Programme syllabus

Master's Programme, Media Technology, 120 credits
Masterprogram, medieteknik
120.0 credits

*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**

Media Technology is defined as technologies and methods which support human communication over distance in time and space. The subject also includes conditions for and effects of usage of Media Technology. The subject Media Technology comprises a central part of a cross-disciplinary academic environment around communication, interaction, and media within KTH’s school for Computer Science and Communication.

**Knowledge and understanding**

The Master’s programme in Media Technology should give the students the fundamental knowledge and abilities which are required in order to work with and, in an engineering-related way, solve technical, organizational, methodological, design-related, and usage-related problems and challenges within the media area. The programme comprises knowledge about the technological and multi-disciplinary foundation on which the media and its production, distribution, and consumer technologies are founded.

**Skills and abilities**

The Master’s programme in Media Technology should provide the students with a foundation in order to be able to, with an overall perspective, critically, independently, and creatively identify, formulate, and handle complex inquiries, analyse and critically evaluate different technical, organizational, and design-related solutions. The student should also have the ability to plan and carry out assignments within given constraints and with regards to sustainable development. The programme should provide a foundation for further education on the research level and an ability to participate in research and development work and, through that, contribute to the knowledge development within the area. The students should, in the education, develop insight about and the ability to work in teams and collaborate in groups with different compositions, and an ability to identify one’s own need for further knowledge and to continuously develop one’s own skills and abilities.

**Ability to make judgements and adopt a standpoint**

The students should acquire the ability to critically and systematically integrate knowledge from different disciplines and experience areas and the ability to model, plan and evaluate products, services, systems and processes. The students should also receive insight about business affairs and business development within the media area and about the media’s significant role in society, influencing public opinion and democratic processes like in the ethical and legal aspects of the media and its content, and about the connection between technology, content and usage in the media. In this is included an awareness about technology’s possibilities and limitations and human responsibility for how it used.

Beyond this, there are similar goals for the Master’s degree which are defined in the higher education ordinance.
Extent and content of the programme

The programme is in the second cycle and comprises 120 ECTS credits, which, at normal study rate, corresponds to two years. The programme is given mainly in Swedish. Some courses can be given in English. Much of the course literature is in English.

The programme has five recommended specialisation tracks:

- Image and video technology
- Interactive media technology
- Sound engineering
- Human-computer interaction
- Printed communication

The students also have the possibility to define an individual track which must be approved by the programme coordinator.

Eligibility and selection

Students in the Master of Science and Engineering programme where the Master’s degree entitles the Master of Science in Engineering degree

Students in the Master of Science in Engineering programme at KTH where the Master's programme in Media Technology entitles the Master of Science in Engineering degree at KTH must, by the start of the semester, have completed 150 ECTS credits from study years 1-3, including the Bachelor degree project and the below mentioned knowledge within Computer Science, Mathematics, and physics. These students have a guaranteed place in the programme. Applications must be submitted according to instructions of the CSC school.

Other students

General admission requirements: See the KTH admission requirements for Master’s programmes, link below

Specific admission requirements: Specific admission requirements to the Master’s programme in Media Technology are an appropriate Bachelor's degree within Media Technology, Computer Science, Informatics, or comparable education. The students must have fundamental knowledge within computer science, including knowledge in and practical experience of programming. Furthermore, fundamental knowledge within mathematics (algebra and calculus of one variable on a university level) and in physics (optics or equivalent on a university level) is required.

Students with a bachelor's degree from other areas may be accepted provided that they fulfill the requirements in mathematics and physics. Students with a bachelor's degree in media technology lacking knowledge on a university level in at most two of the areas algebra, calculus and physics can be accepted provided that they are eligible for the master of science of technology education at KTH. In this case the student must take the missing course(s) during the fall semester of the first study year.

The application can be done via www.studera.nu, April 15th at the latest.

Selection: If the number of applicants exceeds the number of places there will be a selection. The selection is based on university, grades and an evaluation of completed courses within the subject area.


Implementation of the education

Structure of the education

The KTH academic year is 40 weeks, divided into four periods. Each study period is followed by an examination period.
The programme consists of three course blocks which can be taken partially in parallel during two years:

1. compulsory courses common for all students within the programme
2. a selected specialisation track with 3-4 compulsory courses constituting a specialisation within central area of media technology, and
3. elective courses within the main subject area

The specialisation track is taken during the periods 2-4 in study year 1. Period 1 in study year 1 is reserved for elective or conditionally elective courses. Students with a background other than the KTH Master of Science in Engineering programme in Media Technology take complementary courses as a preparation for the selected track. Students from the KTH Master of Science in Engineering programme in Media Technology can then take courses from study year 2. The compulsory courses are taken during the spring semester year 1 and in the autumn semester in study year 2.

Elective courses. In addition to the common compulsory courses and the selected specialisation track, the students choose courses from the other tracks. In order to fulfill the degree requirements, a sufficient number of the chosen courses must be in the second cycle. Some of the tracks have special requirements for mathematical prerequisites. Courses needed to meet these prerequisites may be taken as elective courses.

Courses

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

The examinations are done in many ways, for example with home assignments which are presented orally or in writing, laboratory work, project work, or traditional written tests.

After each course, the student’s opinions are collected and analysed by the course leader in a course analysis which is normally published on the web, see KTH’s rules for course analysis http://intra.kth.se/regelverk/utbildning-forskning/grundutbildning/kursanalys

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.

Please see the KTH regulations:

Selection of track is done according to instructions from the CSC school.

Selection of courses

The student is required to apply for admission to all courses he/she wishes to take during the next semester. The student is responsible for having the recommended prerequisites. 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.

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.

Promotion to second year

At least 45 ECTS credits have to be completed during the first academic year in order for the student to be promoted to the second year of the program.

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/registrering-uppflyttning/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 of the program have the possibility to spend one or two semesters of study at a foreign university through agreements KTH has with universities within and outside the EU. It is also possible to make the final degree project abroad.

For more information contact the international coordinator at CSC.

More information can be found on KTH’s student web and at http://intra.kth.se/regelverk/utbildning-forskning/grundutbildning/utbytesstudier

Degree project

An individual study in the form of a degree project corresponding to 30 ECTS credits is included in the program.
It is the responsibility of the student to find a suitable project task.

More information about the rules for degree projects at KTH can be found at http://intra.kth.se/regelverk/utbildning-forskning/grundutbildning/examensarbete/1.27212?l=en_UK

**Degree**

After completing the program, the student may apply for the Degree of Master of Science (Two Years), in Swedish: teknologiemasterexamen.

Information on the application process can be found on the KTH Student pages.

**Requirements for the Degree of Master of Science (Two Years)**

The Degree of Master of Science (Two Years) is obtained after completion of the program. The program is designed so that students, when they graduate, have fulfilled the national requirements for a degree. This means that the students have completed courses comprising 120 ECTS credits, of which at least 90 ECTS credits are second cycle, and at least 60 ECTS credits (including a 30 ECTS credits degree project) constitute indepth studies in the main field of study.

See also 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

Master's Programme, Media Technology, 120 credits (TMETM), Programme syllabus for studies starting in autumn 2011

#### General courses

### Year 1

### Mandatory courses (19.5 credits)

<table>
<thead>
<tr>
<th>Course code</th>
<th>Course name</th>
<th>Credits</th>
<th>Edu. level</th>
</tr>
</thead>
<tbody>
<tr>
<td>AK2203</td>
<td>Media, Technology and Culture</td>
<td>7.5</td>
<td>Second cycle</td>
</tr>
<tr>
<td></td>
<td><em>Can be taken during study year 1 or study year 2</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ME2068</td>
<td>Law for Media</td>
<td>6.0</td>
<td>Second cycle</td>
</tr>
<tr>
<td>MJ2613</td>
<td>Sustainable Development</td>
<td>6.0</td>
<td>Second cycle</td>
</tr>
<tr>
<td></td>
<td><em>Can be taken during study year 1 or study year 2</em></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Optional courses

<table>
<thead>
<tr>
<th>Course code</th>
<th>Course name</th>
<th>Credits</th>
<th>Edu. level</th>
</tr>
</thead>
<tbody>
<tr>
<td>DM2532</td>
<td>Work Integrating Course in Media Technology</td>
<td>7.5</td>
<td>Second cycle</td>
</tr>
</tbody>
</table>

### Conditionally elective courses

<table>
<thead>
<tr>
<th>Course code</th>
<th>Course name</th>
<th>Credits</th>
<th>Edu. level</th>
</tr>
</thead>
<tbody>
<tr>
<td>DD2310</td>
<td>Java Programming for Python Programmers</td>
<td>1.5</td>
<td>Second cycle</td>
</tr>
<tr>
<td>DD2390</td>
<td>Internet Programming</td>
<td>6.0</td>
<td>Second cycle</td>
</tr>
<tr>
<td>DH2408</td>
<td>Evaluation Methods in Human-Computer Interaction</td>
<td>6.0</td>
<td>Second cycle</td>
</tr>
<tr>
<td>DH2626</td>
<td>Interaction Design 1</td>
<td>15.0</td>
<td>Second cycle</td>
</tr>
<tr>
<td>DM2500</td>
<td>Telepresence Production</td>
<td>7.5</td>
<td>Second cycle</td>
</tr>
<tr>
<td>DM2517</td>
<td>XML for Publishing</td>
<td>7.5</td>
<td>Second cycle</td>
</tr>
<tr>
<td>DM2529</td>
<td>Digital Images for Publication</td>
<td>7.5</td>
<td>Second cycle</td>
</tr>
<tr>
<td>DM2531</td>
<td>Graphic Arts Production</td>
<td>7.5</td>
<td>Second cycle</td>
</tr>
<tr>
<td>Course code</td>
<td>Course name</td>
<td>Credits</td>
<td>Edu. level</td>
</tr>
<tr>
<td>-------------</td>
<td>-----------------------------------------------------</td>
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<td>------------</td>
</tr>
<tr>
<td>DM2580</td>
<td>Media Distribution</td>
<td>5.0</td>
<td>Second cycle</td>
</tr>
<tr>
<td>DT2112</td>
<td>Speech Technology</td>
<td>7.5</td>
<td>Second cycle</td>
</tr>
<tr>
<td>DT2213</td>
<td>Musical Communication and Music Technology</td>
<td>7.5</td>
<td>Second cycle</td>
</tr>
<tr>
<td>DT2410</td>
<td>Audio Technology</td>
<td>7.5</td>
<td>Second cycle</td>
</tr>
<tr>
<td>EN2401</td>
<td>Image and Video Processing</td>
<td>6.0</td>
<td>Second cycle</td>
</tr>
<tr>
<td>EQ1260</td>
<td>Signal Processing</td>
<td>6.0</td>
<td>First cycle</td>
</tr>
<tr>
<td>SK2375</td>
<td>Optics, Supplementary Course for the Media Programme</td>
<td>6.0</td>
<td>Second cycle</td>
</tr>
</tbody>
</table>

Supplementary information

Study year 1 includes one compulsory course.

During the fall the student can take 1–2 supplementary courses to facilitate further studies. Those who do not need this take the courses AK2203 and MJ2613 already during the first study year.

During the first semester the student chooses one out of five tracks.

For information about the tracks and courses see the KTH Education web site,

http://www.kth.se/utbildning/program/master-magisterutbildning/master-magisterprogram-svenska/svenska-master-magisterprogram/medieteknik/kurser-1.51761

The following courses are compulsory for the tracks:

IMAGE AND VIDEO TECHNOLOGY (prerequisites: DT1130 and SF1901): DM2580, EN2401, EQ1260, SK2375

INTERACTIVE MEDIA TECHNOLOGY: DD2310, DD2390, DM2500, DM2517

AUDIO TECHNOLOGY (prerequisite: DT1130): DT2112, DT2213, DT2410

HUMAN-COMPUTER INTERACTION: DH2408, DH2626

PRINTED COMMUNICATION: DM2517, DM2529, DM2531

The list of conditionally elective courses shows the courses that are compulsory for the tracks. A comment below the course name tells which track the course is compulsory for.

Year 2

Mandatory courses (62.5 credits)

<table>
<thead>
<tr>
<th>Course code</th>
<th>Course name</th>
<th>Credits</th>
<th>Edu. level</th>
</tr>
</thead>
<tbody>
<tr>
<td>AK2203</td>
<td>Media, Technology and Culture</td>
<td>7.5</td>
<td>Second cycle</td>
</tr>
<tr>
<td>DM2571</td>
<td>Future of Media</td>
<td>10.0</td>
<td>Second cycle</td>
</tr>
<tr>
<td>DM228X</td>
<td>Degree Project in Media Technology, Second Cycle</td>
<td>30.0</td>
<td>Second cycle</td>
</tr>
<tr>
<td>Course code</td>
<td>Course name</td>
<td>Credits</td>
<td>Edu. level</td>
</tr>
<tr>
<td>-------------</td>
<td>-------------------------------------------------</td>
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<td>------------</td>
</tr>
<tr>
<td>DM2572</td>
<td>Theory and Method for Media Technology</td>
<td>7.5</td>
<td>Second cycle</td>
</tr>
<tr>
<td></td>
<td><em>AK2036 or AK2038 are also accepted</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DM2573</td>
<td>Sustainability and Media Technology</td>
<td>7.5</td>
<td>Second cycle</td>
</tr>
<tr>
<td></td>
<td><em>DM2573 or AK2203 must be taken</em></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Supplementary information**

Beside the compulsory courses the student takes elective courses within the subject area.

**Year 3**

**Year 5**
Appendix 2: Specialisations

Master's Programme, Media Technology, 120 credits (TMETM), Programme syllabus for studies starting in autumn 2011

This programme has no specialisations.