Programme syllabus

Degree Programme in Media Technology
Civileingenjörsutbildning i medieteknik
300.0 credits

Valid for students admitted to the education from autumn 09 (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 Master of Science in Engineering in Media Technology will give the student:

- Fundamental knowledge and abilities which are required in order to, with appropriate methods, successfully work with, independently and in groups, and, from an engineering perspective solve those technical, organisational, method-related, design-related, and user-related problems and challenges regarding development, production, and usage of media services and products.
- Knowledge about the broad technology and widely scientific foundation which the media and their productions, distributions, and consumption technology on which they are based as well as understanding for the historical development, especially these reliable professional and industry related experiences in order to be able to participate in research work.

Skills and abilities

The Master of Science in Engineering in Media Technology will give the student:

- Prerequisites to, with an encompassing perspective, critically, independently and creatively identify, formulate, and handle complex predictions, concepts, inquiries, and situations and analyze and critically evaluate different technical, organisational, and design-related solutions.
- A foundation for further education on the research level and an ability to participate in research and development work and within that, support for knowledge development within the area.
- 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 ability to plan and, with adequate methods, implement qualified assignments within given constraints and the ability to develop and formulate products, services, and systems with regards to human conditions and needs and society’s goals for economic, social and ecologically sustainable development.
• The ability in national as well as international environments, orally and in writing, clearly and in audience-appropriate rhetoric, present and discuss one’s conclusions, and the knowledge and arguments which support these, in dialog with the different audiences.

Ability to make judgements and adopt a standpoint

The Master of Science in Engineering in Media Technology will give the student:

• Requirements in order to make judgments with regards to relevant scientific, social, ethical, and aesthetic aspects and in order to create awareness of ethical aspects in research and development work.
• Insight into technology’s possibilities and limitations, its role in society and human responsibility for how it is used, engaged social, economical, environment-related and work environment-related aspects.
• Insight into the media’s behavioural role in society, opinion building and democratic processes as in those ethical and juridical aspects in the media and their contents, and the relationship between technology, contents and usage in the media.
• The possibility to developed one’s insight into and ability to work as a team and work in groups under different conditions, and the ability to identify one’s own need of further knowledge and to continuously develop one’s own skills and abilities.

Extent and content of the programme

The Master’s Programme in Engineering in Media Technology is composed of 300 higher education credits, which at the normal study speed corresponds to 5 years of full-time studies (10 semesters).

The first three years of the programme (180 higher education credits) are on the first level and can, if the student applies for it, be finished with a Bachelor degree of computer Science and Engineering. The last two years are mainly on the second level (120 higher education credits).

The programme’s specialisations 2009/2010 for study years 3-4*

• Image and video technology
• Interactive media technology
• Audio technology
• Human-computer interaction
• Print communication

Two specializations are taken, one during the first cycle (study years 1-3) and during the second cycle (study years 4-5).

*The list of specialisations may be revised. An updated list is available on KTH student web for each academic year.

Language of Instruction

The language of the first three years of education is mainly Swedish, but English course literature is common. 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 Master’s programme in Engineering in Media Technology, it is required that the student meets the basic eligibility requirements and the special eligibility requirements corresponding to:
Mathematics D
Physics B
Chemistry A
All with grade G or better.

For eligibility requirements and selection guidelines, see KTH’s 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 in years 1-3. Study year 3 is concluded with an independent work consisting of 15 ECTS credits. In study years 4-5, another specialisation is taken as well as courses in the second level. The programme is concluded during the spring semester in study year 5 with a 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 continue his/her studies on the Master’s programme at KTH. The student can also continue his/her studies on a different Master’s programme at KTH or another university in Sweden or abroad or start a working career.

The school year for KTH's basic is 40 weeks divided into four quarter. Period, each about seven weeks. Each quarter is followed by an exam period.

For details about the study year’s division, see the student Web and KTH handbook.
http://www.kth.se/info/kth-handboken/II/4/2.html

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.

In years 2 and 4, there is allocated space for conditionally elective mathematics courses.

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 term 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 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.

**Course Selection**

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 years 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 in 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 is done according to instructions from 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:


Other degree project topics may be considered upon application. For more information, contact the study advisor at the CSC.
Degree

Application for graduation
Students can apply for the following degrees: Degree of Bachelor of Science and Degree of Master of Science in Engineering, Degree Programme in Computer Science. Students are also able to request for Degree of Master of Science (Two Years) of the requirements of this qualification is met.

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

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

- 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 higher education 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 higher education credits, of which

- 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, Degree Programme in Media Technology

Conditions for Degree of Master of Science (Two Years) 300 higher education credits.
See guidelines in KTH -handbook (see link below).

Degree Name
Teknologie masterexamen
Degree of Master of Science (Two Years)

Reference to KTH guidelines (KTH-Handbook)
Local degree ordinance for degrees at first level and advanced level.

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), Programme syllabus for studies starting in autumn 2009

General courses

Year 1

Mandatory courses (55.5 credits)

<table>
<thead>
<tr>
<th>Course code</th>
<th>Course name</th>
<th>Credits</th>
<th>Edu. level</th>
</tr>
</thead>
<tbody>
<tr>
<td>DD1314</td>
<td>Programming for Interactive Media</td>
<td>8.0</td>
<td>First cycle</td>
</tr>
<tr>
<td>DH1609</td>
<td>Communication and information</td>
<td>7.5</td>
<td>First cycle</td>
</tr>
<tr>
<td>DM1570</td>
<td>Graphic Arts Technology I</td>
<td>7.0</td>
<td>First cycle</td>
</tr>
<tr>
<td>DM1571</td>
<td>Introduction to Media Technology</td>
<td>6.0</td>
<td>First cycle</td>
</tr>
<tr>
<td>MF1035</td>
<td>Electrical Engineering, Basic Course Media</td>
<td>6.0</td>
<td>First cycle</td>
</tr>
<tr>
<td>SF1624</td>
<td>Algebra and Geometry</td>
<td>7.5</td>
<td>First cycle</td>
</tr>
<tr>
<td>SF1625</td>
<td>Calculus in One Variable</td>
<td>7.5</td>
<td>First cycle</td>
</tr>
<tr>
<td>SK1120</td>
<td>Waves</td>
<td>6.0</td>
<td>First cycle</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>SF1611</td>
<td>Introductory Course in Mathematics I</td>
<td>1.5</td>
<td>First cycle</td>
</tr>
</tbody>
</table>

Supplementary information

Batch 09 take the first study year during the academic year 2009/10.

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 (58.0 credits)**

<table>
<thead>
<tr>
<th>Course code</th>
<th>Course name</th>
<th>Credits</th>
<th>Edu. level</th>
</tr>
</thead>
<tbody>
<tr>
<td>AD1RD1</td>
<td>Reflective Design Process</td>
<td>7.5</td>
<td>First cycle</td>
</tr>
<tr>
<td>DD1320</td>
<td>Applied Computer Science</td>
<td>6.0</td>
<td>First cycle</td>
</tr>
<tr>
<td>DD1334</td>
<td>Database Technology</td>
<td>6.0</td>
<td>First cycle</td>
</tr>
<tr>
<td>DM1576</td>
<td>Image and Video Technology</td>
<td>9.0</td>
<td>First cycle</td>
</tr>
<tr>
<td></td>
<td><em>First course of the specialization Image and video technology</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DM1577</td>
<td>Media Design</td>
<td>7.5</td>
<td>First cycle</td>
</tr>
<tr>
<td>DM1578</td>
<td>Program Integrating Course in Media Technology</td>
<td>7.0</td>
<td>First cycle</td>
</tr>
<tr>
<td></td>
<td><em>2 cr belong to study year 2, distributed as 0.5 cr each study period</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DT1174</td>
<td>Sound as an Information Medium</td>
<td>9.0</td>
<td>First cycle</td>
</tr>
<tr>
<td></td>
<td><em>First course of the specialization Audio technology</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ME1002</td>
<td>Industrial Management, Basic Course</td>
<td>6.0</td>
<td>First 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>DN1240</td>
<td>Numerical Methods, Basic Course II</td>
<td>6.0</td>
<td>First cycle</td>
</tr>
<tr>
<td></td>
<td><em>Can be substituted by DN1214, DN1215 or DN1241</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DT1130</td>
<td>Spectral Transforms</td>
<td>7.5</td>
<td>First cycle</td>
</tr>
<tr>
<td></td>
<td><em>Should not be taken during year 2 since calculus in several variables should be taken first</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SF1610</td>
<td>Discrete Mathematics</td>
<td>7.5</td>
<td>First cycle</td>
</tr>
<tr>
<td>SF1901</td>
<td>Probability Theory and Statistics</td>
<td>6.0</td>
<td>First cycle</td>
</tr>
</tbody>
</table>

**Supplementary information**

Batch 09 take the second study year during 2010/11

At least 12 credits of the conditionally elective mathematics courses must be taken during the program. Please note that some of the specializations that can be chosen for the third study year demands one or two of the elective mathematics courses.

### Year 3

**Mandatory courses (35.5 credits)**

<table>
<thead>
<tr>
<th>Course code</th>
<th>Course name</th>
<th>Credits</th>
<th>Edu. level</th>
</tr>
</thead>
<tbody>
<tr>
<td>DH2620</td>
<td>Human-Computer Interaction, Introductory Course</td>
<td>6.0</td>
<td>Second cycle</td>
</tr>
<tr>
<td>DM129X</td>
<td>Degree Project in Media Technology, First Cycle</td>
<td>15.0</td>
<td>First 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>
<td>---------</td>
<td>--------------</td>
</tr>
<tr>
<td>DM1578</td>
<td>Program Integrating Course in Media Technology</td>
<td>2 credits belong to study year 3; 0.5 cr per study period</td>
<td>7.0</td>
</tr>
<tr>
<td>SF1626</td>
<td>Calculus in Several Variable</td>
<td>7.5</td>
<td>First 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>DN1214</td>
<td>Numerical Methods, Basic Course</td>
<td>6.0</td>
<td>First cycle</td>
</tr>
<tr>
<td>DT1130</td>
<td>Spectral Transforms</td>
<td>7.5</td>
<td>First cycle</td>
</tr>
<tr>
<td>SF1610</td>
<td>Discrete Mathematics</td>
<td>7.5</td>
<td>First cycle</td>
</tr>
<tr>
<td>SF1901</td>
<td>Probability Theory and Statistics</td>
<td>6.0</td>
<td>First cycle</td>
</tr>
</tbody>
</table>

**Recommended courses**

<table>
<thead>
<tr>
<th>Course code</th>
<th>Course name</th>
<th>Credits</th>
<th>Edu. level</th>
</tr>
</thead>
<tbody>
<tr>
<td>DD2257</td>
<td>Visualization</td>
<td>7.5</td>
<td>Second cycle</td>
</tr>
<tr>
<td>DD2393</td>
<td>Protocols and Principles of the Internet</td>
<td>6.0</td>
<td>Second cycle</td>
</tr>
<tr>
<td>DD2423</td>
<td>Image Analysis and Computer Vision</td>
<td>7.5</td>
<td>Second cycle</td>
</tr>
<tr>
<td>DD2427</td>
<td>Image Based Recognition and Classification</td>
<td>6.0</td>
<td>Second cycle</td>
</tr>
<tr>
<td>DD2471</td>
<td>Modern Database Systems and Their Applications</td>
<td>7.5</td>
<td>Second cycle</td>
</tr>
<tr>
<td>DD2475</td>
<td>Information Retrieval</td>
<td>9.0</td>
<td>Second cycle</td>
</tr>
<tr>
<td>DD2483</td>
<td>Development of Web Applications with Enterprise Java</td>
<td>6.0</td>
<td>Second cycle</td>
</tr>
<tr>
<td>DH2320</td>
<td>Introduction to Visualization and Computer Graphics</td>
<td>6.0</td>
<td>Second cycle</td>
</tr>
<tr>
<td>DH2323</td>
<td>Computer Graphics and Interaction</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>DH2418</td>
<td>Language Engineering</td>
<td>6.0</td>
<td>Second cycle</td>
</tr>
<tr>
<td>DH2641</td>
<td>Interaction Programming</td>
<td>6.0</td>
<td>Second cycle</td>
</tr>
<tr>
<td>DM2578</td>
<td>Social Media Technologies</td>
<td>7.5</td>
<td>Second cycle</td>
</tr>
<tr>
<td>DM2904</td>
<td>Individual Course in Media Technology</td>
<td>6.0</td>
<td>Second cycle</td>
</tr>
<tr>
<td>DM2905</td>
<td>Individual Course in Media Technology</td>
<td>7.5</td>
<td>Second cycle</td>
</tr>
<tr>
<td>DM2906</td>
<td>Individual Course in Media Technology</td>
<td>9.0</td>
<td>Second cycle</td>
</tr>
<tr>
<td>DS1364</td>
<td>Rhetoric - the Art of Persuasion</td>
<td>7.5</td>
<td>First cycle</td>
</tr>
<tr>
<td>DT2112</td>
<td>Speech Technology</td>
<td>7.5</td>
<td>Second cycle</td>
</tr>
<tr>
<td>DT2212</td>
<td>Music Acoustics</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>
<td>---------</td>
<td>------------</td>
</tr>
<tr>
<td>DT2400</td>
<td>Electroacoustics</td>
<td>7.5</td>
<td>Second cycle</td>
</tr>
<tr>
<td>EH2010</td>
<td>Management of Technology</td>
<td>7.5</td>
<td>Second cycle</td>
</tr>
<tr>
<td>EN2100</td>
<td>Sound Perception</td>
<td>7.5</td>
<td>Second cycle</td>
</tr>
<tr>
<td>ID2212</td>
<td>Network Programming with Java</td>
<td>7.5</td>
<td>Second cycle</td>
</tr>
<tr>
<td>SK2380</td>
<td>Technical Photography</td>
<td>8.0</td>
<td>Second cycle</td>
</tr>
</tbody>
</table>

**Supplementary information**

Batch 09 take the third study year during 2011/12.

**Specializations**

Students on the media technology program take two specializations. The first specialization is taken during study year 3 and the second within the frame of the master's program. Besides the defined specializations below it is possible to make an individual specialization, that must be approved by the program co-ordinator.

**Elective courses**

There is room for elective courses/conditionally elective mathematics courses. At least 12 credits of the conditionally elective mathematics courses must be taken during the program. Please note that some of the specializations that can be chosen for the third study year demands one or two of the elective mathematics courses.

**Year 4**

**Mandatory courses (22.5 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>DM2572</td>
<td>Theory and Method for Media Technology</td>
<td>7.5</td>
<td>Second cycle</td>
</tr>
</tbody>
</table>

**Recommended courses**

<table>
<thead>
<tr>
<th>Course code</th>
<th>Course name</th>
<th>Credits</th>
<th>Edu. level</th>
</tr>
</thead>
<tbody>
<tr>
<td>DD2257</td>
<td>Visualization</td>
<td>7.5</td>
<td>Second cycle</td>
</tr>
<tr>
<td>DD2393</td>
<td>Protocols and Principles of the Internet</td>
<td>6.0</td>
<td>Second cycle</td>
</tr>
<tr>
<td>DD2423</td>
<td>Image Analysis and Computer Vision</td>
<td>7.5</td>
<td>Second cycle</td>
</tr>
<tr>
<td>DD2427</td>
<td>Image Based Recognition and Classification</td>
<td>6.0</td>
<td>Second cycle</td>
</tr>
<tr>
<td>DD2471</td>
<td>Modern Database Systems and Their Applications</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>
<td>---------</td>
<td>-----------------</td>
</tr>
<tr>
<td>DD2475</td>
<td>Information Retrieval</td>
<td>9.0</td>
<td>Second cycle</td>
</tr>
<tr>
<td>DD2483</td>
<td>Development of Web Applications with Enterprise Java</td>
<td>6.0</td>
<td>Second cycle</td>
</tr>
<tr>
<td>DH2320</td>
<td>Introduction to Visualization and Computer Graphics</td>
<td>6.0</td>
<td>Second cycle</td>
</tr>
<tr>
<td>DH2323</td>
<td>Computer Graphics and Interaction</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>DH2418</td>
<td>Language Engineering</td>
<td>6.0</td>
<td>Second cycle</td>
</tr>
<tr>
<td>DH2641</td>
<td>Interaction Programming</td>
<td>6.0</td>
<td>Second cycle</td>
</tr>
<tr>
<td>DM2578</td>
<td>Social Media Technologies</td>
<td>7.5</td>
<td>Second cycle</td>
</tr>
<tr>
<td>DM2904</td>
<td>Individual Course in Media Technology</td>
<td>6.0</td>
<td>Second cycle</td>
</tr>
<tr>
<td>DM2905</td>
<td>Individual Course in Media Technology</td>
<td>7.5</td>
<td>Second cycle</td>
</tr>
<tr>
<td>DM2906</td>
<td>Individual Course in Media Technology</td>
<td>9.0</td>
<td>Second cycle</td>
</tr>
<tr>
<td>DS1364</td>
<td>Rhetoric - the Art of Persuasion</td>
<td>7.5</td>
<td>First cycle</td>
</tr>
<tr>
<td>DT2112</td>
<td>Speech Technology</td>
<td>7.5</td>
<td>Second cycle</td>
</tr>
<tr>
<td>DT2212</td>
<td>Music Acoustics</td>
<td>7.5</td>
<td>Second cycle</td>
</tr>
<tr>
<td>DT2400</td>
<td>Electroacoustics</td>
<td>7.5</td>
<td>Second cycle</td>
</tr>
<tr>
<td>EH2010</td>
<td>Management of Technology</td>
<td>7.5</td>
<td>Second cycle</td>
</tr>
<tr>
<td>EN2100</td>
<td>Sound Perception</td>
<td>7.5</td>
<td>Second cycle</td>
</tr>
<tr>
<td>ID2212</td>
<td>Network Programming with Java</td>
<td>7.5</td>
<td>Second cycle</td>
</tr>
<tr>
<td>SK2380</td>
<td>Technical Photography</td>
<td>8.0</td>
<td>Second cycle</td>
</tr>
</tbody>
</table>

**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.

Batch 09 may choose the following master's programs:

- Media technology
- Human-computer interaction
- Media management (seat is not guaranteed)

*The compulsory courses listed below must be taken also by students following a master program where these courses are not included.*

**Year 5**

**Supplementary information**

Batch 09 take the fifth study year during 2013/14.

There are compulsory courses during study year 5. These will be decided during the fall of 2012.

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 1**

**Year 2**

**Year 3**

**Mandatory courses (23.0 credits)**

<table>
<thead>
<tr>
<th>Course code</th>
<th>Course name</th>
<th>Credits</th>
<th>Edu. level</th>
</tr>
</thead>
<tbody>
<tr>
<td>DM2580</td>
<td>Media Distribution</td>
<td>5.0</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**

**Prerequisites:**

- DT1130 Spectral transforms or DT1120 Spectral transforms
- SF1901 Probability theory and statistics

Students who have not taken both of these can take one of them during the specialization.

**Year 4**

**Year 5**

**Interactive Media Technology (INMT)**

**Year 1**

**Year 2**

**Year 3**

**Mandatory courses (22.5 credits)**

<table>
<thead>
<tr>
<th>Course code</th>
<th>Course name</th>
<th>Credits</th>
<th>Edu. level</th>
</tr>
</thead>
<tbody>
<tr>
<td>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>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>
</tbody>
</table>
### Audio Technology (LJD)

#### Year 1

#### Year 2

#### Year 3

**Mandatory courses (22.5 credits)**

<table>
<thead>
<tr>
<th>Course code</th>
<th>Course name</th>
<th>Credits</th>
<th>Edu. level</th>
</tr>
</thead>
<tbody>
<tr>
<td>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>
</tbody>
</table>

**Supplementary information**

*Prerequisites:*

DD1130 Spectral transforms

#### Year 4

#### Year 5

### Human-Machine Interaction (MDI)

#### Year 1

#### Year 2

#### Year 3

**Mandatory courses (21.0 credits)**

<table>
<thead>
<tr>
<th>Course code</th>
<th>Course name</th>
<th>Credits</th>
<th>Edu. level</th>
</tr>
</thead>
<tbody>
<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>
</tbody>
</table>
**Year 4**

**Year 5**

**Print Communication (TRK)**

**Year 1**

**Year 2**

**Year 3**

**Mandatory courses (22.5 credits)**

<table>
<thead>
<tr>
<th>Course code</th>
<th>Course name</th>
<th>Credits</th>
<th>Edu. level</th>
</tr>
</thead>
<tbody>
<tr>
<td>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>
</tbody>
</table>

**Year 4**

**Year 5**
Appendix 2: Specialisations

Degree Programme in Media Technology (CMETE), Programme syllabus for studies starting in autumn 2009

Image and Video Technology (BVT)
Interactive Media Technology (INMT)
Audio Technology (LJD)
Human-Machine Interaction (MDI)
Print Communication (TRK)