL15	Logistics and Sustainable Development	6	G2X	2	E
Period 2					
TNK103	Analysis of Communication and Transport Systems	6	A1X	1	С
ТNК098	Planning of Public Transportation and Railway Traffic	6	A1X	4	E
TNK105	Applied Optimization II	6	A1X	3	E



Course code	Course name	Credits	Level	Timetable module	ECV
Period 2					
TNK103	Analysis of Communication and Transport Systems	6	A1X	1	С

#### Specialisation: Master Profile Quantitative Logistics

#### Specialisation: Master Profile Smart Cities

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TNK117	Data Analytics for Smart Cities	6	A1X	3	С
Period 2					
TNK103	Analysis of Communication and Transport Systems	6	A1X	1	С

#### Specialisation: Master Profile Traffic Analysis

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TNK120	Traffic State Estimation, Prediction and Control	6	A1N	1	С
Period 2					
TNK103	Analysis of Communication and Transport Systems	6	A1X	1	С

### Semester 10 (Spring 2020)

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

