

# Media Technology and Engineering, M Sc in Engineering

300 credits

Civilingenjör i medieteknik

6CMEN

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 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*	G1X	4	С
TND002	Object-Oriented Programming	6	G1X	1	С
Period 2					
TNA004	Calculus II	6	G1X	2	С
TNA005	Applied Mathematics in Science and Technology	6*	G1X	4	С
TNM046	Computer Graphics	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
TNM040	Communication and User Interfaces	6*	G1X	2	С
Period 2					
TNA007	Vector Analysis	6	G2X	4	С
TNG033	Programming in C++	6	G2X	3	С
TNM040	Communication and User Interfaces	6*	G1X	2	С



# Semester 4 (Spring 2018)

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TNG032	Applied Transform Theory	6	G2X	4	С
TNM059	Graphic Arts	6	G1X	3	С
TNM061	3-D Computer Graphics	6*	G2X	1	С
Period 2					
TNG006	Statistics	6	G2X	1	С
TNG015	Signals and Systems	6	G2X	3	С
TNM061	3-D Computer Graphics	6*	G2X	4	С
TPTE06	Industrial Placement	6	G1X	-	E

#### Semester 5 (Autumn 2018)

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TFYA65	Physics of Sound	6	G2X	1	С
TNG028	Automatic Control	6	G2X	2	С
TNM093	Practical Data Visualization and Virtual Reality	6*	G2X	3	С
Period 2					
TNG022	Modelling and Simulation	6	G2X	1	С
TNM087	Image Processing and Analysis	6	G2X	2	С
TNM093	Practical Data Visualization and Virtual Reality	6*	G2X	3	С

## Semester 6 (Spring 2019)

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TNM085	Modelling Project	6	G2F	1	С
TNM094	Media Technology - Bachelor Project	18*	G2X	-	С
Period 2					
TND004	Data Structures	6	G2X	3	С
TNM094	Media Technology - Bachelor Project	18*	G2X	-	С



## Semester 7 (Autumn 2019)

TDDE45 Software Design and Construction 6 A1X 4 E TEIO87 Project Management 6* G2X 1 E TGTU01 Technology and Ethics 6 G1X 4 E THEN09 Advanced English 6* G2X 4 E TNCG15 Advanced Global Illumination and Rendering 6 A1X 4 E TNM031 Network Programming and Security 6 A1X 3 E TNM067 Scientific Visualization 6 A1X 3 E TNM103 Sound Technology 6 A1X 2 E TNM108 Machine Learning for Social Media 6* A1X 3 E  Period 2  TDDC73 Interaction Programming 6 G2X 1 E TEAE11 Intellectual Property Rights 6 G1X 2 E TEIO87 Project Management 6* G2X 1 E THEN09 Advanced English 6* G2X 1 E TNA009 Computational Methods for Science and Engineering 6 A1X 3 E TNM034 Advanced Image Processing 6 A1X 3 E TNM069 Graphics Design and Communication 6 A1X 1 E TNM084 Procedural Methods for Images 6 A1X 4 E TNM086 Virtual Reality Techniques 6 A1X 2 E TNM086 Virtual Reality Techniques 6 A1X 2 E	Course code	Course name	Credits	Level	Timetable module	ECV
TEIO87 Project Management 6* G2X 1 E TGTU01 Technology and Ethics 6 G1X 4 E THEN09 Advanced English 6* G2X 4 E TNCG15 Advanced Global Illumination and Rendering 6 A1X 4 E TNM031 Network Programming and Security 6 A1X 3 E TNM067 Scientific Visualization 6 A1X 3 E TNM108 Machine Learning for Social Media 6* A1X 3 E TNM108 Machine Learning for Social Media 6* A1X 3 E TEAE11 Intellectual Property Rights 6 G1X 2 E TEIO87 Project Management 6* G2X 1 E THEN09 Advanced English 6* G2X 1 E THEN09 Computational Methods for Science and Engineering 6 A1X 3 E TNM034 Advanced Image Processing 6 A1X 3 E TNM086 Virtual Reality Techniques 6 A1X 4 E TNM086 Virtual Reality Techniques 6 A1X 2 E	Period 1					
TGTU01 Technology and Ethics 6 G1X 4 E  THEN09 Advanced English 6* G2X 4 E  TNCG15 Advanced Global Illumination and Rendering 6 A1X 4 E  TNM031 Network Programming and Security 6 A1X 3 E  TNM067 Scientific Visualization 6 A1X 3 E  TNM108 Machine Learning for Social Media 6* A1X 3 E  Period 2  TDDC73 Interaction Programming 6 G2X 1 E  TEAE11 Intellectual Property Rights 6 G1X 2 E  THEN09 Advanced English 6* G2X 1 E  THEN09 Advanced English 6* G2X 4 E  TNA009 Computational Methods for Science and Engineering 6 A1X 3 E  TNM034 Advanced Image Processing 6 A1X 3 E  TNM069 Graphics Design and Communication 6 A1X 1 E  TNM086 Virtual Reality Techniques 6 A1X 2 E	TDDE45	Software Design and Construction	6	A1X	4	E
THEN09 Advanced English 6* G2X 4 E  TNCG15 Advanced Global Illumination and Rendering 6 A1X 4 E  TNM031 Network Programming and Security 6 A1X 3 E  TNM067 Scientific Visualization 6 A1X 3 E  TNM103 Sound Technology 6 A1X 2 E  TNM108 Machine Learning for Social Media 6* A1X 3 E  Period 2  TDDC73 Interaction Programming 6 G2X 1 E  TEAE11 Intellectual Property Rights 6 G1X 2 E  TEIO87 Project Management 6* G2X 1 E  THEN09 Advanced English 6* G2X 4 E  TNA009 Computational Methods for Science and Engineering 6 A1X 3 E  TNM034 Advanced Image Processing 6 A1X 3 E  TNM069 Graphics Design and Communication 6 A1X 1 E  TNM084 Procedural Methods for Images 6 A1X 4 E  TNM086 Virtual Reality Techniques 6 A1X 2 E	TEIO87	Project Management	6*	G2X	1	E
TNCG15 Advanced Global Illumination and Rendering 6 A1X 4 E  TNM031 Network Programming and Security 6 A1X 3 E  TNM067 Scientific Visualization 6 A1X 3 E  TNM103 Sound Technology 6 A1X 2 E  TNM108 Machine Learning for Social Media 6* A1X 3 E  Period 2  TDDC73 Interaction Programming 6 G2X 1 E  TEAE11 Intellectual Property Rights 6 G1X 2 E  TEIO87 Project Management 6* G2X 1 E  THEN09 Advanced English 6* G2X 4 E  TNA009 Computational Methods for Science and Engineering 6 A1X 3 E  TNM034 Advanced Image Processing 6 A1X 3 E  TNM069 Graphics Design and Communication 6 A1X 1 E  TNM084 Procedural Methods for Images 6 A1X 4 E  TNM086 Virtual Reality Techniques 6 A1X 2 E	TGTU01	Technology and Ethics	6	G1X	4	E
TNM031 Network Programming and Security 6 A1X 3 E  TNM067 Scientific Visualization 6 A1X 3 E  TNM103 Sound Technology 6 A1X 2 E  TNM108 Machine Learning for Social Media 6* A1X 3 E  Period 2  TDDC73 Interaction Programming 6 G2X 1 E  TEAE11 Intellectual Property Rights 6 G1X 2 E  TEI087 Project Management 6* G2X 1 E  THEN09 Advanced English 6* G2X 4 E  TNA009 Computational Methods for Science and Engineering 6 A1X 3 E  TNM034 Advanced Image Processing 6 A1X 3 E  TNM069 Graphics Design and Communication 6 A1X 1 E  TNM084 Procedural Methods for Images 6 A1X 4 E  TNM086 Virtual Reality Techniques 6 A1X 2 E	THEN09	Advanced English	6*	G2X	4	E
TNM067 Scientific Visualization 6 A1X 3 E  TNM103 Sound Technology 6 A1X 2 E  TNM108 Machine Learning for Social Media 6* A1X 3 E  Period 2  TDDC73 Interaction Programming 6 G2X 1 E  TEAE11 Intellectual Property Rights 6 G1X 2 E  TEIO87 Project Management 6* G2X 1 E  THEN09 Advanced English 6* G2X 4 E  TNA009 Computational Methods for Science and Engineering 6 A1X 3 E  TNM034 Advanced Image Processing 6 A1X 3 E  TNM069 Graphics Design and Communication 6 A1X 1 E  TNM084 Procedural Methods for Images 6 A1X 4 E  TNM086 Virtual Reality Techniques 6 A1X 2 E	TNCG15	Advanced Global Illumination and Rendering	6	A1X	4	E
TNM103 Sound Technology 6 A1X 2 E  TNM108 Machine Learning for Social Media 6* A1X 3 E  Period 2  TDDC73 Interaction Programming 6 G2X 1 E  TEAE11 Intellectual Property Rights 6 G1X 2 E  TEIO87 Project Management 6* G2X 1 E  THEN09 Advanced English 6* G2X 4 E  TNA009 Computational Methods for Science and Engineering 6 A1X 3 E  TNM034 Advanced Image Processing 6 A1X 3 E  TNM069 Graphics Design and Communication 6 A1X 1 E  TNM084 Procedural Methods for Images 6 A1X 4 E  TNM086 Virtual Reality Techniques 6 A1X 2 E	TNM031	Network Programming and Security	6	A1X	3	E
TNM108 Machine Learning for Social Media 6* A1X 3 E  Period 2  TDDC73 Interaction Programming 6 G2X 1 E  TEAE11 Intellectual Property Rights 6 G1X 2 E  TEIO87 Project Management 6* G2X 1 E  THEN09 Advanced English 6* G2X 4 E  TNA009 Computational Methods for Science and Engineering 6 A1X 3 E  TNM034 Advanced Image Processing 6 A1X 3 E  TNM069 Graphics Design and Communication 6 A1X 1 E  TNM084 Procedural Methods for Images 6 A1X 4 E  TNM086 Virtual Reality Techniques 6 A1X 2 E	TNM067	Scientific Visualization	6	A1X	3	E
Period 2  TDDC73 Interaction Programming 6 G2X 1 E  TEAE11 Intellectual Property Rights 6 G1X 2 E  TEIO87 Project Management 6* G2X 1 E  THEN09 Advanced English 6* G2X 4 E  TNA009 Computational Methods for Science and Engineering 6 G2X 2 E  TNM034 Advanced Image Processing 6 A1X 3 E  TNM069 Graphics Design and Communication 6 A1X 1 E  TNM084 Procedural Methods for Images 6 A1X 4 E  TNM086 Virtual Reality Techniques 6 A1X 2 E	TNM103	Sound Technology	6	A1X	2	E
TDDC73Interaction Programming6G2X1ETEAE11Intellectual Property Rights6G1X2ETEIO87Project Management6*G2X1ETHEN09Advanced English6*G2X4ETNA009Computational Methods for Science and Engineering6G2X2ETNM034Advanced Image Processing6A1X3ETNM069Graphics Design and Communication6A1X1ETNM084Procedural Methods for Images6A1X4ETNM086Virtual Reality Techniques6A1X2E	TNM108	Machine Learning for Social Media	6*	A1X	3	E
TEAE11 Intellectual Property Rights 6 G1X 2 E  TEIO87 Project Management 6* G2X 1 E  THEN09 Advanced English 6* G2X 4 E  TNA009 Computational Methods for Science and Engineering 6 G2X 2 E  TNM034 Advanced Image Processing 6 A1X 3 E  TNM069 Graphics Design and Communication 6 A1X 1 E  TNM084 Procedural Methods for Images 6 A1X 4 E  TNM086 Virtual Reality Techniques 6 A1X 2 E	Period 2					
TEIO87 Project Management 6* G2X 1 E  THEN09 Advanced English 6* G2X 4 E  TNA009 Computational Methods for Science and Engineering 6 G2X 2 E  TNM034 Advanced Image Processing 6 A1X 3 E  TNM069 Graphics Design and Communication 6 A1X 1 E  TNM084 Procedural Methods for Images 6 A1X 4 E  TNM086 Virtual Reality Techniques 6 A1X 2 E	TDDC73	Interaction Programming	6	G2X	1	E
THEN09 Advanced English 6* G2X 4 E  TNA009 Computational Methods for Science and Engineering 6 G2X 2 E  TNM034 Advanced Image Processing 6 A1X 3 E  TNM069 Graphics Design and Communication 6 A1X 1 E  TNM084 Procedural Methods for Images 6 A1X 4 E  TNM086 Virtual Reality Techniques 6 A1X 2 E	TEAE11	Intellectual Property Rights	6	G1X	2	E
TNA009 Computational Methods for Science and Engineering 6 G2X 2 E  TNM034 Advanced Image Processing 6 A1X 3 E  TNM069 Graphics Design and Communication 6 A1X 1 E  TNM084 Procedural Methods for Images 6 A1X 4 E  TNM086 Virtual Reality Techniques 6 A1X 2 E	TEIO87	Project Management	6*	G2X	1	E
TNM034 Advanced Image Processing 6 A1X 3 E  TNM069 Graphics Design and Communication 6 A1X 1 E  TNM084 Procedural Methods for Images 6 A1X 4 E  TNM086 Virtual Reality Techniques 6 A1X 2 E	THEN09	Advanced English	6*	G2X	4	E
TNM069 Graphics Design and Communication 6 A1X 1 E  TNM084 Procedural Methods for Images 6 A1X 4 E  TNM086 Virtual Reality Techniques 6 A1X 2 E	TNA009	•	6	G2X	2	E
TNM084 Procedural Methods for Images 6 A1X 4 E  TNM086 Virtual Reality Techniques 6 A1X 2 E	TNM034	Advanced Image Processing	6	A1X	3	E
TNM086 Virtual Reality Techniques 6 A1X 2 E	TNM069	Graphics Design and Communication	6	A1X	1	E
	TNM084	Procedural Methods for Images	6	A1X	4	E
TNM108 Machine Learning for Social Media 6* A1X 3 E	TNM086	Virtual Reality Techniques	6	A1X	2	E
	TNM108	Machine Learning for Social Media	6*	A1X	3	E
TSBB09 Image Sensors 6 A1X 4 E	TSBB09	Image Sensors	6	A1X	4	Е



## Semester 8 (Spring 2020)

Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TEIE53	Industrial Economics	6	G1N	1	E
TNKA10	Rethoric in Speech, Texts and Images	6*	G1F	1	Е
TNM048	Information Visualisation	6	A1X	3	E
TNM097	Image Reproduction and Image Quality	6	A1X	2	E
TNM100	Structural Methods for User Experience (UX)	6*	A1X	1	E
TSBK35	Audio and Image Compression	6	A1X	4	E
Period 2					
TDDD27	Advanced Web Programming	6	A1N	3	E
TNKA10	Rethoric in Speech, Texts and Images	6*	G1F	1	E
TNM079	Modelling and Animation	6	A1X	2	E
TNM096	Artificial Intelligence - Principles and Techniques	6	G2X	1	E
TNM098	Advanced Visual Data Analysis	6	A1X	4	E
TNM100	Structural Methods for User Experience (UX)	6*	A1X	3	E

## Semester 9 (Autumn 2020)



Course code	Course name	Credits	Level	Timetable module	ECV
Period 1					
TDDE45	Software Design and Construction	6	A1X	4	E
TNCG15	Advanced Global Illumination and Rendering	6	A1X	4	E
TNM031	Network Programming and Security	6	A1X	3	E
TNM067	Scientific Visualization	6	A1X	3	E
TNM089	Imaging Technology	6	A1X	1	E
TNM091	Media Production for Immersive Environments	6*	A1X	1	E
TNM095	Artificial Intelligence for Interactive Media	6	A1X	2	E
TNM103	Sound Technology	6	A1N	2	E
TSBK03	Advanced Game Programming	6*	A1X	1	E
Period 2					
TNM107	Scientific Method	6	A1X	3	С
TDDC73	Interaction Programming	6	G2X	1	E
TDDD56	Multicore and GPU Programming	6	A1X	2	E
TNCG13	SFX - Tricks of the Trade	6	A1X	4	E
TNM084	Procedural Methods for Images	6	A1X	4	E
TNM086	Virtual Reality Techniques	6	A1X	2	E
TNM091	Media Production for Immersive Environments	6*	A1X	1	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

