Programme syllabus

Master's Programme, ICT Entrepreneurship, 120 credits
Masterprogram, IT-entreprenörskap
120.0 credits

Valid for students admitted to the education from autumn 08 (HT - Autumn term; VT - Spring term).

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

Programme objectives

Knowledge and understanding
For a Master’s degree in ICT Entrepreneurship the student shall:

- show knowledge and understanding in the area of ICT Entrepreneurship, comprising a wide knowledge of the area as well as more profound knowledge of some parts of the area, and insight into current research and development work, and

- show in depth knowledge about methodology in ICT Entrepreneurship

Skills and abilities
For a Master’s degree in ICT Entrepreneurship the student shall:

- show ability to critically and systematically integrate knowledge and to analyze, evaluate and handle complex occurrences, issues and situations even with limited information

- show ability to critically, independently and creatively identify and formulate issues, to plan and with adequate methods perform qualified tasks within given time limits and thereby contribute to the evolution of knowledge as well as asses the work

- show ability, in domestic and international venues, to orally and in writing present and discuss conclusions and the knowledge and the arguments on which these are based, in dialogue with different groups, and

- show such skills which are required for participation in research and development work or in other independent work of a qualified nature.

Ability to make judgements and adopt a standpoint
For a Master’s degree in ICT Entrepreneurship the student shall:

- show ability to make assessments taking into account relevant scientific, societal and ethic aspects as well as show awareness of ethical aspects of research and development work

- show insight into the possibilities and limitations of science, its role in society and the responsibility of humans for its use,

- show ability to identify her/his need for additional knowledge and take responsibility for the development of his/her own knowledge.
Extent and content of the programme

The educational program comprises two years, and a Master’s degree is awarded after completion of the course requirements of 120hp. The education is on the advanced level (second level). All students follow the same line of study. The language of the entire education is English.

Eligibility and selection

The basic requirement for admission to a Master’s program at advanced level is a national university degree at basic level (first cycle) of at least 180 hp or an equivalent international degree. A good knowledge of written and spoken English is required. Specific eligibility requirements for admission to the Master in ICT Entrepreneurship: Bachelor’s degree in Computer Science, Computer Engineering, Electrical/Electronics Engineering or Information Technology, including: at least 60 ECTS credits courses in computer science, basic data/telecommunications and ICT Entrepreneurship, computer systems (computer architecture and operating systems) and programming (C and Java); at least 30 ECTS credits course work in mathematics, including calculus, linear algebra and mathematical statistics. The admission of students in the Master’s program in ICT Entrepreneurship follows an evaluation of merits based mainly on the applicant’s knowledge, previous education, the university where the studies have been performed, especially meriting previous subjects, study motivation, and references. The knowledge of the applicant is given preference in this evaluation. Eligible applicants are ranked according to the evaluation and admission is granted according to the number available positions determined for the program.

Implementation of the education

Structure of the education

The programme consists of two academic years, each comprising about 9 months and divided into two terms with two study periods per term. Each study period ends in an examination period. The programme has 67,5 credits compulsory courses, a 30 credit Master’s thesis and 22,5 credits conditionally elective courses. Compulsory courses cover ICT Entrepreneurship, internetworking, Communication systems and Research Methodology. Three blocks of elective courses are offered: in internetworking, in wireless systems and in entrepreneurship/tele-economy. The Master’s thesis project is typically carried out in the last term.

Courses

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

The courses are either compulsory or conditionally elective. After application, students may be allowed to take extra courses in addition to the compulsory or conditionally 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.

At KTH a grading scale with seven levels A-F is used for final grades in advanced level courses and for the thesis. A-E are passing grades where A is the highest grade. The grades pass (P) and fail (F) are partial grades in some courses, for example for laboratory assignments, and as final grades in small conditionally elective courses.

Conditions for participation in the programme

Each student who has been admitted to the Master’s program in ICT Entrepreneurship is admitted to the compulsory courses belonging to a specific program term after registration on this term. Courses are chosen by the student prior to the second term of the first year and prior to each of the two terms of the second year. The choice is limited to the courses stated as compulsory or conditionally elective in the course list. Students who are term registered are
considered as expected students in all compulsory courses and in chosen elective courses. Students announce their participation in an individual course to the teacher responsible for the course in the beginning of the course. Students announce possible interruptions in their studies to the teacher responsible for the course. The condition for promotion to the second year is completion of 45 hp in the first year. The condition for starting the Master’s thesis project is 60 hp.

**Recognition of previous academic studies**

See policy of the Royal Institute of Technology (the KTH-handbook II, 13.3).

**Studies abroad**

The Master’s thesis project in the second year may be performed at universities or companies abroad.

**Degree project**

To be awarded a Master’s degree in ICT Entrepreneurship the student must, within the course requirements, have fulfilled an independent work (the master’s thesis project) of at least 30 hp in ICT Entrepreneurship. The subject for the thesis project may be chosen by the student to be performed at KTH, at other universities, or in industry. A student who has been promoted to the second year may apply to start a thesis project. The thesis is graded on the scale A-F according to the guidelines (criteria: technical content, process and presentation) determined by KTH and by the School of ICT. See policy of the Royal Institute of Technology (the KTH-handbook II, 15.5).

**Degree**

The Master’s degree is obtained after completion of the courses and the thesis with a total of at least 120hp. The degree is "Teknologie masterexamen", translated into English as "Degree of Master of Science (two years)". The degree is awarded after application from the student. See policy of the Royal Institute of Technology (the KTH-handbook II, 19.1).

Appendix 1 - Course list
Appendix 2 - Programme syllabus descriptions
Appendix 1: Course list

Master's Programme, ICT Entrepreneurship, 120 credits (TICTM), Programme syllabus for studies starting in autumn 2008

**General courses**

**Year 1**

**Mandatory courses (45.0 credits)**

<table>
<thead>
<tr>
<th>Course code</th>
<th>Course name</th>
<th>Credits</th>
<th>Edu. level</th>
</tr>
</thead>
<tbody>
<tr>
<td>II1206</td>
<td>ICT Venture Creation</td>
<td>15.0</td>
<td>First cycle</td>
</tr>
<tr>
<td>II2201</td>
<td>New Business Models</td>
<td>5.0</td>
<td>Second cycle</td>
</tr>
<tr>
<td>II2202</td>
<td>Research Methodology and Scientific Writing</td>
<td>7.5</td>
<td>Second cycle</td>
</tr>
<tr>
<td>IK2206</td>
<td>Internet Security and Privacy</td>
<td>7.5</td>
<td>Second cycle</td>
</tr>
<tr>
<td>IK2215</td>
<td>Advanced Internetworking</td>
<td>7.5</td>
<td>Second cycle</td>
</tr>
<tr>
<td>IK2216</td>
<td>Communication Systems and Business Models</td>
<td>2.5</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>DD2490</td>
<td>IP Routing in Simple Computer Networks</td>
<td>7.5</td>
<td>Second cycle</td>
</tr>
<tr>
<td>ID2216</td>
<td>Developing Mobile Applications</td>
<td>7.5</td>
<td>Second cycle</td>
</tr>
<tr>
<td>IK1611</td>
<td>Dimensioning of Communication Systems</td>
<td>7.5</td>
<td>First cycle</td>
</tr>
<tr>
<td>IK2213</td>
<td>Network Services and Internet-based Applications</td>
<td>7.5</td>
<td>Second cycle</td>
</tr>
<tr>
<td>IK2214</td>
<td>Telecom Policies and Regulatory Principles</td>
<td>7.5</td>
<td>Second cycle</td>
</tr>
<tr>
<td>IK2555</td>
<td>Wireless and Mobile Network Architectures</td>
<td>7.5</td>
<td>Second cycle</td>
</tr>
</tbody>
</table>
### Year 2

#### 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>EP2300</td>
<td>Management of Networks and Networked Systems</td>
<td>7.5</td>
<td>Second cycle</td>
</tr>
<tr>
<td>IK2200</td>
<td>Communication System Design</td>
<td>15.0</td>
<td>Second cycle</td>
</tr>
<tr>
<td>IK2207</td>
<td>Communication System Design</td>
<td>18.0</td>
<td>Second cycle</td>
</tr>
<tr>
<td>IK2208</td>
<td>Communication System Design</td>
<td>24.0</td>
<td>Second cycle</td>
</tr>
<tr>
<td>IK2209</td>
<td>Communication System Design</td>
<td>30.0</td>
<td>Second cycle</td>
</tr>
<tr>
<td>IK2554</td>
<td>Practical Voice Over IP (VoIP)</td>
<td>7.5</td>
<td>Second cycle</td>
</tr>
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Appendix 2: Specialisations

Master's Programme, ICT Entrepreneurship, 120 credits (TICTM), Programme syllabus for studies starting in autumn 2008

This programme has no specialisations.