



Utbildningsplan

[En tillgänglighetsanpassad version av utbildningsplanen finns i Kurs- och programkatalogen.](#)

Masterprogram, teknisk mekanik 120 hp

Master's Programme, Engineering Mechanics

Gäller för antagna till utbildningen fr o m HT09.

Utbildningens mål

Kunskap och förståelse

A master of science in Engineering Mechanics will:

- have the ability to independently apply mathematics and basic engineering science in the field of engineering mechanics.
- have the ability to master and apply principles in the field of engineering mechanics.
- be able to be creative and critical in order to formulate and investigate mechanical problems using modern methods and tools.

Färdigheter och förmågor

A master of science in Engineering Mechanics will:

- have the ability to critically and systematically analyse, judge and handle complex mechanical problems and situations even with access to limited information.
- have the ability to critically, independently and creatively formulate problems and to plan and perform work within given time limits.
- have the ability to, both orally and in writing, communicate and discuss conclusions and the underlying theory and argumentation.
- be able to follow the latest development and research and have the ability to participate in research and development work in the field of engineering mechanics.

Värderingsförmåga och förhållningsätt

A master of science in Engineering Mechanics will:

- have the ability to in the field of engineering mechanics to make decisions regarding research and development work based on relevant scientific, societal and ethical aspects.
- show insight regarding the possibilities and limitations of engineering science and its role in the society.
- have ability to identify the need for further knowledge in the field and take responsibility for keeping their personal knowledge up to date.

Complete information on degree requirements can be found at the local degree policy of KTH, see www.kth.se/info/kth-handboken/II/19/1.html

Utbildningens omfattning och innehåll

The programme, given in English, is two years long (120 university credits) and starts every year at the end of August.

The objective of the courses is to provide students with advanced knowledge in Solid, Fluid and Multibody Mechanics and to give them, through a large number of elective courses, the opportunity of defining their own specialisation. The education alternates theoretical topics with more applied ones through laboratories and applications using commercial programs.

Behörighet och urval

Basic eligibility requirements

A completed Bachelor's degree, equivalent to a Swedish Bachelor's degree (180 university credits), from a university recognized by government or accredited by other recognized organisation. A good knowledge of written and spoken English. Applicants must provide proof of their proficiency in English.

Specific eligibility requirements

The programme is open to students who have completed a Bachelor's degree or equivalent degree in the field of Mechanics, Physics, Aeronautics or Civil Engineering and obtained good academics results.

Selection process

The selection process is based on a total evaluation of the following selection criteria: university, grade points average (GPA), motivation letter and references. Complete information on admission requirements can be found at the local admission policy of KTH, see www.kth.se/info/kth-handboken/II/11/inledning.html

Utbildningens genomförande

Utbildningens upplägg

The academic year at KTH is divided into 4 periods. Each period lasts approximately 7 weeks with at least 33 days of study. Each period is followed by an examination period consisting of supplementary days and at least 5 exam days. In addition to these 4 regular exam periods there are 3 additional re-examination periods, after christmas, after may, and immediately preceding the first study period of the academic year. The academic year lasts for a duration of 40 weeks. If necessary, teaching activities can be scheduled outside the academic year.

Kurser

Utbildningen sker i kursform. Kurslistor finns i bilaga 1.

The course part of the programme lasts three semesters (90 university credits). Seven courses (corresponding to 44.5 university credits) are compulsory. The other courses are elective and must be chosen among a list of elective courses in solid or fluid mechanics. The students can also, in agreement with the program director, take as elective courses one or two courses in applied mechanics given by other departments of KTH.

The list of compulsory and elective courses is given in appendix 1.

Betygssystem

För kurser på KTH används en sjugradig målrelaterad betygsskala A-F som slutbetyg för kurser på grundnivå och avancerad nivå. A-E är godkända betyg med A som högsta betyg. Betygen godkänd (P) och underkänd (F) används som slutbetyg då särskilda skäl föreligger.

The courses and the Master's thesis 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.

Villkor för deltagande i utbildningen

No Later than November 15 and May 15 each academic year students are required to make a study registration and course selection for the coming term. At least 40 university credits have to be completed during the first academic year, including the re-examination period in August, in order for the student to be promoted to the second year of the programme.

Tillgodoräknanden

Under certain circumstances, credits for previous academic studies can be received according to the local policy of KTH, www.kth.se/info/kth-handboken/II/13/3.html

Examensarbete

The last semester is spent on a five month (30 university credits) Master's thesis project performed in industry or at university. The purpose of the thesis project is that the students should demonstrate their ability in performing independent work, using and developing the skills obtained from the courses in the programme.

Students must have completed at least 60 university credits before they begin their Master's thesis.

The students must actively search for a suitable thesis project in industry or at a university.

More information on KTH policy about Degree project can be found at www.kth.se/info/kth-handboken/II/15/1.html

Examen

Students who have completed all the requirements of the program will be awarded the degree of Master of Science (two years).

Students must apply for the degree and also show proof of their bachelor (or equivalent) degree and the payment of the student union fees.

Detailed information can be found at www.kth.se/info/kth-handboken/II/19/1.html

Bilaga 1 - Kurslista

Bilaga 2 - Inriktningsbeskrivningar



Bilaga 1: Kurslista

Masterprogram, teknisk mekanik (TTEMM)

Gemensamma kurser

Årskurs 1

Obligatoriska kurser (21,0 Högskolepoäng)

Kurskod	Namn	Omfattning	Utbildningsnivå
SE1025	FEM för ingenjörstillämpningar	6,0 hp	Grundnivå
SG2212	Strömningsmekaniska beräkningar	7,5 hp	Avancerad nivå
SG2214	Strömningsmekanik	7,5 hp	Avancerad nivå

Valfria kurser

Kurskod	Namn	Omfattning	Utbildningsnivå
SE2116	Dynamik inom hållfasthetsläran	6,0 hp	Avancerad nivå
SE2121	Biomekanik	9,0 hp	Avancerad nivå
SE2122	Tillämpad solidmekanik	9,0 hp	Avancerad nivå
SE2123	Hållfasthetsteknisk provning	6,0 hp	Avancerad nivå
SE2125	Hållfasthetsteknisk dimensionering	9,0 hp	Avancerad nivå
SE2127	Förpackningsmaterial	7,5 hp	Avancerad nivå
SE2129	Brottmekanik och utmattning	9,0 hp	Avancerad nivå
SG2126	Non-linear Oscillations and Dynamical Systems in Mechanics	7,5 hp	Avancerad nivå
SG2211	Fordonsaerodynamik	6,0 hp	Avancerad nivå
SG2213	Tillämpade strömningsmekaniska beräkningar	3,0 hp	Avancerad nivå
SG2215	Kompressibel strömning	7,5 hp	Avancerad nivå
SG2218	Turbulens	7,5 hp	Avancerad nivå
SG2221	Vågrörelser och hydrodynamisk stabilitet	7,5 hp	Avancerad nivå
SG2860	Modellering i FEM	8,0 hp	Avancerad nivå
SG2870	Icke - linjära finita elementmetoder	7,0 hp	Avancerad nivå

Årskurs 2

Obligatoriska kurser (23,5 Högskolepoäng)

Kurskod	Namn	Omfattning	Utbildningsnivå
AK2030	Vetenskapsteori och vetenskaplig metodik (naturvetenskap)	4,5 hp	Avancerad nivå
SE2126	Materialmekanik	9,0 hp	Avancerad nivå
SG2128	Forskningsmetodik i teknisk mekanik	3,0 hp	Avancerad nivå
SG2150	Stelkroppsdyamik	7,0 hp	Avancerad nivå

Valfria kurser

Kurskod	Namn	Omfattning	Utbildningsnivå
SE2132	Tillämpad elasticitet med FEM	9,0 hp	Avancerad nivå
SG2215	Kompressibel strömning	7,5 hp	Avancerad nivå
SG2221	Vågrörelser och hydrodynamisk stabilitet	7,5 hp	Avancerad nivå
SG2860	Modellering i FEM	8,0 hp	Avancerad nivå
SG2870	Icke - linjära finita elementmetoder	7,0 hp	Avancerad nivå



Bilaga 2: Inriktningar

Masterprogram, teknisk mekanik (TTEMM)

Programmet har inga inriktningar.