Programme syllabus

Master's Programme, Economics of Innovation and Growth, 120 credits
Masterprogram, innovations- och tillväxtekonomi
120.0 credits

Valid for students admitted to the education from autumn 16 (HT - Autumn term; VT - Spring term).

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

Programme objectives

In addition to the objectives specified in the Swedish Higher Education Ordinance, there are also specific objectives for this programme. Graduates from the programme shall:

Knowledge and understanding

- Demonstrate extensive and advanced knowledge and understanding within the field of economics and its scientific grounds as a complement to and an extension of knowledge within innovation and entrepreneurship.
- Demonstrate an understanding of research and development within the areas of economics, innovation and entrepreneurship.
- Demonstrate in-depth knowledge of the economic process in which innovation is a driving factor behind value creation, economic prosperity and growth at the corporate, regional and national level.
- Demonstrate specialised knowledge of methods and scientific tools for analysing and evaluating the intersection between technology, entrepreneurship, innovation and growth.

Skills and abilities

- Demonstrate the ability to, through a holistic approach and from different perspectives, constructively identify, formulate and creatively reflect on questions about the entire process from concept to economic commercialisation.
- Demonstrate the ability to critically and systematically integrate knowledge in economics and demonstrate the ability to model, simulate, predict and evaluate events, including contexts with limited information.
- Demonstrate skills in conducting research and development work for the purpose of contributing to knowledge development.
• Demonstrate the ability to orally and in writing present and discuss their positions and conclusions and the knowledge and arguments underlying them.
• Demonstrate the ability to conduct assessments while taking into account relevant scientific, sustainable societal and ethical aspects, and demonstrate awareness of ethical aspects of research and development within economics.

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

• Demonstrate an understanding of the possibilities and limitations within economics, its role in society and the responsibility for its use, including social and economic aspects
• Demonstrate the ability to identify the need of further knowledge and take responsibility for continuously updating their knowledge and skills.

The KTH local Degree Ordinance can be found in the KTH regulatory framework, www.kth.se.

**Extent and content of the programme**

The programme comprises 120 higher education credits, which corresponds to two years of full-time studies.

The programme is in the second cycle and the language of instruction is English.

**Eligibility and selection**

Eligibility for the Master's Programme requires

• a relevant university education of at least 180 credits

• a Higher Education Diploma or Degree of Bachelor within economics, mathematics or engineering

• at least 30 credits (or equivalent) in economics and/or mathematics and/or statistics, or corresponding academic qualifications from an internationally recognised university.

• English skills equivalent to English B/English 6.

The specific requirements can be assessed as not fulfilled if:

The average grade is in the lower third of the grading scale (above pass level).

The selection process is based on the following criteria: university, credits awarded (e.g. grades, grades in specific subjects and English), motivation for the studies (for instance, letter of motivation, references, courses and relevant professional experience) and courses related to the programme (economics, mathematics, statistics). The assessment of qualifications scale is 1-75.

Otherwise refer to the KTH admission regulations in the KTH regulatory framework, www.kth.se

**Implementation of the education**
Structure of the education

Programme arrangement

Academic year
The academic year comprises 40 weeks and is divided into four periods. If necessary, instruction may be provided outside the parameters of the academic year.

The division of the academic year is presented on the KTH student web www.kth.se

Structure of the programme

The programme starts with a base of compulsory and conditionally optional courses that provide basic tools for studying economics of innovation and carrying out research projects. The knowledge acquired during the initial course package forms the basis for the degree project (30 credits).

Courses

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

The programme is structured in the form of courses. Course lists are found in appendix 1.

The programme consists of compulsory, conditionally elective, recommended and optional courses. The compulsory courses are defined for each year in course lists. The goals, entrance qualifications, content and course requirements for each course can be found in the official course syllabuses.

The type of instruction and examination format vary between the courses and these are indicated in each official course syllabus.

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.

A seven-grade criterion-referenced grading scale A-F is used for courses at KTH as final grades for courses at first and second cycle.
A–E are grades corresponding to a pass, with A being the highest grade.
The grades pass (P) and fail (F) are used as final grades when there are special reasons.

Conditions for participation in the programme

Semester registration
At the beginning of the semester, the student must submit a compulsory semester registration via their personal login a www.kth.se
Semester registration is required to take new courses and for credits awarded to be reported, and for any payments of student aid to be made by CSN.

Application for courses within the programme
Prior to each semester, the student must apply for all courses the student intends to take. Course application is done at www.antagning.se or www.universityadmissions.se

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

If the student does not apply via www.antagning.se or www.universityadmissions.se, the application is only considered subject to availability.
Information on how to apply for a course is obtained from the school's office of student affairs.

Course registration
At course start, the student must register themselves on all courses. Course registration must be done individually, either via the student's personal login at www.kth.se or pursuant to instructions from the school offering the course.
A person who has registered on a course, but has subsequently decided not to proceed with the course, must inform the school offering the course as soon as possible, according to the school's instructions.
Course registration requires that the student is admitted to the course.

Conditions for studies in year 2
At least 45 credits from year 1, according to the course list of the programme syllabus, shall be earned by the end of the re-examination period in August.

Individual study plan
A student who does not fulfil the above requirements must, in consultation with the programme study advisor, establish an individual study plan for the continuing studies.
There are no guaranties for full-time studies for students with an individual study plan

Recognition of previous academic studies

Students have the opportunity to apply to be given credit for results from a course or courses at another higher education institution/university within or outside the country. The entire KTH policy for credit transfer is included in the KTH regulatory framework, www.kth.se

As the grading systems differ widely between countries, grades from exchange studies are not translated to the KTH grading scale. An application is made by submitting a form to the school's office of student affairs.

Studies abroad

The opportunity for studies abroad is preferably available in connection with the degree project.
The application deadline for studies abroad is around 15 December for the following academic year.

Degree project

Degree project, second cycle
The programme includes a degree project for a Degree of Master that comprises 30 credits and which is usually carried out in the spring semester of year 2.
Commencement of the degree project requires that the majority of the studies in the Master's Programme are completed, i.e.,

- that 60 credits have been obtained, of which 30 credits relate to specialised studies in the second cycle within the Master's Programme.

KTH's comprehensive rules and guidelines for a degree project, 30 credits, for a Degree of Bachelor of Master, 120 credits, can be found in the KTH regulatory framework. www.kth.se

Degree

Application for a certificate
The student must apply for a certificate. Applications are made by logging on to the KTH website where "Applications for degrees" is found under the heading Programme.

Conditions for a Degree of Master, 120 credits
A Degree of Master of Science is obtained after completing the degree programme. The programme is designed so that the student, when they graduate, has fulfilled the national qualification requirements with a passing grade in all courses included in the student's study plan of 120 credits, of which

- at least 90 credits are attained in the second cycle, which includes at least 60 credits (including a 30 credit degree project) of specialised studies within the programme's main field of study.

Courses whose content overlaps one or more other courses in the programme cannot be counted as part of the 120 credits that form the basis for the degree.

Optional introductory courses and preparatory courses cannot be included as part of the degree.

Title of general qualification at second cycle
Degree of Master of Science (120 credits)
Teknologe masterexamen

Refer to the KTH guidelines (KTH regulatory framework), local directions for higher education qualifications at first and second cycle, the local Degree Ordinance www.kth.se

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

Master's Programme, Economics of Innovation and Growth, 120 credits (TEINM), Programme syllabus for studies starting in autumn 2016

General courses

Year 1

Mandatory courses (60.0 Credits)

<table>
<thead>
<tr>
<th>Course code</th>
<th>Course name</th>
<th>Credits</th>
<th>Edu. level</th>
</tr>
</thead>
<tbody>
<tr>
<td>ME2702</td>
<td>Globalization and Trade</td>
<td>7.5 hp</td>
<td>Second cycle</td>
</tr>
<tr>
<td>ME2704</td>
<td>Firm and Industry Dynamics</td>
<td>7.5 hp</td>
<td>Second cycle</td>
</tr>
<tr>
<td>ME2705</td>
<td>Microeconomics</td>
<td>7.5 hp</td>
<td>Second cycle</td>
</tr>
<tr>
<td>ME2706</td>
<td>Basic Econometrics</td>
<td>7.5 hp</td>
<td>Second cycle</td>
</tr>
<tr>
<td>ME2708</td>
<td>Economic Growth: Technology, Investments and Society</td>
<td>7.5 hp</td>
<td>Second cycle</td>
</tr>
<tr>
<td>ME2711</td>
<td>Economics of Innovation</td>
<td>7.5 hp</td>
<td>Second cycle</td>
</tr>
<tr>
<td>ME2719</td>
<td>Entrepreneurship and Innovation</td>
<td>7.5 hp</td>
<td>Second cycle</td>
</tr>
<tr>
<td>ME2720</td>
<td>Macroeconomics for Business</td>
<td>7.5 hp</td>
<td>Second cycle</td>
</tr>
</tbody>
</table>

Supplementary information

Year 2

Mandatory courses (37.5 Credits)

<table>
<thead>
<tr>
<th>Course code</th>
<th>Course name</th>
<th>Credits</th>
<th>Edu. level</th>
</tr>
</thead>
<tbody>
<tr>
<td>AK2038</td>
<td>Theory and Methodology of Science with Applications (Social Science)</td>
<td>7.5 hp</td>
<td>Second cycle</td>
</tr>
<tr>
<td>ME270X</td>
<td>Degree Project in the Economics of Innovation and Growth, Second Cycle</td>
<td>30.0 hp</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>ME2710</td>
<td>Applied Econometrics</td>
<td>7.5 hp</td>
<td>Second cycle</td>
</tr>
<tr>
<td>ME2718</td>
<td>Management and Strategy</td>
<td>7.5 hp</td>
<td>Second cycle</td>
</tr>
<tr>
<td>ME2721</td>
<td>Corporate Finance and Markets I</td>
<td>7.5 hp</td>
<td>Second cycle</td>
</tr>
<tr>
<td>ME2722</td>
<td>Green Economics</td>
<td>7.5 hp</td>
<td>Second cycle</td>
</tr>
<tr>
<td>ME2817</td>
<td>Growth- Managing Your Firm</td>
<td>7.5 hp</td>
<td>Second cycle</td>
</tr>
<tr>
<td>ME2828</td>
<td>Entrepreneurship in Developing Countries</td>
<td>7.5 hp</td>
<td>Second cycle</td>
</tr>
<tr>
<td>SF2935</td>
<td>Modern Methods of Statistical Learning</td>
<td>7.5 hp</td>
<td>Second cycle</td>
</tr>
<tr>
<td>SF2942</td>
<td>Portfolio Theory and Risk Management</td>
<td>7.5 hp</td>
<td>Second cycle</td>
</tr>
<tr>
<td>SF2972</td>
<td>Game Theory</td>
<td>7.5 hp</td>
<td>Second cycle</td>
</tr>
<tr>
<td>SF2980</td>
<td>Risk Management</td>
<td>7.5 hp</td>
<td>Second cycle</td>
</tr>
</tbody>
</table>

### Supplementary information

A minimum of 3 conditionally elective courses must be taken.
Appendix 2: Specialisations

Master's Programme, Economics of Innovation and Growth, 120 credits (TEINM), Programme syllabus for studies starting in autumn 2016

This programme has no specialisations.