



Programme syllabus

[An accessible version of the syllabus can be found in the Course and programme directory.](#)

Degree Programme in Media Technology 300 credits

Civilingenjörsutbildning i medieteknik

Valid for students admitted to the education from autumn 11 (HT - Autumn term; VT - Spring term).

This is a translation of the Swedish, legally binding, programme syllabus.

Programme objectives

The educational programme has a technical, scientific base with a foundation in mathematics and natural science. Media Technology focuses on services and products aimed primarily at the consumer market. Therefore, the programme also offers relevant knowledge from social and behavioural science and insights into the contents and design of media. Specialized knowledge is given about technology for static media forms (text, image, print), dynamic media forms (audio, video) and interactive media forms (internet, games, dialogue systems, etc.). Each student must, in addition, acquire deeper knowledge within at least two of the following areas of media technology: interactive media technology, image and video technology, audio technology, human-computer interaction, printed communication or an individually specified area approved by the program coordinator.

Knowledge and understanding

The Media Technology program will give the student the fundamental knowledge and abilities needed to successfully work with and from an engineering perspective solve technical, organisational, methodological, design-related, and user-related problems within the media field. The program gives knowledge about the technical as well as multi-disciplinary foundation that media and their technology for production, distribution, and consumption rely upon.

Skills and abilities

The Media Technology program will give the student prerequisites to, with a comprehensive perspective, critically, independently and creatively identify, formulate, and handle complex problems, analyze and critically evaluate different technical, organisational, and design-related solutions. The student will also have the ability to plan and implement qualified assignments within given constraints and considering sustainability. The program will also give a foundation for further education on the research level and an ability to participate in research and development work and thereby contribute to the knowledge development within the area. The student will develop an understanding of and an ability to work in teams and to cooperate in groups with participants from different backgrounds. The student will also be able to continuously develop his/her skills and abilities.

Ability to make judgements and adopt a standpoint

The Media Technology will gain the ability to integrate knowledge from different disciplines and experiences as well as to model, plan and evaluate products, services, systems, and processes. The student will also get an understanding of business development within the media field and of the important role of media in society, opinion building and democratic processes as of the ethical and legal aspects of media and their contents, and the relationship between technology, contents and usage in the media. This includes a consciousness about the possibilities and limitations of technology and the responsibility of technology developers for how the technology is used.

Extent and content of the programme

The Master's Programme in Engineering in Media Technology is composed of 300 ECTS credits, which at normal study rate corresponds to 5 years of full-time studies (10 terms).

The first three years (180 higher education credits) are on the first level. The last two years are mainly on the second level (120 higher education credits).

Master's programs

The last two years the student takes a master's program of his/her choice. The master's programs consist of courses mainly in the second level. The education leads to a master's degree as well as a "civilingenjör" degree.

Each year a list of master's programs that the students can choose from is presented. For 2009 the list contains three master programs:

- Media technology
- Media management
- Human-computer interaction

The student who wants to choose the Media management program must be aware that:

- the program has a limited number of places
- the course Law for media must be taken within the master's program
- a special application is needed according to instructions from the CSC school

The student who wants to choose the Human-computer interaction program must be aware that:

- the human-computer specialization may not be chosen for study year 3 (the education should include two specializations)
- must take the conditionally elective mathematics courses during study years 2 and 3
- the courses Law for media and Content and expression in media must be taken within the master's program

Language of Instruction

The language of instruction, during the first three years of the programme is mostly Swedish; although English literature will be used. The concluding two years some courses are given in Swedish and some in English. For each course the language of instruction is found in the Course and program directory on the KTH student web site.

Eligibility and selection

In order to be accepted to the Media Technology program basic eligibility requirements as well as the following requirements must be met: Mathematics E, Physics B, Chemistry A (according to the Swedish school system). All with at least a grade of Godkänd (Passed).

For eligibility requirements and selection, see the KTH admission policy

<http://intra.kth.se/regelverk/utbildning-forskning/grundutbildning/antagning/1.27186>

Implementation of the education

Structure of the education

The programme plan for the Master's programme in Engineering in Media Technology partly consists of compulsory courses including one of the two specialisations during study years 1-3. Study year 3 is concluded with a first level degree project worth 15 ECTS credits.

During study years 4-5 the student follows the master's program of his/her choice. Within the master's program a second specialization is taken as well as courses on the second level. The programme is concluded during the spring semester of study year 5 with a second level degree project worth 30 ECTS credits.

The programme is structured such that the student, after three study years, can apply for a Bachelor's degree and then continue his/her studies on a Master's programme at KTH or another university in Sweden or abroad or start a working career.

Academic year

The KTH academic year is 40 weeks, divided into four periods. Each study period is followed by an examination period. There are also three re-examination periods.

For details about the structure of the academic year see http://www.kth.se/student/schema/1.1007?l=en_UK

Courses

The programme is course-based. Lists of courses are included in appendix 1.

The programme consists of compulsory, conditionally elective and elective courses. The compulsory courses are defined for each study year and specialisation in course lists. Course goals, prerequisites, contents and examination requirements can be found in the respective course plans in the course and program directory on the KTH student web..

Elective courses can be chosen from the KTH course offer for Master of Science in Engineering programmes. Also, courses from other universities/higher education institutions can be recognized for credit, if the degree requirements are fulfilled.

For elective courses, the following restrictions apply:

- Elective courses can not be taken in study year 1
- Only under certain circumstances can elective courses be taken in study year 2
- The number of higher education credits which can be taken per semester can be limited.

Grading system

Courses in the first and the second cycle are graded on a scale from A to F. A-E are passing grades, A is the highest grade. The grades pass (P) and fail (F) are used for courses under certain circumstances.

Conditions for participation in the programme

Semester enrollment

No later than November 15 and May 15 the student is required to make a study enrollment for the next semester at the CSC Program Office.

This study enrollment is required in order for the exam results to be registered.

Approved leave from studies

Approved leave from studies means that the student does not participate in the education during at least one study period. The student has the right to return to the education at a time agreed upon, and has the right to participate in the examination of non-finished courses.

Application for an approved leave is done on according to instructions from the CSC program office. When the student decides to return to the education, he/she is required to re-enroll to the studies.

Selection of courses

From study year 3 and on the student is responsible for applying to all courses he/she wishes to take. This also applies to compulsory courses. The application for admission to a course is done according to instructions from the CSC school no later than

May 15th for the fall semester

November 15th for the spring semester

Applications made after this date are only granted if there are vacancies in the courses. Applications to language courses with prerequisites should be preceded by a qualification test.

In a few courses, the number of participants is limited. Selection is done by the school responsible for the course.

Admission to compulsory courses during study yerars 1–2 is, in most cases, automatic. Students wishing to study an individual specialization or choosing among alternative compulsory courses have to submit a special form.

Selection of conditionally elective courses i mathematics

The program offers a number of conditionally elective courses in mathematics that can be taken from study year 2. The student must take at least two of these in order to fulfill the requirements for a degree. Application for a conditionally elective course in mathematics is made on a form submitted to the CSC program office.

Choice of specialization

During the third study year the student follows one of the specializations offered. The choice of specialization, courses to be taken within the specialization and any elective courses are done according to instructions from the CSC program office.

Choice of master's program

The student must apply for the master's program he/she wishes to follow during study years 4–5 according to instructions given by the CSC program office.

Course registration

The student must register with the school responsible for the course at the start of each course, and also report to the school responsible for the course if the studies are discontinued.

Registration to a course requires formal acceptance to the course (by the school responsible for the course). Applications should be according to instructions from the CSC school.

Conditions for being promoted to the next level

The following promotion requirements apply in order to participate in the next level of the education.

Requirements for promotion from study year 1 to study year 2:

A total of at least 45 ECTS credits from study year 1 must be completed.

Requirements for promotion from study year 2 to study year 3:

A total of at least 90 ECTS credits from study years 1 and 2 must be completed at least 50 higher education credits from study year 1.

Requirements for promotion from study year 3 to study year 4:

A total of at least 150 ECTS credits from study years 1-3 must be completed whereof 110 ECTS credits from study year 1-2, and the first level degree project.

Requirements for promotion from study year 4 to study year 5:

In addition to what applies for promotion to study 4, at least 45 higher education credits from study year 4 must be completed.

Individual study plan

Students who do not fulfill these requirements must – in cooperation with the CSC program office – make an individual study plan for continued studies.

Please see the KTH regulations: http://intra.kth.se/regelverk/utbildning-forskning/grundutbildning/1.27217?l=en_UK

Recognition of previous academic studies

Credits for studies at another university can be received. An application form can be found on the KTH Student pages.

The application form is submitted to the CSC program office.

For in-depth information about the KTH policy for crediting previous studies, see http://intra.kth.se/regelverk/utbildning-forskning/grundutbildning/prestationer/1.27200?l=en_UK

Studies abroad

Students at the Media Technology program have the opportunity to study one or two semesters abroad through agreements KTH has with universities within and outside the EU. Exchange studies are appropriate during the fourth or fifth study years. It is also possible to make the final degree project (second cycle) abroad.

For more information contact the international coordinator at CSC.

Degree project

Degree project, first cycle

A degree project of 15 ECTS credits (first cycle) is done during study year 3.

KTH comprehensive rules and guidelines for degree projects of 15 ECTS credits for Degree of Bachelor of Science 180 ECTS credits, and grading of the project are found in the KTH regulations.

http://intra.kth.se/regelverk/utbildning-forskning/grundutbildning/examensarbete/1.27211?l=en_UK

Degree project, second cycle

A second degree project of 30 ECTS credits (second cycle) is done during study year 5.

KTH comprehensive rules and guidelines for degree projects of 30 ECTS credits for Degree of Master of Science in Engineering, Degree Programme in Computer Science and Technology 300 ECTS credits, and grading of the project is found in the KTH regulations.

<http://intra.kth.se/regelverk/utbildning-forskning/grundutbildning/examensarbete/1.27205>

Second cycle degree project for the Degree of Master of Science in Engineering can be performed in the following subjects:

Media Technology, Computer Science, Electroacoustics, Musical Acoustics, Human-Computer Interaction and Speech Communication.

Other subjects for the degree project may be considered upon application. For more information, contact the CSC program office.

It is the responsibility of the student to find a suitable project task.

Degree

Application for graduation

Students may apply for the following degrees: Degree of Bachelor of Science and Degree of Master of Science in Engineering, Degree Programme in Media Technology. Students can also request for Degree of Master of Science (Two Years) if the requirements for this degree are met.

Instructions for the application are available on the KTH student web.

Conditions for the Degree of Bachelor of Science 180 ECTS credits

The Degree of Bachelor of Science is received if the student applies for graduation after the completion of the 3rd study year and fulfills the national degree requirements and has completed all courses within the program corresponding to 180 ECTS credits, including

- courses of at least 25 ECTS credits within mathematics-natural sciences,
- courses of at least 90 ECTS credits (including 15 ECTS credits from the degree project) with successive progression in the main field of education.

Degree name

Teknologiekandidatexamen
Degree of Bachelor of Science

Conditions for the Degree of Master of Science in Engineering 300 ECTS credits

The Master of Science in Engineering degree is received after completing the programme. The programme is designed so that the student fulfills the national degree requirements and has completed courses corresponding to 300 ECTS credits, including

- courses of at least 45 ECTS credits within mathematics-natural sciences, and, in addition, courses of at least 180 higher ECTS credits (including 30 ECTS credits from the degree project) in the subjects central to the technical area
- courses of at least 90 ECTS credits in the second cycle, whereof at least 60 ECTS credits (including 30 ECTS credits from degree project) in the subjects central to the technical area, i.e. media technology

Degree name

Civilingenjörsexamen

Degree of Master of Science in Engineering, Degree Programme in Computer Science and Technology

Conditions for Degree of Master of Science (Two Years) 120 ECTS credits.

See KTH regulations (see link below).

Degree name

Teknologie masterexamen

Degree of Master of Science (Two Years)

Information on degree requirements in the KTH regulations:

http://intra.kth.se/regelverk/utbildning-forskning/grundutbildning/examina/1.27227?l=en_UK

Appendix 1 - Course list

Appendix 2 - Programme syllabus descriptions



Appendix 1: Course list

Degree Programme in Media Technology (CMETE)

General courses

Year 1

Mandatory courses (64.0 Credits)

Code	Name	Credits	Edu. level
DD1314	Programming for Interactive Media	8.0 hp	First cycle
DH1609	Communication and information	7.5 hp	First cycle
DM1570	Graphic Arts Technology 1 <i>First course of the specialization Printed communication</i>	7.0 hp	First cycle
DM1572	Introduction to Media Technology	7.5 hp	First cycle
DM1578	Program Integrating Course in Media Technology <i>3 cr belong to study year 1, distributed as 0,75 cr each study period</i>	7.0 hp	First cycle
MF1035	Electrical Engineering, Basic Course Media	6.0 hp	First cycle
SF1624	Algebra and Geometry	7.5 hp	First cycle
SF1625	Calculus in One Variable <i>Calculus in several variables is taken during study year 2</i>	7.5 hp	First cycle
SK1120	Waves	6.0 hp	First cycle

Optional courses

Code	Name	Credits	Edu. level
SF1611	Introductory Course in Mathematics I	1.5 hp	First cycle

Supplementary information

Batch 11 take the first study year during the academic year 2011/12.

The course DM1578 Program Integrating Course in Media Technology is taken during study years 1–3 and divided into 3 cr during year 1, 2 cr during year 2, and 2 cr during year 3.

Year 2

Mandatory courses (59.5 Credits)

Code	Name	Credits	Edu. level
AD1RD1	Reflective Design Process	7.5 hp	First cycle
DD1320	Applied Computer Science	6.0 hp	First cycle
DD1334	Database Technology	6.0 hp	First cycle
DM1576	Image and Video Technology	9.0 hp	First cycle
DM1578	Program Integrating Course in Media Technology <i>2 cr belong to study year 2, distributed as 0,5 cr each study period</i>	7.0 hp	First cycle
DT1130	Spectral Transforms	7.5 hp	First cycle
DT1174	Sound as an Information Medium	9.0 hp	First cycle
SF1626	Calculus in Several Variables	7.5 hp	First cycle

Conditionally elective courses

Code	Name	Credits	Edu. level
DN1240	Numerical Methods, Basic Course II <i>Either DN1240 or SF1901</i>	6.0 hp	First cycle
SF1901	Probability Theory and Statistics <i>Recommended for the students who intends to follow the track Image and Video technology</i>	6.0 hp	First cycle

Year 3

Mandatory courses (41.5 Credits)

Code	Name	Credits	Edu. level
AK2203	Media, Technology and Culture	7.5 hp	Second cycle
DH2620	Human-Computer Interaction, Introductory Course	6.0 hp	Second cycle
DM129X	Degree Project in Media Technology, First Cycle	15.0 hp	First cycle
DM1578	Program Integrating Course in Media Technology <i>2 cr belong to study year 2; distribution over the periods: 0,5; 0,5; 0,5; 0,5</i>	7.0 hp	First cycle
ME1003	Industrial Management, Basic Course	6.0 hp	First cycle

Supplementary information

Media technology batch 2011 will be in study year 3 during 2013/14

One out of the four compulsory specialisations must be chosen. No elective specialisation can be chosen

Year 4

Mandatory courses (7.5 Credits)

Code	Name	Credits	Edu. level
DM2573	Sustainability and Media Technology	7.5 hp	Second cycle

Supplementary information

During study years 4 and 5 the students follow a master program of their choice. For each year a list of master programs that may be chosen is established.

Year 5

Supplementary information

Batch 11 take the fifth study year during the academic year 2015/16.

During study years 4 and 5 the students follow a master program of their choice. For each year a list of master programs that may be chosen is established

Image and Video Technology (BVT)

Year 3

Mandatory courses (21.0 Credits)

Code	Name	Credits	Edu. level
DD2423	Image Analysis and Computer Vision	7.5 hp	Second cycle
EL1150	Introductory Matlab Course	1.5 hp	First cycle
EQ1260	Signal Processing	6.0 hp	First cycle
SK2375	Optics, Supplementary Course for the Media Programme	6.0 hp	Second cycle

Computer Science (CPS)

Year 3

Mandatory courses (24.0 Credits)

Code	Name	Credits	Edu. level
DD2310	Java Programming for Python Programmers	1.5 hp	Second cycle
DD2352	Algorithms and Complexity	7.5 hp	Second cycle
DD2385	Software Engineering	6.0 hp	Second cycle
SF1630	Discrete Mathematics	9.0 hp	First cycle

Interactive Media Technology (INMT)

Year 3

Mandatory courses (22.5 Credits)

Code	Name	Credits	Edu. level
DD2310	Java Programming for Python Programmers	1.5 hp	Second cycle
DD2390	Internet Programming	6.0 hp	Second cycle
DM2517	XML for Publishing	7.5 hp	Second cycle
DM2518	Mobile Development with Web Technologies	7.5 hp	Second cycle

Audio Technology (LJD)

Year 3

Mandatory courses (22.5 Credits)

Code	Name	Credits	Edu. level
DT2112	Speech Technology	7.5 hp	Second cycle
DT2213	Musical Communication and Music Technology	7.5 hp	Second cycle
DT2410	Audio Technology	7.5 hp	Second cycle

Print Communication (TRK)

Year 3

Mandatory courses (15.0 Credits)

Code	Name	Credits	Edu. level
DM2517	XML for Publishing	7.5 hp	Second cycle
DM2529	Digital Images for Publication	7.5 hp	Second cycle

Conditionally elective courses

Code	Name	Credits	Edu. level
DM2531	Graphic Arts Production	7.5 hp	Second cycle
SK2380	Technical Photography	8.0 hp	Second cycle

Supplementary information

One of the courses SK2380 or DM2531 must be taken.



Appendix 2: Specialisations

Degree Programme in Media Technology (CMETE)

Image and Video Technology (BVT)

No information entered.

Computer Science (CPS)

No information entered.

Interactive Media Technology (INMT)

No information entered.

Audio Technology (LJD)

No information entered.

Print Communication (TRK)

No information entered.