



# Programme syllabus

## Degree Programme in Media Technology Civilingenjörsutbildning i medieteknik *300.0 credits*

---

*Valid for students admitted to the education from autumn 17 (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 and image,), dynamic media forms (audio, video) and interactive media forms (internet, games, dialogue systems, etc.). Each student must acquire deeper knowledge within one or two areas of media technology through the choice of specialization for study year 3 and master programme for study years 4–5.

In addition to this comes the Higher Education Ordinance goals for the degree.

### Knowledge and understanding

The Media Technology programme 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 programme 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 programme will give the student prerequisites to, with a comprehensive perspective, critically, independently and creatively identify, formulate, and handle complex problems, analyse 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 programme 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 the important role of media in society, opinion building and democratic processes as of the ethical 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 semesters).

The first three years (180 ECTS credits) are on undergraduate level.

The final two years (120 ECTS credits) the student follow a master programme. The master's programmes consist of courses mainly on advanced level. The education leads to a master's degree as well as a "civilingenjör" degree.

### ***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 are taught in English.

## **Eligibility and selection**

For eligibility requirements and selection, see the KTH admission policy, [www.kth.se](http://www.kth.se)

## **Implementation of the education**

### **Structure of the education**

Structure of the education

This programme syllabus, decided by the CSC dean 2016-09-15 is valid for students starting the program during the study year 2017/2018. Which courses that belong a study year is decided in the autumn the year before. Please see "Study year 1" etc. or the appendices. Changes may occur in the contents of the programme and in the KTH regulations, please see [www.kth.se/en/](http://www.kth.se/en/).

The education starts with compulsory courses in study years 1–3 including a specialization in study year 3. Currently the following specializations are offered: Image and Video Technology, Interactive Media Technology, Audio Technology and Computer Science. Study year 3 is concluded by a degree project at undergraduate level.

During study years 4-5 the student follows a master's programme giving a specialization in subjects central to media technology. The programme is concluded during the spring semester of study year 5 with a degree project at graduate level.

Academic year

For details about the structure of the academic year see <http://www.kth.se>

## **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 programme 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 in exceptional cases can elective courses be taken in study year 2
- The number of credits that can be chosen per semester can be limited.
- Elective courses may not overlap a course already taken to a considerable extent.
- Higher education preparation courses may not be counted as elective course.
- Courses on lower levels within a subject than the programme courses may not count as elective courses.

## **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.

Since the grading systems differ very much between different countries, the grades are not translated from exchange studies abroad.

## **Conditions for participation in the programme**

### **Semester enrollment**

At the start of each semester the student is required to make a study enrollment for the next semester at the Personal Menu.

The study enrollment is required for taking new courses and for study results to be registered.

### **Selection of courses**

Application to the course is done:

- 1 to 15 May for the autumn semester
- 1 to 15 November for the spring semester

with student kth.se account via universityadmissions.se

If the student is not doing their course selections by this system his/her application is only considered upon availability. 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.

A student may only take courses that are included in the study plan.

### **Choice of master's programme**

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

### **Course registration**

The student must, at course start, register for each course. Course registration for compulsory as well as elective courses must be done individually. If the student registers for a course and then decides to not continue, the student must report this as soon as possible.

Registration to a course requires formal acceptance to the course.

### **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 must be completed.

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 education administration office – make an individual study plan for continued studies.

Please see the KTH regulations: <http://www.kth.se/en/>

## Recognition of previous academic studies

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

The application form is submitted to the CSC programme office.

For in-depth information about the KTH policy for credit transfer, see <http://www.kth.se/en/>

## Studies abroad

Students at the Media Technology programme have the opportunity to study one or two semesters abroad through agreements KTH has with universities within and outside the EU. Exchange studies are not appropriate during the first and second 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, undergraduate level*

*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://www.kth.se/en/>

### *Degree project, graduate level*

*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.

## 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, i.e. has completed courses corresponding to 180 ECTS credits, including

- Mathematics/natural science subjects carry at least 25 credits;
- At least 90 credits are (including a 15-credit degree project) with increasingly in-depth studies in the main field of study.

### ***Degree name***

Teknologie kandidatexamen  
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

- Mathematics/natural science subjects must carry at least 45 credits, and in addition at least 180 credits (including a 30-credit degree project) must be within the framework of the engineering area;
- At least 90 credits at second level, of which at least 60 credits (including a 30-credit degree project) must be within the framework of the engineering area.

### ***Degree name***

Civilingenjörsexamen  
Degree of Master of Science in Engineering

### ***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://www.kth.se/en/>

[Appendix 1 - Course list](#)

[Appendix 2 - Programme syllabus descriptions](#)



# Appendix 1: Course list

Degree Programme in Media Technology (CMETE), Programme syllabus for studies starting in autumn 2017

---

## General courses

### Year 1

#### Mandatory courses (64.0 Credits)

Course code	Course name	Credits	Edu. level
<a href="#">DD1315</a>	<a href="#">Programming Techniques and Matlab</a>	7.5 hp	First cycle
<a href="#">DH1609</a>	<a href="#">Communication and information</a>	7.5 hp	First cycle
<a href="#">DM1572</a>	<a href="#">Introduction to Media Technology</a>	7.5 hp	First cycle
<a href="#">DM1573</a>	<a href="#">Graphic Arts Technology</a>	7.5 hp	First cycle
	<a href="#">Program Integrating Course in Media Technology</a>		
<a href="#">DM1578</a>	3 cr belong to study year 1, distributed as 0,75 cr each study period	7.0 hp	First cycle
<a href="#">MF1035</a>	<a href="#">Electrical Engineering, Basic Course Media</a>	6.0 hp	First cycle
<a href="#">SF1624</a>	<a href="#">Algebra and Geometry</a>	7.5 hp	First cycle
<a href="#">SF1625</a>	<a href="#">Calculus in One Variable</a>	7.5 hp	First cycle
<a href="#">SK1120</a>	<a href="#">Waves</a>	6.0 hp	First cycle

#### Supplementary information

#### Compulsory course, year 1:

The introductory course in mathematics can not be included in the degree.

Subject to changes

### Year 2

#### Mandatory courses (65.0 Credits)

#### Course



<b>code</b>	<b>Course name</b>	<b>Credits</b>	<b>Edu. level</b>
<a href="#">AD1RD1</a>	<a href="#">Reflective Design Process</a>	7.5 hp	First cycle
<a href="#">DD1320</a>	<a href="#">Applied Computer Science</a>	6.0 hp	First cycle
<a href="#">DH1620</a>	<a href="#">Human-Computer Interaction, Introductory Course</a>	6.0 hp	First cycle
<a href="#">DM1578</a>	<a href="#">Program Integrating Course in Media Technology</a>	7.0 hp	First cycle
<a href="#">DM1580</a>	<a href="#">Video Technology</a>	6.0 hp	First cycle
<a href="#">DT1130</a>	<a href="#">Spectral Transforms</a>	7.5 hp	First cycle
<a href="#">DT1175</a>	<a href="#">Sound</a>	7.5 hp	First cycle
<a href="#">SF1626</a>	<a href="#">Calculus in Several Variable</a>	7.5 hp	First cycle
<a href="#">SF1919</a>	<a href="#">Probability Theory and Statistics</a>	6.0 hp	First cycle
<a href="#">SK1140</a>	<a href="#">Photography for Media</a>	4.0 hp	First cycle

### Supplementary information

Subject to changes

## Year 3

### Mandatory courses (43.0 Credits)

<b>Course code</b>	<b>Course name</b>	<b>Credits</b>	<b>Edu. level</b>
<a href="#">DD1334</a>	<a href="#">Database Technology</a>	6.0 hp	First cycle
<a href="#">DM128X</a>	<a href="#">Degree Project in Media Technology, First Cycle</a>	15.0 hp	First cycle
<a href="#">DM1578</a>	<a href="#">Program Integrating Course in Media Technology</a>	7.0 hp	First cycle
<a href="#">DM2573</a>	<a href="#">Sustainability and Media Technology</a>	7.5 hp	Second cycle
<a href="#">ME1039</a>	<a href="#">Industrial Management and Entrepreneurship for Media and ICT</a>	7.5 hp	First cycle

### Supplementary information

Subject to changes

## Year 4

### Supplementary information

Media batch 12 will be in study year 4 during 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.

## 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 (22.5 Credits)

Course code	Course name	Credits	Edu. level
<a href="#">DD2423</a>	<a href="#">Image Analysis and Computer Vision</a>	7.5 hp	Second cycle
<a href="#">DM2905</a>	<a href="#">Individual Course in Media Technology</a>	7.5 hp	Second cycle
<a href="#">SK2376</a>	<a href="#">Optics, Supplementary Course</a>	7.5 hp	Second cycle

#### Supplementary information

Subject to changes

## Computer Science (CPS)

### Year 3

#### Mandatory courses (22.5 Credits)

Course code	Course name	Credits	Edu. level
<a href="#">DD1380</a>	<a href="#">Java Programming for Python Programmers</a>	1.5 hp	First cycle
<a href="#">DD1385</a>	<a href="#">Software Engineering</a>	6.0 hp	First cycle
<a href="#">DD2352</a>	<a href="#">Algorithms and Complexity</a>	7.5 hp	Second cycle
<a href="#">SF1662</a>	<a href="#">Discrete Mathematics</a>	7.5 hp	First cycle

#### Supplementary information

Subject to changes

## Interactive Media Technology (INMT)

### Year 3

#### Mandatory courses (22.5 Credits)

Course code	Course name	Credits	Edu. level
<a href="#">DH2642</a>	<a href="#">Interaction Programming and the Dynamic Web</a>	7.5 hp	Second cycle
<a href="#">DM2517</a>	<a href="#">XML for Publishing</a>	7.5 hp	Second cycle
<a href="#">DM2518</a>	<a href="#">Mobile Development with Web Technologies</a>	7.5 hp	Second cycle

### Supplementary information

Subject to changes

## Audio Technology (LJD)

### Year 3

#### Mandatory courses (22.5 Credits)

Course code	Course name	Credits	Edu. level
<a href="#">DT2112</a>	<a href="#">Speech Technology</a>	7.5 hp	Second cycle
<a href="#">DT2213</a>	<a href="#">Musical Communication and Music Technology</a>	7.5 hp	Second cycle
<a href="#">DT2410</a>	<a href="#">Audio Technology</a>	7.5 hp	Second cycle

### Supplementary information

Subject to changes



## **Appendix 2: Specialisations**

Degree Programme in Media Technology (CMETE), Programme syllabus for studies starting in autumn 2017

---

**Image and Video Technology (BVT)**

**Computer Science (CPS)**

**Interactive Media Technology (INMT)**

**Audio Technology (LJD)**