



# Programme syllabus

Degree Programme Open Entrance  
Civilingenjörsutbildning öppen ingång  
*300.0 credits*

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*Valid for students admitted to the education from autumn 15 (HT - Autumn term; VT - Spring term).*

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

## Programme objectives

Open Entrance is one way to begin a Master of Science in Engineering programme at KTH. Through the open entrance programme, the student can wait one year before choosing a specific programme to study.

Open Entrance is the beginning of the Master of Science in Engineering studies, comprised of one year, which is then followed up by one of the Master of Science in Engineering programmes at KTH. During the year in Open Entrance, fundamental engineering subjects are taken which are common for many of KTH's Master of Science in Engineering programmes. During this year, the possibility to become more familiar with the different Master of Science in Engineering programmes which are given at KTH, is provided. The selection procedure is done at the end of the spring term in the first year.

Everyone who has been admitted to open entrance is guaranteed a place in one of KTH's Master of Science in Engineering programmes. The number of available places in the respective Master of Science in Engineering programmes is, however, limited; and, in the case that the number of applicants to a certain programme is more than the number of places, a selection is made based on the study results during the first year at Open Entrance.

Studies in Open Entrance are followed by studies at one of KTH's Master of Science in Engineering programmes which leads to a Master of Science in Engineering degree comprising 300 higher education credits. All higher education credits from the year in Open Entrance may be counted towards the degree.

Open Entrance is designed to give a good start for continued studies in one of KTH's Master of Science in Engineering programmes and supports the fulfilment of goals which apply to KTH's Master of Science in Engineering programmes. See [http://intra.kth.se/regelverk/utbildning-forskning/grundutbildning/examina/1.27227?l=en\\_UK](http://intra.kth.se/regelverk/utbildning-forskning/grundutbildning/examina/1.27227?l=en_UK)

## **Knowledge and understanding**

After studies in Open Entrance, the student should be able to:

- \* carry out mathematical reasoning and calculations within one- and multiple variable analysis, linear algebra and numerical methods, important for the engineering profession and the continued studies.
- \* show understanding for programming technology's bases and independently be able to carry out simpler programming assignments.
- \* explain basic chemical and physical concepts.
- \* apply and explain fundamental principles within mechanics.
- \* carry out simple measurements and experiments.
- \* explain and have a good command of certain important engineering complementary competencies, such as, for example communication skills.
- \* describe KTH's different Master of Science in Engineering programmes and the professional roles which are associated with these.

## **Skills and abilities**

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

## **Extent and content of the programme**

Open Entrance is given during one study year and comprises 60 higher education credits, and is followed by studies comprising 240 higher education credits, nominally during four study years in one of KTH's Master of Science in Engineering Programmes.

The programme in Open Entrance is on the first level.

The courses in Open Entrance are given in Swedish, but English course literature can be used.

## **Eligibility and selection**

Special eligibility to the Open Entrance programme is the same as to KTH's other Master of Science in Engineering programmes.

Mathematics E, Physics B and Chemistry A /

Physics 2, Chemistry 1, Mathematics 4

*General eligibility for university studies in Sweden, i.e. completed upper secondary education including documented proficiency in Swedish corresponding to Swedish 3 / Swedish as second language 3 and English corresponding to English 6.*

For admission, eligibility and selection principles, see KTH's admissions policy.

[http://intra.kth.se/regelverk/utbildning-forskning/grundutbildning/antagning?l=en\\_UK](http://intra.kth.se/regelverk/utbildning-forskning/grundutbildning/antagning?l=en_UK)

## **Implementation of the education**

### **Structure of the education**

#### **Structure of the education**

The study year comprises 40 weeks. When needed, the lectures can be taken outside of the study year, see <http://www.kth.se/en/student/schema/lasarsindelning-for-undervisning-och-examination-1.1007?programme=open>

### **Courses**

The programme is course-based. Lists of courses are included in [appendix 1](#).

Eight mandatory courses and one conditionally optional course are included in the programme. The courses are defined in the teaching and time plan. The different course goals, prerequisites, contents and course demands can be found in the course plans. Depending on the choice of the following programme, one or two programme-specific complemented summer courses (3 higher education credits) may need to be taken to prepare for the programme. Course list can be found in appendix 1.

### **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 Registration

The student is responsible for making semester registration for each semester. This is done on the web from 1 week before the semester even 1 week after the semester. Registration is a prerequisite for the study results to be reported and to CSN to pay the awarded student.

### Course Registration

The course enrollment to mandatory courses is done automatically in parallel with term enrollment.

The programme has two conditionally optional courses: Engineering Science and Communication. One of these is chosen before period 3.

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The student must register herself/himself in the course. Course registration for both mandatory and optional courses must be done individually (at the school). One, who registers herself/himself in a course and; thereafter, decides to not complete the course, must notify the respective school as soon as possible.

### Master of Science in Engineering Programme Selection

KTH's Master of Science in Engineering programmes accept everyone applying according to the limited number of places in the respective programme. The students give six alternatives as desired programmes: first, second, third, fourth, fifth, and sixth hand alternatives. The selection to the programmes is done on the basis of the study results in the Open Entrance programme the same year in which the student was accepted to Open Entrance.

1. First of all, the selection is based on the number of mandatory higher education credits out of the Open Entrance teaching and time plan which, during the year, have been completed up to the spring term's last day for ordinary exams. NOTE: Exam elements completed after this date, i.e. during the re-exam period at the end of the Spring term or during the Fall term, do not count at the time of selection.
2. In the case of the same number of completed higher education credits, the selection is based on the weighted average grade of all completed courses or exam elements where higher education credits are assessed according to bullet 1.
3. If the weighted average grade is the same, a lottery will be done.

The students are ranked according to the above-stated criteria. A student with a higher ranking may always choose before a student with a lower ranking. This means that the student does not need to prioritise his/her choices tactically; choosing a popular programme as first choice and not getting in does not worsen the likelihood of being accepted to the second-choice programme, etc. For applicable rules for selection, see below.

#### The programme selection period

The programme selection period is open during a limited time in May.

The exact dates are communicated well in advance.

After closing the selection period no changes of the programme listing can be made.

#### Transition to Master of Science in Engineering programmes

According to the rector's decision V-2006-1510 a student in OPEN who has passed KTH's and the accepting programme's ordinary requirements for promotion to study year 2 must be registered for completion in OPEN and be registered (FFG) in programme term 3 in the corresponding programme. A student who does not fulfil the ordinary requirements for promotion must be re-registered (OM) in programme term 2 in OPEN and registered (FFG) in programme term 3 in the corresponding programme. Students who, in this respect, are double-registered must establish an individual study plan. The individual study plan must be established by the corresponding school. When the student has fulfilled the requirements for promotion in the corresponding programme, he/she will be registered for completion of OPEN.

#### Rules for selection of a Master of Science in Engineering programme

Valid from study year 2007/2008

How is the number of completed higher education credits counted?

Only mandatory courses which are included in Open Entrance's teaching and time plan during fall and spring terms may be counted. Courses in mathematics during the acceptance period, SF1611, SF1651 and SF1652 are not counted in the selection because these courses are not mandatory. Neither are the complementing

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courses in mechanics or physics counted which must be taken by the student for certain programmes. As has been described in the study programme, only the exam elements carried out, at the latest, during the spring term's last day for ordinary examination in the year in

which the student started his/her studies in Open Entrance, are counted. Concerning recognition of previous academic studies or exchange courses, see below

### The student's responsibility

When an examination is completed and passed, it is reported in a database (Ladok). The selection is based on reported results at the date for selection. The selection is done in June, and the exact date is communicated well in advance. It is, therefore, very important that all passed results are reported in Ladok before the day of selection.

NOTE: Open Entrance's students are responsible to check that all relevant higher education credits have been reported to Ladok before the selection.

The student is encouraged to check the study results in Ladok, at the latest, one week before the selection. If something is wrong, contact the respective department; see [http://www.kth.se/om/organisation/skolor/kths-skolor-1.3848?l=en\\_UK](http://www.kth.se/om/organisation/skolor/kths-skolor-1.3848?l=en_UK)

The selection procedure will not be revised on the basis of non-reported higher education credits.

How is the weighted average grade calculated?

Received grades are counted using the following equivalence table:

A: 10, B: 9, C: 8, D: 7, E: 6, Fx: 0, F: 0.

In courses with the grading scale F or P (fail, pass) a P is counted as an E, i.e. 6 grade points.

The received grade points in a passed course are weighted multiplicatively with the courses size in higher education credits.

Received grade points in a passed examination element in a failed course are also weighted multiplicatively with the element's number of higher education credits.

The weight points are summed and the sum is divided by the total number of higher education credits which are completed in Open Entrance during the ordinary term time in the current study year (normally 60 higher education credits). The received quota constitutes the weighted average grade.

Since the number of completed higher education credits have higher priority during the selection than the weight average grade, it is

advantageous for the student to conclude a course (even in the case that the final grade of the course is lower than the weighted average grade of the included elements)

### Conditionally optional courses

At the end of the fall term, the students choose to take EF1100 Engineering Science which is evaluated using the Pass/Fail grading scale or the course DH1602 Communication which is evaluated using the A-F grading scale.

At the time of selection, both courses are handled equally. Grades A-E in DH1602 will receive 6 grade points, i.e. the same value as P(pass).

## **Recognition of previous academic studies**

What applies for recognition of previous academic study courses or exchange courses?

Courses in Open Entrance can be recognised for previous academic study or exchanged according to previously formulated principles, in accordance with KTH's praxis.

Observe that it is the nominal number of higher education credits in Open Entrance courses which applies: if, for example, a course with 9 higher education credits from another higher education institution is recognised for previous academic studies corresponding to a course of 7.5 higher education credits in Open Entrance, this is counted as 7.5 higher education credits during the selection procedure. The corresponding applies for courses taken at KTH.

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Courses passed in previous academic studies are always counted in the selection procedure as grade E, i.e. 6 grade points.

If more than two courses are recognised for previous academic study or are exchanged in accordance with individual study plans, then all recognised previous academic studies and exchanged courses are counted, except for the two with the highest nominal number of higher education credits, with half of the higher education credits. The aim of this rule is to inhibit Open Entrance to be utilised as a short-cut to the Master of Science in Engineering programmes by students which have already taken the majority of the courses earlier.

Example: A student starts Open Entrance and has already taken a lot of mathematics, and is able to receive recognition for previous academic

studies in three mathematics courses: SF1659 4,5 higher education credits, SF1624 7,5 higher education credits and SF1625 7,5 higher education credits. In the selection process, SF1624 and SF1625 are counted with the full number of higher education credits, 7,5 higher education credits and 7,5 higher education credits, respectively, but the third course, SF1659, is counted as 2,25 higher education credits (half of the original 4,5 higher education credits). All three recognised courses are counted with the grade of E in the weighted average grade, regardless of which grades the courses had at the time of recognition of previous academic studies.

## **Studies abroad**

While studying in KTH's Master of Science in Engineering programmes, there is an opportunity to study a half or an entire year at a university abroad without paying the course fees which are paid by the foreign students studying there. More information about this can be found in the respective Master of Science in Engineering study programmes.

## **Degree project**

**Master of Science in Engineering studies are concluded with a degree project consisting of 30 higher education credits. More information can be found in the respective Master of Science in Engineering study programmes.**

## **Degree**

Open Entrance leads towards a Master of Science in Engineering degree consisting of 300 higher education credits in one of KTH's Master of Science in Engineering programmes. All courses during the first year in Open Entrance may be counted in the degree.

Information about what applies for the different programmes can be found in the respective Master of Science in Engineering study programmes and in KTH's local degree ordinance

[http://intra.kth.se/regelverk/utbildning-forskning/grundutbildning/examina/1.27227?l=en\\_UK](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 Open Entrance (COPEN), Programme syllabus for studies starting in autumn 2015

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## General courses

### Year 1

#### Mandatory courses (54.0 Credits)

Course code	Course name	Credits	Edu. level
<a href="#">DD1310</a>	<a href="#">Programming Techniques</a>	6.0 hp	First cycle
<a href="#">SF1546</a>	<a href="#">Numerical Methods, Basic Course</a>	6.0 hp	First cycle
<a href="#">SF1624</a>	<a href="#">Algebra and Geometry</a>	7.5 hp	First cycle
<a href="#">SF1625</a>	<a href="#">Calculus in One Variable</a>	7.5 hp	First cycle
<a href="#">SF1626</a>	<a href="#">Calculus in Several Variable</a>	7.5 hp	First cycle
<a href="#">SF1659</a>	<a href="#">Mathematics, Basic Course</a>	4.5 hp	First cycle
<a href="#">SG1102</a>	<a href="#">Mechanics, Smaller Course</a>	6.0 hp	First cycle
<a href="#">SH1008</a>	<a href="#">Environmental Physics and Chemistry</a>	9.0 hp	First cycle

#### Optional courses

Course code	Course name	Credits	Edu. level
<a href="#">SF1605</a>	<a href="#">Complementary Course in Linear Algebra</a>	1.5 hp	First cycle
<a href="#">SF1606</a>	<a href="#">Complementary Course in Calculus</a>	3.0 hp	First cycle
<a href="#">SF1611</a>	<a href="#">Introductory Course in Mathematics I</a>	1.5 hp	First cycle

#### Conditionally elective courses

Course code	Course name	Credits	Edu. level
<a href="#">DH1602</a>	<a href="#">Communication</a>	6.0 hp	First cycle
<a href="#">EF1100</a>	<a href="#">Engineering Science</a>	6.0 hp	First cycle
<a href="#">SG1301</a>	<a href="#">Mechanics, Addition Course</a>	3.0 hp	First cycle





## Appendix 2: Specialisations

Degree Programme Open Entrance (COPEN), Programme syllabus for studies starting in autumn 2015

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This programme has no specialisations.