



# Programme syllabus

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

## Degree Programme in Mechanical Engineering 300 credits

Civilingenjörsutbildning i maskinteknik

*Valid for students admitted to the education from autumn 07 (HT - Autumn term; VT - Spring term).*

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

### Programme objectives

Beyond the objectives that are specified in the Higher Education Ordinance, a graduate from the programme will...

#### Knowledge and understanding

- Have a broad technical and scientific base to be able to work in several technical areas with product development, production, and manufacturing or energy issues. More specifically, be familiar with choice of materials, energy sources, production methods or assessment of economical or environmental consequences, etc.

- Show a broad aptitude in the chosen technical area, including knowledge in mathematics and sciences, as well as a deeper knowledge in certain parts of the study area.

## Skills and abilities

- Be able to apply knowledge and abilities in a practical environment while making relevant assessments and taking standpoints scientifically, professionally and socially, both in a group as well as independently
- Show a good ability to analyze, formulate and grasp technical problems while considering the problem from beginning to end: from the ideas or requirements to specification, development, operation and finally, termination. Moreover, the ability to define, determine resource demand and lead processes to problem-solution and realisation.
- Show certain abilities to lead activities on different organisational levels, in different types of organisational life-cycle stages and different types of business logic.
- Have individual and professional skills such as language, leadership, project-management and communication for work as an engineer in a leadership position or as a leader in a technically intensive company.
- Have a basic understanding of entrepreneurial activities

## Ability to make judgements and adopt a standpoint

- Have especially good understanding that engineering-related problems are often complex, incompletely defined and sometimes contain contradictions
- Show an understanding of responsibility and ethics in relation to technical, organisational, economical, ecological and societal activities.

The local degree ordinance of the Royal Institute of Technology can be found in the KTH-Regulations. [intra.kth.se/regelverk](http://intra.kth.se/regelverk)

## Extent and content of the programme

The programme consists of 300 credits which correspond to five years of full-time studies.

The programme's level is primarily on the first-cycle for the first three years and the second-cycle in the two last years.

Master's programmes leading to Master of Science in Engineering degree:

- Aerospace Engineering
- Vehicle Engineering
- Sustainable Energy Engineering

- Industrial Management
- Integrated Product Design
- Production Engineering Management
- Engineering Design
- Nuclear Energy Engineering
- Naval Architecture
- Sustainable Technology
- Engineering Mechanics

The language of instruction in the first cycle is mainly Swedish.  
The language of instruction in the second cycle is mainly English.

## Eligibility and selection

In order to study at KTH, basic eligibility requirements must be fulfilled. In addition, the following special eligibility requirements must be fulfilled for Masters of Science in Engineering programmes at KTH:

Mathematics course E, Physics course B and Chemistry course A or the corresponding equivalents. All of the courses must have been completed with at least a grade of pass (godkänd) or 3. If the applicant refers to other studies or work experiences that may show competences then they will be assessed accordingly.

More information regarding KTH's admission policy can be found in the KTH-Regulations. *intra.kth.se/regelverk*

## Implementation of the education

### Structure of the education

#### Structure of the Programme

Academic year, terms, and study periods can be found in the KTH-Regulations *intra.kth.se*

#### Study years 1-3, studies in the first-cycle

The study programme consists of the mandatory courses in years 1-3 in the first-cycle (G), and a Master's Programme in the second-cycle (A) in years 4 and 5, which concludes with a 30 credits degree project.

The programme is organised around courses in the mathematical, technically scientific and technical applied subjects. The education in and usage of professional skills and abilities of significant importance for a Master of Science in Engineering, for example: communication, ethics, entrepreneurship, sustainable development, company- and societal aspects, are integrated into the courses.

In order to make the programme comprehensive, collaboration is emphasized between the different subjects and throughout the entire programme. The courses are scheduled and coordinated in such a way that this is reached through common project work and hand-in assignments, etc.

The programme is structured in such a way that a student can choose to get a Degree of Bachelor of Science in Engineering after three years of study. This makes it possible for students to continue their studies abroad or at other universities in Sweden.

### **Mathematically natural science courses**

Most of the courses in basic mathematical and natural science are in the first year. The remainder is placed in the second year.

### **Technical courses**

Throughout years 1-3, the student will study basic technical scientific courses in Mechanical Engineering such as strength of materials and solid mechanics, thermodynamics, construction, and production.

The first three years conclude with a 15 credits of degree project for the Degree of Bachelor of Science in Engineering in the chosen technical area. After completing 180 credits, the students can apply for the Degree of Bachelor of Science in Engineering if the degree requirements are fulfilled.

### **Study years 4-5, studies in the second cycle**

The Master programme consists mainly of advanced courses and ends with a degree project work within one specific technical scientific area. Students in the Mechanical Engineering programme can choose between a wide range of Masters with set study plans. The student is guaranteed a study place in any Master they choose.

The knowledge about the environment and sustainable development is deepened and solidified by being integrated into the programme's courses with special aspects for example: life-cycle analysis, environmental effects and choice of material, which is associated with the chosen Master programme.

Master's programmes leading to Master of Science in Engineering degree:

- Aerospace Engineering
- Vehicle Engineering
- Sustainable Energy Engineering
- Industrial Management

- Integrated Product Design
- Production Engineering Management
- Engineering Design
- Nuclear Energy Engineering
- Naval Architecture
- Sustainable Technology
- Engineering Mechanics

## Courses

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

### *Term Enrolment*

A condition for participation is that the student verifies enrolment for the coming term every spring and fall.

This is done through “My Pages” on KTHs website or by applying for courses at [www.studera.nu](http://www.studera.nu), between the 1st and 15th of November and the 1st and 15th of May.

By verifying his/her enrolment, the student has submitted his/her intention to continue studying and participating in the programme. Only after that it is possible for the student to:

- registered for courses
- have results reported
- have the possibility to receive financial support from CSN

### **Course Application**

The application is made online at [www.studera.nu](http://www.studera.nu)

### **Conditions for participation in each year of the programme**

#### *For studying in year 2:*

At least 45 credits from year 1 must be completed by the end of the exam period in August. Students who don't fulfill this requirement must design an individual study plan with a guidance officer.

***For studying in year 3:***

At least 90 credits from years 1 and 2 must be completed by the end of the exam period in August. Students who don't fulfill this requirement must design an individual study plan with a guidance officer.

***For studying in year 4:***

At least 150 credits from years 1-3, including a degree project, 15 credits, must be completed by the end of the exam period in August. Students who don't fulfill this requirement must design an individual study plan with a guidance officer.

***For studying in year 5:***

At least 195 credits from years 1, 2, 3 and 4 of which at least 45 credits from year 4 must be completed by the end of the exam period in August. Students who don't fulfill this requirement must design an individual study plan with a guidance officer.

**Selection of Master programmes**

The selection of Master programmes is made simultaneously with course selection in the fall term of year 3 online at "My Pages" on KTH's website.

## Recognition of previous academic studies

The student has the possibility to apply to receive credit for results from previous studies at another university within the country or abroad. The form is available on KTH's website.

KTH's policy for receiving credit from previous academic studies is available in its entirety in the KTHs Regulations. [intra.kth.se/regelverk](http://intra.kth.se/regelverk)

## Studies abroad

Students in the Program have the possibility to study abroad through the contracts KTH has with universities within EU and outside. Exchange studies can normally not be done in the first or second year. It is also possible to do the degree project work abroad.

The application deadline for studies abroad is around January 15th.

## Degree project

The degree project consists of 30 credits.

Students are required to have a minimum of 240 credits within the programme before beginning the degree project.

KTH's rules for the degree project are available in the KTH-Regulations *[intra.kth.se/regelverk](http://intra.kth.se/regelverk)*

## Degree

In order to graduate as a Master of Science in Engineering, Degree Programme in Mechanical Engineering the student must be approved in every course that is included in the student's study plan. The study plan must consist of 300 credits including 30 credits of degree project work.

Reference to the local degree policy is available in the KTH-Regulations.

Appendix 1 - Course list

Appendix 2 - Programme syllabus descriptions



# Appendix 1: Course list

## Degree Programme in Mechanical Engineering (CMAST)

### General courses

#### Year 1

#### Mandatory courses (60.0 Credits)

Code	Name	Credits	Edu. level
<a href="#">DN1212</a>	Numerical Methods and Basic Programming	9.0 hp	First cycle
<a href="#">MJ1101</a>	Mechanical Engineering	9.0 hp	First cycle
<a href="#">SF1618</a>	Analytical Methods and Linear Algebra I	12.0 hp	First cycle
<a href="#">SF1619</a>	Analytical Methods and Linear Algebra II	12.0 hp	First cycle
<a href="#">SG1130</a>	Mechanics I	9.0 hp	First cycle
<a href="#">SK1112</a>	Physics I	9.0 hp	First cycle

#### Recommended courses

Code	Name	Credits	Edu. level
<a href="#">SF1611</a>	Introductory Course in Mathematics I	1.5 hp	First cycle



## Year 2

### Mandatory courses (60.0 Credits)

Code	Name	Credits	Edu. level
<a href="#">MF1016</a>	Basic Electrical Engineering	9.0 hp	First cycle
<a href="#">MF1044</a>	Machine Components	6.0 hp	First cycle
<a href="#">MG1024</a>	Production	6.0 hp	First cycle
<a href="#">MH1004</a>	Engineering Materials	6.0 hp	First cycle
<a href="#">MJ1112</a>	Applied Thermodynamics	9.0 hp	First cycle
<a href="#">SE1010</a>	Solid Mechanics, Basic Course with Project	12.0 hp	First cycle
<a href="#">SF1633</a>	Differential Equations I	6.0 hp	First cycle
<a href="#">SG1140</a>	Mechanics II	6.0 hp	First cycle

## Master, Aerospace Engineering (AEE)

### Year 3

### Mandatory courses (39.0 Credits)

Code	Name	Credits	Edu. level
<a href="#">ME1001</a>	Industrial Management, Basic Course	6.0 hp	First cycle
<a href="#">MF1045</a>	Product realization - Engineering Design	6.0 hp	First cycle
<a href="#">MG1025</a>	Product Realization - Manufacturing	6.0 hp	First cycle
<a href="#">SA108X</a>	Degree Project in Mechanical Engineering, First Cycle <i>One degree project must be chosen</i>	15.0 hp	First cycle
<a href="#">SE1025</a>	FEM for Engineering Applications	6.0 hp	First cycle

## Conditionally elective courses

Code	Name	Credits	Edu. level
<a href="#">SG1217</a>	Fluid Mechanics, Basic Course <i>SG1217 or SG1220 must be chosen</i>	6.0 hp	First cycle
<a href="#">SG1220</a>	Fluid Mechanics for Engineers <i>SG1217 or SG1220 must be chosen</i>	6.0 hp	First cycle

## Year 4

### Mandatory courses (36.5 Credits)

Code	Name	Credits	Edu. level
<a href="#">SD2411</a>	Lightweight Structures and FEM	8.0 hp	Second cycle
<a href="#">SD2414</a>	Fibre Composites - Materials and Manufacturing <i>Profile Structures</i>	6.0 hp	Second cycle
<a href="#">SD2601</a>	Fundamentals of Flight	7.5 hp	Second cycle
<a href="#">SD2816</a>	Rocket Science	7.5 hp	Second cycle
<a href="#">SF2863</a>	Systems Engineering	7.5 hp	Second cycle

## Conditionally elective courses

Code	Name	Credits	Edu. level
<a href="#">AH2923</a>	Global Navigation Satellite Systems (GNSS) <i>Profile Space</i>	7.5 hp	Second cycle
<a href="#">EL2520</a>	Control Theory and Practice, Advanced Course <i>Profile Systems</i>	7.5 hp	Second cycle
<a href="#">SD2413</a>	Fibre Composites - Analysis and Design <i>Profile Structures</i>	6.0 hp	Second cycle
<a href="#">SD2416</a>	Structural Optimisation and Sandwich Design <i>Profile Structures</i>	6.0 hp	Second cycle
<a href="#">SD2610</a>	Computational Aerodynamics <i>Profile Aeronautics</i>	9.0 hp	Second cycle
<a href="#">SD2800</a>	Experimental Aerodynamics <i>Profile Aeronautics</i>	6.0 hp	Second cycle
<a href="#">SD2805</a>	Flight Mechanics <i>Profile Aeronautics and Space</i>	9.0 hp	Second cycle
<a href="#">SF1841</a>	Optimization <i>Profile Systems</i>	6.0 hp	First cycle
<a href="#">SF2852</a>	Optimal Control Theory <i>Profile Systems</i>	7.5 hp	Second cycle

## Supplementary information

You must follow one of the profiles:

Aeronautics  
Structures  
Systems  
Space

## Year 5

## Supplementary information

For complete course list:

[http://www.kth.se/student/kurser/program/taem/ht10/?l=en\\_UK](http://www.kth.se/student/kurser/program/taem/ht10/?l=en_UK)

# Master, Vehicle Engineering (FOR)

## Year 3

### Mandatory courses (51.0 Credits)

Code	Name	Credits	Edu. level
<a href="#">EL1120</a>	Automatic Control, General Course	6.0 hp	First cycle
<a href="#">ME1001</a>	Industrial Management, Basic Course	6.0 hp	First cycle
<a href="#">MF1045</a>	Product realization - Engineering Design	6.0 hp	First cycle
<a href="#">MG1025</a>	Product Realization - Manufacturing	6.0 hp	First cycle
<a href="#">SA108X</a>	Degree Project in Mechanical Engineering, First Cycle <i>One degree project must be chosen</i>	15.0 hp	First cycle
<a href="#">SD1115</a>	Fundamentals of Noise and Vibration Control	6.0 hp	First cycle
<a href="#">SG1217</a>	Fluid Mechanics, Basic Course	6.0 hp	First cycle

## Year 4

### Supplementary information

Courses:

<http://www.kth.se/student/kurser/program/tform/ht10/>

## Year 5

### Supplementary information

Complete course list:

[http://www.kth.se/student/kurser/program/tform/ht10/?l=en\\_UK](http://www.kth.se/student/kurser/program/tform/ht10/?l=en_UK)

# Master, Industrial Management (INE)

## Year 3

### Mandatory courses (45.0 Credits)

Code	Name	Credits	Edu. level
<a href="#">ME1001</a>	Industrial Management, Basic Course	6.0 hp	First cycle
<a href="#">ME1007</a>	Strategic Management	6.0 hp	First cycle
<a href="#">ME2044</a>	Human Resource Management	6.0 hp	Second cycle
<a href="#">MF1045</a>	Product realization - Engineering Design	6.0 hp	First cycle
<a href="#">MG101X</a>	Degree Project in Mechanical Engineering, First Cycle	15.0 hp	First cycle
<a href="#">MG1025</a>	Product Realization - Manufacturing	6.0 hp	First cycle

## Year 4

### Mandatory courses (24.0 Credits)

Code	Name	Credits	Edu. level
<a href="#">ME2064</a>	Finance and Control in Industrial Organizations	6.0 hp	Second cycle
<a href="#">ME2065</a>	Operations and Supply Chain Strategy	6.0 hp	Second cycle
<a href="#">ME2067</a>	Industrial Transformation and Technical Changes (ITTEC)	6.0 hp	Second cycle
<a href="#">ME2501</a>	Perspectives on Industrial Management	6.0 hp	Second cycle

### Conditionally elective courses

Code	Name	Credits	Edu. level
<a href="#">ME2015</a>	Project Management: Leadership and Control <i>ME2015 or ME2016 must be chosen</i>	6.0 hp	Second cycle
<a href="#">ME2016</a>	Project Management: Leadership and Control <i>ME2015 or ME2016 must be chosen</i>	6.0 hp	Second cycle

## Supplementary information

During years 4 and 5 the student must have a minimum of 18 hp technical courses on an advanced level.

### Year 5

#### Mandatory courses (25.5 Credits)

Code	Name	Credits	Edu. level
<a href="#">ME2001</a>	Research Methods in Industrial Engineering and Management	7.5 hp	Second cycle
<a href="#">ME2069</a>	Managing Research and Innovation	6.0 hp	Second cycle
<a href="#">ME2502</a>	Change Project in Industrial Management	12.0 hp	Second cycle

## Track, Concurrent Engineering (IPDB)

### Year 3

#### Mandatory courses (45.0 Credits)

Code	Name	Credits	Edu. level
<a href="#">HM1025</a>	Ergonomics in Product Development	6.0 hp	First cycle
<a href="#">ME1001</a>	Industrial Management, Basic Course	6.0 hp	First cycle
<a href="#">ME1008</a>	Work Organization and Leadership	6.0 hp	First cycle
<a href="#">MF1045</a>	Product realization - Engineering Design	6.0 hp	First cycle
<a href="#">MF111X</a>	Degree Project in Mechanical Engineering, First Cycle	15.0 hp	First cycle
<a href="#">MG1025</a>	Product Realization - Manufacturing	6.0 hp	First cycle

## Year 4

### Mandatory courses (51.0 Credits)

Code	Name	Credits	Edu. level
<a href="#">MF2031</a>	Advanced Prototyping	6.0 hp	Second cycle
<a href="#">MF2032</a>	Eco Design	6.0 hp	Second cycle
<a href="#">MF2034</a>	Integrated Product Development	6.0 hp	Second cycle
<a href="#">MF2036</a>	Integrated Product Development, Advanced Course	24.0 hp	Second cycle
<a href="#">MF2045</a>	Engineering Research Methodology <i>The course is offered over three semesters and about 80% attendance required</i>	9.0 hp	Second cycle

### Conditionally elective courses

Code	Name	Credits	Edu. level
<a href="#">MF2006</a>	Innovative Design II	6.0 hp	Second cycle
<a href="#">MF2023</a>	Industrial Design	6.0 hp	Second cycle
<a href="#">MG2020</a>	Modularisation of Products	6.0 hp	Second cycle

### Supplementary information

Two of the conditionally elective courses must be chosen in years 4 or 5.

## Year 5

### Mandatory courses (24.0 Credits)

Code	Name	Credits	Edu. level
<a href="#">MF2036</a>	Integrated Product Development, Advanced Course	24.0 hp	Second cycle

## Conditionally elective courses

Code	Name	Credits	Edu. level
<a href="#">MF2006</a>	Innovative Design II	6.0 hp	Second cycle
<a href="#">MF2023</a>	Industrial Design	6.0 hp	Second cycle
<a href="#">MF2038</a>	Service Design	6.0 hp	Second cycle
<a href="#">MF2046</a>	Product Innovation	6.0 hp	Second cycle
<a href="#">MG2020</a>	Modularisation of Products	6.0 hp	Second cycle

## Track, Combustion Engineering (IPUA)

### Year 3

### Mandatory courses (30.0 Credits)

Code	Name	Credits	Edu. level
<a href="#">ME1001</a>	Industrial Management, Basic Course	6.0 hp	First cycle
<a href="#">MF1045</a>	Product realization - Engineering Design	6.0 hp	First cycle
<a href="#">MG1025</a>	Product Realization - Manufacturing	6.0 hp	First cycle
<a href="#">MJ1401</a>	Heat Transfer	6.0 hp	First cycle
<a href="#">SG1220</a>	Fluid Mechanics for Engineers	6.0 hp	First cycle

## Conditionally elective courses

Code	Name	Credits	Edu. level
<a href="#">MF106X</a>	Degree Project in Mechanical Engineering, First Cycle	15.0 hp	First cycle
<a href="#">MF111X</a>	Degree Project in Mechanical Engineering, First Cycle	15.0 hp	First cycle
<a href="#">MG101X</a>	Degree Project in Mechanical Engineering, First Cycle	15.0 hp	First cycle
<a href="#">MJ140X</a>	Degree Project in Mechanical Engineering, First Cycle	15.0 hp	First cycle
<a href="#">SA108X</a>	Degree Project in Mechanical Engineering, First Cycle	15.0 hp	First cycle



## Year 4

### Mandatory courses (32.0 Credits)

Code	Name	Credits	Edu. level
<a href="#">MF2045</a>	Engineering Research Methodology <i>The course is offered over three semesters and about 80% attendance required</i>	9.0 hp	Second cycle
<a href="#">MF2047</a>	Internal Combustion Engines 1	6.0 hp	Second cycle
<a href="#">MF2048</a>	Internal Combustion Engines 2	9.0 hp	Second cycle
<a href="#">SD2222</a>	Vehicle Components	8.0 hp	Second cycle

### Conditionally elective courses

Code	Name	Credits	Edu. level
<a href="#">EJ2410</a>	Hybrid Vehicle Drives	7.5 hp	Second cycle
<a href="#">EL1120</a>	Automatic Control, General Course	6.0 hp	First cycle
<a href="#">KE2170</a>	Fuel Cell	6.0 hp	Second cycle
<a href="#">MF1025</a>	Model Based Product Development II	6.0 hp	First cycle
<a href="#">MF2007</a>	Dynamics and Motion Control	9.0 hp	Second cycle
<a href="#">MF2010</a>	Component Design	6.0 hp	Second cycle
<a href="#">MF2018</a>	Tribology	6.0 hp	Second cycle
<a href="#">MF2019</a>	CAD 3D-modelling and Visualization	6.0 hp	Second cycle
<a href="#">MF2042</a>	Embedded Systems for Mechatronics, I	6.0 hp	Second cycle
<a href="#">MF2044</a>	Embedded Systems for Mechatronics, II	6.0 hp	Second cycle
<a href="#">SG2212</a>	Computational Fluid Dynamics	7.5 hp	Second cycle
<a href="#">SG2215</a>	Compressible Flow	7.5 hp	Second cycle
<a href="#">SG2218</a>	Turbulence	7.5 hp	Second cycle

### Supplementary information

One of the following tracks must be chosen:

- Machine Design
- Energy and environment

- Mechatronics 1
- Mechatronics 2
- Fluid Mechanics

## Year 5

### Mandatory courses (9.0 Credits)

Code	Name	Credits	Edu. level
<a href="#">MF2049</a>	Internal Combustion Engines, Project Course	9.0 hp	Second cycle

### Conditionally elective courses

Code	Name	Credits	Edu. level
<a href="#">EJ2410</a>	Hybrid Vehicle Drives <i>Profile 3: Mechatronics</i>	7.5 hp	Second cycle
<a href="#">MF1025</a>	Model Based Product Development II <i>Profile 3: Mechatronics</i>	6.0 hp	First cycle
<a href="#">MJ2411</a>	Renewable Energy Technology <i>Profile 2: Energy and Environment</i>	6.0 hp	Second cycle
<a href="#">MJ2413</a>	Energy and Environment <i>Profile 2: Energy and Environment</i>	6.0 hp	Second cycle

# Track, Machine Design (IPUB)

## Year 3

### Mandatory courses (51.0 Credits)

Code	Name	Credits	Edu. level
<a href="#">ME1001</a>	Industrial Management, Basic Course	6.0 hp	First cycle
<a href="#">MF101X</a>	Degree Project in Mechanical Engineering, First Cycle	15.0 hp	First cycle
<a href="#">MF1045</a>	Product realization - Engineering Design	6.0 hp	First cycle
<a href="#">MF2018</a>	Tribology	6.0 hp	Second cycle
<a href="#">MG1025</a>	Product Realization - Manufacturing	6.0 hp	First cycle
<a href="#">SE1025</a>	FEM for Engineering Applications	6.0 hp	First cycle
<a href="#">SE1128</a>	Solid Mechanics for Machine Design	6.0 hp	First cycle

## Year 4

### Mandatory courses (60.0 Credits)

Code	Name	Credits	Edu. level
<a href="#">MF2004</a>	Advanced Machine Design	18.0 hp	Second cycle
<a href="#">MF2006</a>	Innovative Design II	6.0 hp	Second cycle
<a href="#">MF2010</a>	Component Design	6.0 hp	Second cycle
<a href="#">MF2011</a>	Systems Engineering	9.0 hp	Second cycle
<a href="#">MF2024</a>	Robust and Probabilistic Design	6.0 hp	Second cycle
<a href="#">MF2030</a>	Mechatronics basic Course	6.0 hp	Second cycle
<a href="#">MF2045</a>	Engineering Research Methodology <i>Course is given during three terms</i>	9.0 hp	Second cycle

## Year 5

### Mandatory courses (6.0 Credits)

Code	Name	Credits	Edu. level
<a href="#">MF2032</a>	Eco Design	6.0 hp	Second cycle

## Track, Mechatronics (IPUC)

## Year 3

### Mandatory courses (42.0 Credits)

Code	Name	Credits	Edu. level
<a href="#">DD1321</a>	Applied Programming and Computer Science	9.0 hp	First cycle
<a href="#">EL1120</a>	Automatic Control, General Course	6.0 hp	First cycle
<a href="#">MF1045</a>	Product realization - Engineering Design	6.0 hp	First cycle
<a href="#">MF106X</a>	Degree Project in Mechanical Engineering, First Cycle	15.0 hp	First cycle
<a href="#">MG1025</a>	Product Realization - Manufacturing	6.0 hp	First cycle

### Conditionally elective courses

Code	Name	Credits	Edu. level
<a href="#">ME1001</a>	Industrial Management, Basic Course	6.0 hp	First cycle
<a href="#">ME1004</a>	Industrial Management, Basic Course	6.0 hp	First cycle

## Year 4

### Mandatory courses (66.0 Credits)

Code	Name	Credits	Edu. level
<a href="#">MF2003</a>	Mechatronics, Advanced Course	18.0 hp	Second cycle
<a href="#">MF2007</a>	Dynamics and Motion Control	9.0 hp	Second cycle
<a href="#">MF2030</a>	Mechatronics basic Course	6.0 hp	Second cycle
<a href="#">MF2034</a>	Integrated Product Development	6.0 hp	Second cycle
<a href="#">MF2042</a>	Embedded Systems for Mechatronics, I	6.0 hp	Second cycle
<a href="#">MF2043</a>	Robust Mechatronics	6.0 hp	Second cycle
<a href="#">MF2044</a>	Embedded Systems for Mechatronics, II	6.0 hp	Second cycle
<a href="#">MF2045</a>	Engineering Research Methodology	9.0 hp	Second cycle

## Master, Naval Architecture (MRS)

### Year 3

### Mandatory courses (33.0 Credits)

Code	Name	Credits	Edu. level
<a href="#">ME1001</a>	Industrial Management, Basic Course	6.0 hp	First cycle
<a href="#">MF1045</a>	Product realization - Engineering Design	6.0 hp	First cycle
<a href="#">MG1025</a>	Product Realization - Manufacturing	6.0 hp	First cycle
<a href="#">SA108X</a>	Degree Project in Mechanical Engineering, First Cycle	15.0 hp	First cycle

### Conditionally elective courses

Code	Name	Credits	Edu. level
<a href="#">SG1217</a>	Fluid Mechanics, Basic Course	6.0 hp	First cycle
<a href="#">SG1220</a>	Fluid Mechanics for Engineers	6.0 hp	First cycle

## Year 4

### Supplementary information

The course list:

<http://www.kth.se/student/kurser/program/tmrsm/ht10/>

## Year 5

### Supplementary information

Complete course list:

[http://www.kth.se/student/kurser/program/tmrsm/ht10/?l=en\\_UK](http://www.kth.se/student/kurser/program/tmrsm/ht10/?l=en_UK)

# Master, Production Engineering and Management (PRM)

## Year 3

### Mandatory courses (45.0 Credits)

Code	Name	Credits	Edu. level
<a href="#">ME1001</a>	Industrial Management, Basic Course	6.0 hp	First cycle
<a href="#">MF1045</a>	Product realization - Engineering Design	6.0 hp	First cycle
<a href="#">MG1001</a>	Manufacturing	6.0 hp	First cycle
<a href="#">MG1002</a>	Automation Technology	6.0 hp	First cycle
<a href="#">MG101X</a>	Degree Project in Mechanical Engineering, First Cycle	15.0 hp	First cycle
<a href="#">MG1025</a>	Product Realization - Manufacturing	6.0 hp	First cycle

## Year 4

### Mandatory courses (24.0 Credits)

Code	Name	Credits	Edu. level
<a href="#">MG2027</a>	Production Engineering - Project Course	6.0 hp	Second cycle
<a href="#">MG2028</a>	CAD and Other IT Tools in Industrial Processes	6.0 hp	Second cycle
<a href="#">MG2029</a>	Production Engineering - Planning and Control	6.0 hp	Second cycle
<a href="#">MG2030</a>	Production Engineering - Simulation of Factory, Flow and Processes	6.0 hp	Second cycle

### Conditionally elective courses

Code	Name	Credits	Edu. level
<a href="#">MG2020</a>	Modularisation of Products <i>Track Production Development</i>	6.0 hp	Second cycle
<a href="#">MG2022</a>	Advanced CAD Modelling and Rapid Prototyping, Project Course <i>Track Industrial IT systems</i>	6.0 hp	Second cycle
<a href="#">MG2032</a>	Automation Technology, Advanced Course 1 <i>Track Production Development</i>	6.0 hp	Second cycle
<a href="#">MG2033</a>	Quality Control <i>Track Production Development</i>	6.0 hp	Second cycle
<a href="#">MG2035</a>	Product Data Management/Product Lifecycle Management <i>Track Industrial IT systems</i>	6.0 hp	Second cycle
<a href="#">MG2036</a>	Computer Aided Manufacturing - CAM <i>Track Industrial IT systems</i>	6.0 hp	Second cycle
<a href="#">MG2209</a>	Advanced Manufacturing Processes <i>Track Production Development</i>	11.5 hp	Second cycle

### Supplementary information

One of the following tracks must be chosen:

- Production development
- Industrial IT systems

## Year 5

### Mandatory courses (7.5 Credits)

Code	Name	Credits	Edu. level
<a href="#">AK2036</a>	Theory and Methodology of Science with Applications (Natural and Technological Science)	7.5 hp	Second cycle

### Conditionally elective courses

Code	Name	Credits	Edu. level
<a href="#">MG2026</a>	Integration of Industrial IT Systems <i>Track Industrial IT-systems</i>	6.0 hp	Second cycle
<a href="#">MG2038</a>	Digital Factories <i>Track Industrial IT-systems</i>	6.0 hp	Second cycle
<a href="#">MG2209</a>	Advanced Manufacturing Processes <i>Track Production Engineering and Management</i>	11.5 hp	Second cycle
<a href="#">MG2210</a>	Advanced Metrology <i>Track Production Engineering and Management: MG2210 or MG2212</i>	11.5 hp	Second cycle
<a href="#">MG2211</a>	Supply Chain Management <i>Track Production Engineering and Management</i>	11.0 hp	Second cycle
<a href="#">MG2212</a>	Strategic Maintenance Systems <i>Track Production Engineering and Management: MG2210 or MG2212</i>	11.0 hp	Second cycle



# Master, Sustainable Energy Engineering (SUE)

## Year 3

### Mandatory courses (45.0 Credits)

Code	Name	Credits	Edu. level
<a href="#">ME1001</a>	Industrial Management, Basic Course	6.0 hp	First cycle
<a href="#">MF1045</a>	Product realization - Engineering Design	6.0 hp	First cycle
<a href="#">MG1025</a>	Product Realization - Manufacturing	6.0 hp	First cycle
<a href="#">MJ1401</a>	Heat Transfer	6.0 hp	First cycle
<a href="#">MJ140X</a>	Degree Project in Mechanical Engineering, First Cycle <i>One degree project must be chosen</i>	15.0 hp	First cycle
<a href="#">SG1220</a>	Fluid Mechanics for Engineers	6.0 hp	First cycle

## Year 4

### Mandatory courses (42.0 Credits)

Code	Name	Credits	Edu. level
<a href="#">MJ2405</a>	Sustainable Power Generation	9.0 hp	Second cycle
<a href="#">MJ2407</a>	Sustainable Energy Utilisation	9.0 hp	Second cycle
<a href="#">MJ2410</a>	Energy Management	6.0 hp	Second cycle
<a href="#">MJ2411</a>	Renewable Energy Technology	6.0 hp	Second cycle
<a href="#">MJ2413</a>	Energy and Environment	6.0 hp	Second cycle
<a href="#">MJ2424</a>	Computational Methods in Energy Technology <i>Must be chosen in year 3 or 4</i>	6.0 hp	Second cycle

## Conditionally elective courses

Code	Name	Credits	Edu. level
<a href="#">MJ2412</a>	Renewable Energy Technology, Advanced Course <i>Profile Power Generation</i>	6.0 hp	Second cycle
<a href="#">MJ2422</a>	Thermal Comfort and Indoor Climate <i>Profile Energy Consumption</i>	6.0 hp	Second cycle
<a href="#">MJ2423</a>	Applied Refrigeration and Heat Pump Technology <i>Profile Energy Consumption</i>	6.0 hp	Second cycle
<a href="#">MJ2426</a>	Applied Heat and Power Technology <i>Profile Power Generation</i>	6.0 hp	Second cycle

## Supplementary information

One of the profiles must be followed:

- Energy Consumption
- Power Generation
- Solar energy (Given by Högskolan Dalarna)

## Year 5

### Mandatory courses (16.5 Credits)

Code	Name	Credits	Edu. level
<a href="#">AK2030</a>	Theory and Methodology of Science (Natural and Technological Science)	4.5 hp	Second cycle
<a href="#">MJ2409</a>	Applied Energy Technology, Project Course	9.0 hp	Second cycle
<a href="#">MJ2440</a>	Measurement Techniques	3.0 hp	Second cycle

# Master, Sustainable Technology (SUT)

## Year 3

### Mandatory courses (30.0 Credits)

Code	Name	Credits	Edu. level
<a href="#">ME1001</a>	Industrial Management, Basic Course	6.0 hp	First cycle
<a href="#">MF1045</a>	Product realization - Engineering Design	6.0 hp	First cycle
<a href="#">MG1025</a>	Product Realization - Manufacturing	6.0 hp	First cycle
<a href="#">MJ2611</a>	Introduction Industrial Ecology	6.0 hp	Second cycle
<a href="#">MJ2613</a>	Sustainable Development	6.0 hp	Second cycle

## Year 4

### Mandatory courses (45.0 Credits)

Code	Name	Credits	Edu. level
<a href="#">MJ2627</a>	Environmental Technology, Larger Course	9.0 hp	Second cycle
<a href="#">MJ2651</a>	Ecology, Advanced Course	6.0 hp	Second cycle
<a href="#">MJ2652</a>	Environmental Effects from Technical Systems and Processes	6.0 hp	Second cycle
<a href="#">MJ2663</a>	Environmental Management	6.0 hp	Second cycle
<a href="#">MJ2680</a>	Environmental Systems Analysis	6.0 hp	Second cycle
<a href="#">MJ2691</a>	Technology and Sustainable Development	6.0 hp	Second cycle
<a href="#">MJ2694</a>	Ecological Economics	6.0 hp	Second cycle

### Conditionally elective courses

Code	Name	Credits	Edu. level
<a href="#">MJ2630</a>	Waste Management, Advanced Course	6.0 hp	Second cycle
<a href="#">MJ2653</a>	Environmental Consequences, Advanced Course II	6.0 hp	Second cycle
<a href="#">MJ2670</a>	Risk Management	6.0 hp	Second cycle

## Year 5

### Mandatory courses (7.5 Credits)

Code	Name	Credits	Edu. level
<a href="#">MJ2673</a>	Research Methodology and Theory of Science	7.5 hp	Second cycle

### Conditionally elective courses

Code	Name	Credits	Edu. level
<a href="#">MJ2635</a>	Environmental Modelling: Introduction and Application Examples	6.0 hp	Second cycle
<a href="#">MJ2641</a>	Cleaner Production II	6.0 hp	Second cycle
<a href="#">MJ2664</a>	Environmental Management II, Advanced Course	6.0 hp	Second cycle
<a href="#">MJ2681</a>	Applied Environmental Systems Analysis II	6.0 hp	Second cycle

## Track, Fluid Mechanics (TEMA)

## Year 3

### Mandatory courses (39.0 Credits)

Code	Name	Credits	Edu. level
<a href="#">ME1001</a>	Industrial Management, Basic Course	6.0 hp	First cycle
<a href="#">MF1045</a>	Product realization - Engineering Design	6.0 hp	First cycle
<a href="#">MG1025</a>	Product Realization - Manufacturing	6.0 hp	First cycle
<a href="#">SA108X</a>	Degree Project in Mechanical Engineering, First Cycle	15.0 hp	First cycle
<a href="#">SG1220</a>	Fluid Mechanics for Engineers	6.0 hp	First cycle

## Year 4

### Supplementary information

For Course list:

<http://www.kth.se/student/kurser/program/ttemm/ht10/>

## Year 5

### Supplementary information

Complete course list:

[http://www.kth.se/student/kurser/program/ttemm/ht10/?l=en\\_UK](http://www.kth.se/student/kurser/program/ttemm/ht10/?l=en_UK)

## Track, Solid Mechanics (TEMB)

### Year 3

#### Mandatory courses (39.0 Credits)

Code	Name	Credits	Edu. level
<a href="#">ME1001</a>	Industrial Management, Basic Course	6.0 hp	First cycle
<a href="#">MF1045</a>	Product realization - Engineering Design	6.0 hp	First cycle
<a href="#">MG1025</a>	Product Realization - Manufacturing	6.0 hp	First cycle
<a href="#">SA108X</a>	Degree Project in Mechanical Engineering, First Cycle	15.0 hp	First cycle
<a href="#">SE1025</a>	FEM for Engineering Applications	6.0 hp	First cycle

### Year 4

### Supplementary information

For Course list:

<http://www.kth.se/student/kurser/program/ttemm/ht10/>

## Year 5

### Supplementary information

Complete course list:

[http://www.kth.se/student/kurser/program/ttemm/ht10/?l=en\\_UK](http://www.kth.se/student/kurser/program/ttemm/ht10/?l=en_UK)

## Track, Sound and Vibrations (TEMC)

## Year 3

### Mandatory courses (45.0 Credits)

Code	Name	Credits	Edu. level
<a href="#">ME1001</a>	Industrial Management, Basic Course	6.0 hp	First cycle
<a href="#">MF1045</a>	Product realization - Engineering Design	6.0 hp	First cycle
<a href="#">MG1025</a>	Product Realization - Manufacturing	6.0 hp	First cycle
<a href="#">SA108X</a>	Degree Project in Mechanical Engineering, First Cycle	15.0 hp	First cycle
<a href="#">SD1115</a>	Fundamentals of Noise and Vibration Control	6.0 hp	First cycle
<a href="#">SD2125</a>	Signals and Mechanical Systems	6.0 hp	Second cycle

## Year 4

### Supplementary information

For Course list:

<http://www.kth.se/student/kurser/program/ttemm/ht10/>

# Year 5

## Supplementary information

Complete course list:

[http://www.kth.se/student/kurser/program/ttemm/ht10/?l=en\\_UK](http://www.kth.se/student/kurser/program/ttemm/ht10/?l=en_UK)



# Appendix 2: Specialisations

Degree Programme in Mechanical Engineering  
(CMAST)

Master, Aerospace Engineering (AEE)

No information entered.

Master, Vehicle Engineering (FOR)

No information entered.

Master, Industrial Management (INE)

No information entered.

Track, Concurrent Engineering (IPDB)

No information entered.

Track, Combustion Engineering (IPUA)

No information entered.



## Track, Machine Design (IPUB)

No information entered.

## Track, Mechatronics (IPUC)

No information entered.

## Master, Naval Architecture (MRS)

No information entered.

## Master, Production Engineering and Management (PRM)

No information entered.

## Master, Sustainable Energy Engineering (SUE)

No information entered.

## Master, Sustainable Technology (SUT)

No information entered.

## Track, Fluid Mechanics (TEMA)

No information entered.

## Track, Solid Mechanics (TEMB)

No information entered.

# Track, Sound and Vibrations (TEMC)

No information entered.