



Programme syllabus

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

Master's Programme, Human-Computer Interaction 120 credits

Masterprogram, människa-datorinteraktion

Valid for students admitted to the education from autumn 14 (HT - Autumn term; VT - Spring term).

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

Programme objectives

This programme syllabus, decided by the CSC dean 2013-09-27 is valid for students starting the programme during the study year 2014/2015. Which courses that belong a study year is decided in the fall 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/student.

The aim of the programme is, first and foremost, to educate Master of Science in Engineering and Master students for professional roles, both nationally and internationally, as an interaction designer (overall responsibility for design projects with focus on design, concrete design work which also includes advanced user-centered design and customer competence and design critique), multi-modal interaction engineer, and visualization engineer. For these roles, the students should be able to create and evaluate visual, acoustical and haptic user interfaces. They should master techniques for both acquisition of different types of visual, acoustical, and haptic information from a user and presentation of such information for the user. Both development and evaluation should be based on solid theoretical foundations pertaining to human perception, communication, mediated

communication, and human-computer interaction in order to promote the efficiency, usability, and intuitiveness of the user-interface. The students should be able to use their knowledge for different applications within interaction, communication and visualization in a broad sense. Within the track, chosen by the student, knowledge is deepened and developed towards an expertise level.

Besides the goals stated in the Swedish Higher Education Ordinance the following goals apply. Link to goals stated in the Swedish Higher Education Ordinance: <http://www.csc.kth.se/utbildning/dokument/HSVmal/hsvmastereng.pdf>

Knowledge and understanding

The programme has the goal of providing the student with:

- knowledge about human perception and cognition, about design processes and about technology and research within multi-modal interfaces
- theories and methods for analysing and understanding a specific situation and a specific group of users. Especially, the programme should provide knowledge about how one meets different requirements on the user-interface for different types of applications and users. The programme includes everything from knowledge about human cognition and perception, about design processes to technologies and research about multi-modal interfaces
- in depth knowledge in his/her area of expertise.

Skills and abilities

The programme has the goal to provide the student with:

- the ability to work as a consultant, entrepreneur, or employee within larger companies or institutions which have their own groups of interaction designers and/or usability experts.
- the ability to independently initiate user-centered design projects, analyse specific usage situations and give recommendations for innovative design and/or re-design

Ability to make judgements and adopt a standpoint

The programme has the goal to provide the student with:

- the ability to evaluate the quality of scientific studies and show a reflecting and critical approach to both scientific and non-scientific texts
- through personal development, maintain a professional ability during a professional carrier
- follow discussions about technology in society and also contribute to it

Beyond this, there are similar goals for Master's degrees defined in the higher education ordinance.

Extent and content of the programme

Human-computer interaction is a two-year (120 ECTS credits) master programme on the advanced level (second cycle). The language of instruction is English.

Eligibility and selection

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

Specific admission requirements: A Bachelor's degree of 180 ECTS credits and programming knowledge (basic knowledge in some programming language and practical experience) and a introductory course in HCI, i.e. DH2620.

Selection: If the number of applicants exceeds the number of places available a programme committee will make a selection from the following criterias:

1. evaluation of university
2. grades from previous study
3. motivation to study
4. merit rating
5. references
6. proficiency in English

KTHs regulations: <http://intra.kth.se/regelverk/utbildning-forskning/grundutbildning/antagning/1.276218>

Implementation of the education

Structure of the education

This programme syllabus, established by the CSC Undergraduate education advisory group 2012-09-17 and then decided by the CSC dean 2012-09-26 is valid for students starting the program during the study year 2013/14. Which courses that belong a study year is decided in the fall 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/student.

The KTH academic year is 40 weeks, divided into four periods.

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

The first semester compulsory courses are taken. Then the student follows one of the three tracks during the second and third programme semesters. The last semester is devoted to the degree project.

Courses

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

The course goals, prerequisites, contents and examination requirements are found in the course syllabus in the Course and programme directory on the KTH student web. For each study year there is a course list.

Elective courses are chosen from a list of courses. After approval from the programme co-ordinator, other relevant courses can be chosen. The number of credits for elective courses depends on which track the student chooses.

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

After every course, the students' opinions are collected and analysed by the teacher in a course analysis which is normally published on the web, see KTH regulations 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.

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 My pages.

The study enrollment is required for taking new courses and for study 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.

Approved leave from studies is not granted during study year 1. Exceptions may be made if there are extraordinary reasons.

<http://intra.kth.se/en/regelverk/utbildning-forskning/grundutbildning/registrering-uppflyttning/studieuppehall/1.27216>

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, 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 (by the school responsible for the course). Applications should be done 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/en/regelverk/utbildning-forskning/grundutbildning/registrering-upplyftning/1.27217>

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://intra.kth.se/en/regelverk/utbildning-forskning/grundutbildning/prestationer/1.27200>

Studies abroad

Students of the programme 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 programme.

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>

For students on a Master of science of engineering programme not only the requirements set by the selected Master programme to begin the degree project apply but also the requirements from the Master of science of engineering programme.

Degree

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

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 programme. The programme 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/en/regelverk/utbildning-forskning/grundutbildning/examina/1.27227>

Appendix 1 - Course list

Appendix 2 - Programme syllabus descriptions



Appendix 1: Course list

Master's Programme, Human-Computer Interaction (THCIM)

General courses

Year 1

Mandatory courses (7.5 Credits)

Code	Name	Credits	Edu. level
DH2610	Theory and Methodology of Science in Human-Computer Interaction	7.5 hp	Second cycle

Conditionally elective courses

Code	Name	Credits	Edu. level
DD2257	Visualization	7.5 hp	Second cycle
DD2427	Image Based Recognition and Classification	6.0 hp	Second cycle
DH2320	Introduction to Visualization and Computer Graphics	6.0 hp	Second cycle
DH2321	Information Visualization	6.0 hp	Second cycle
DH2323	Computer Graphics and Interaction	6.0 hp	Second cycle
DH2408	Evaluation Methods in Human-Computer Interaction	6.0 hp	Second cycle
DH2466	Advanced, Individual Course in Human-Computer Interaction	6.0 hp	Second cycle
DH2628	Interaction Design Methods	7.5 hp	Second cycle
DH2629	Interaction Design as a Reflective Practice	7.5 hp	Second cycle
DH2632	Human-Computer Interaction, Research Seminars	3.0 hp	Second cycle
DH2641	Interaction Programming	6.0 hp	Second cycle
DH2660	Haptics	6.0 hp	Second cycle
DT2112	Speech Technology	7.5 hp	Second cycle
DT2140	Multimodal Interaction and Interfaces	7.5 hp	Second cycle
DT2213	Musical Communication and Music Technology	7.5 hp	Second cycle
DT2350	Human Perception for Information Technology	6.0 hp	Second cycle

Supplementary information

All courses in the masterprogramme must be taken within the compulsory or the conditionally elective courses. Any deviation from this must be discussed with the programme director.

Year 2

Mandatory courses (60.0 Credits)

Code	Name	Credits	Edu. level
DA224X	Degree Project in Computer Science and Communication, Second Cycle <i>External admitted master student at CSC.</i>	30.0 hp	Second cycle
DA225X	Degree Project in Computer Science and Communication, Second Cycle <i>För civilingenjörstudenter vid CSC.</i>	30.0 hp	Second cycle

Recommended courses

Code	Name	Credits	Edu. level
DD2418	Language Engineering	6.0 hp	Second cycle
DD2425	Robotics and Autonomous Systems <i>Space limited course</i>	9.0 hp	Second cycle
DD2429	Computational Photography	6.0 hp	Second cycle
DD2465	Advanced, Individual Course in Computer Science	6.0 hp	Second cycle
DH2400	Physical Interaction Design and Realization	7.5 hp	Second cycle
DH2413	Advanced Graphics and Interaction	9.0 hp	Second cycle
DH2466	Advanced, Individual Course in Human-Computer Interaction	6.0 hp	Second cycle
DH2627	Interaction Design 2	15.0 hp	Second cycle
DH2632	Human-Computer Interaction, Research Seminars	3.0 hp	Second cycle
DH2650	Computer Game Design	6.0 hp	Second cycle
DH2655	Cooperative IT-design	9.0 hp	Second cycle
DT2300	Sound in Interaction	7.5 hp	Second cycle
DT2350	Human Perception for Information Technology	6.0 hp	Second cycle
DT2410	Audio Technology	7.5 hp	Second cycle



Appendix 2: Specialisations

Master's Programme, Human-Computer Interaction (THCIM)

This programme has no specialisations.