



Programme syllabus

Degree Programme in Electrical Engineering
Civilingenjörsutbildning i elektroteknik
270.0 credits

Valid for students admitted to the education from autumn 04 (HT - Autumn term; VT - Spring term).

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

Programme objectives

Knowledge and understanding

Skills and abilities

Ability to make judgements and adopt a standpoint

Extent and content of the programme

Eligibility and selection

Implementation of the education

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.

[Appendix 1 - Course list](#)

[Appendix 2 - Programme syllabus descriptions](#)



ist

al Engineering (E), Programme syllabus for studies starting in autumn

[Engineering](#)

Credits Edu. level

7.5 hp

12.0 hp

12.0 hp

7.5 hp

9.0 hp

9.0 hp

9.0 hp

6.0 hp

Credits Edu. level

1.5 hp

[Physics and Wave Physics](#)

[Course II](#)

Credits Edu. level

6.0 hp

6.0 hp

6.0 hp

6.0 hp

7.5 hp

[ics](#) 7.5 hp
7.5 hp
6.0 hp

[Course](#) **Credits Edu. level**
[ics](#) 6.0 hp First cycle
7.5 hp First cycle
6.0 hp First cycle
6.0 hp First cycle
7.5 hp First cycle

[ems](#) **Credits Edu. level**
[omputer Networks](#) 6.0 hp Second cycle
7.5 hp Second cycle
7.5 hp Second cycle
6.0 hp First cycle
7.5 hp First cycle
7.5 hp First cycle
15.0 hp First cycle
[gy](#) 7.5 hp Second cycle
[ourse](#) 7.5 hp First cycle
[ircuits - LSI](#) 7.5 hp First cycle
[d Course](#) 7.5 hp Second cycle
[ring](#) 7.5 hp First cycle
6.0 hp First cycle
[vsics, Course I](#) 6.0 hp First cycle

any time during the third, fourth and fifth year of the programme.

out courses

Engineering (BIOE)

| | Credits | Edu. level |
|--|----------------|-------------------|
| Systems | 7.5 hp | Second cycle |
| and Other Learning Systems | 6.0 hp | Second cycle |
| Advanced Course | 6.0 hp | Second cycle |
| Biological Systems | 9.0 hp | Second cycle |
| II Biology | 6.0 hp | Second cycle |
| | 6.0 hp | Second cycle |
| | 7.5 hp | Second cycle |
| Elect Course | 6.0 hp | Second cycle |
| | 7.5 hp | Second cycle |
| | 7.5 hp | Second cycle |
| | 6.0 hp | Second cycle |
| | 7.5 hp | Second cycle |
| | 9.0 hp | Second cycle |
| Elects on Medical Devices | 3.0 hp | First cycle |
| | 7.5 hp | First cycle |
| | 7.5 hp | First cycle |
| Signal Processing | 6.0 hp | Second cycle |
| Elect | 6.0 hp | Second cycle |
| Elect and Anesthesia | 6.0 hp | Second cycle |
| | 6.0 hp | Second cycle |
| Elect Devices | 7.5 hp | Second cycle |
| Elect of Nano- and Microdevices | 7.5 hp | Second cycle |
| Elect of Medical Imaging Systems | 7.5 hp | Second cycle |

any time during the third, fourth and fifth year of the programme.

anced courses within one direction has to be read.

1 Halvledarkomponenter
6 Medicinsk teknik grundkurs

DD2385 Programutvecklingsteknik
HL1008 Cell- och Molekylärbiologi

EQ1200

any time during the third, fourth and fifth year of the programme.

out courses

anced courses within one direction has to be read.

any time during the third, fourth and fifth year of the programme.

out courses

anced courses within one direction has to be read.

| | Credits | Edu. level |
|---|----------------|-------------------|
| Devices | 7.5 hp | Second cycle |
| of Nano- and Microdevices | 7.5 hp | Second cycle |
| aterials | 9.0 hp | Second cycle |
| or Devices | 7.5 hp | Second cycle |
| s | 7.5 hp | Second cycle |
| ith High-level Languages | 7.5 hp | Second cycle |
| Circuits - VLSI | 7.5 hp | Second cycle |
| | 7.5 hp | Second cycle |
| | 7.5 hp | Second cycle |
| s | 7.5 hp | Second cycle |
| | 7.5 hp | Second cycle |
| | 7.5 hp | Second cycle |
| xed Signal ICs | 7.5 hp | Second cycle |
| s | 7.5 hp | Second cycle |
| | 7.5 hp | Second cycle |
| | 7.5 hp | Second cycle |
| | 7.5 hp | Second cycle |
| ire | 7.5 hp | First cycle |

[er Systems Engineering](#)

7.5 hp Second cycle

7.5 hp Second cycle

any time during the third, fourth and fifth year of the programme.

anced courses within one direction has to be read.

IH1611 Halvledarkomponenter

IL1203 Konstruktion av digitala integrerade kretsar EQ

) Dator teknik

IL1218 Analog elektronik för sättningskur

any time during the third, fourth and fifth year of the programme.

out courses

anced courses within one direction has to be read.

any time during the third, fourth and fifth year of the programme.

out courses

anced courses within one direction has to be read.

E)

[Dispersive Media](#)

Credits Edu. level

6.0 hp Second cycle

6.0 hp Second cycle

6.0 hp Second cycle

[ry Course](#)

3.0 hp Second cycle

[ourse](#)

7.5 hp Second cycle

7.5 hp Second cycle

[ation Systems](#)

7.5 hp Second cycle

| | | |
|---|--------|--------------|
| is, Systems Engineering | 7.5 hp | Second cycle |
| es | 7.5 hp | Second cycle |
| gation | 7.5 hp | Second cycle |
| es | 7.5 hp | Second cycle |
| ies | 7.5 hp | Second cycle |
| Advanced Course | 7.5 hp | Second cycle |
| s | 7.5 hp | Second cycle |
| | 7.5 hp | Second cycle |

any time during the third, fourth and fifth year of the programme.

anced courses within one direction has to be read.

| | | |
|-------------------------------------|-----------------------------------|--------|
| EG2020 Elsystem gk | EI2333 Elektroteknisk modellering | EL1820 |
| II1141 Fysikens matematiska metoder | SF1628 Komplex analys | |

any time during the third, fourth and fifth year of the programme.

out courses

anced courses within one direction has to be read.

any time during the third, fourth and fifth year of the programme.

out courses

anced courses within one direction has to be read.

SY)

[fic Systems](#)

[1 Networked Systems](#)

[ations](#)

[essing and Digital Communication](#)

[and Systems](#)

[Course](#)

[< Architectures](#)

Credits Edu. level

| | |
|---------|--------------|
| 6.0 hp | Second cycle |
| 6.0 hp | Second cycle |
| 6.0 hp | Second cycle |
| 7.5 hp | Second cycle |
| 7.5 hp | Second cycle |
| 7.5 hp | Second cycle |
| 7.5 hp | Second cycle |
| 9.0 hp | Second cycle |
| 6.0 hp | Second cycle |
| 6.0 hp | Second cycle |
| 12.0 hp | Second cycle |
| 3.0 hp | Second cycle |
| 6.0 hp | Second cycle |
| 12.0 hp | Second cycle |
| 7.5 hp | Second cycle |
| 7.5 hp | Second cycle |
| 7.5 hp | Second cycle |

any time during the third, fourth and fifth year of the programme.

anced courses within one direction has to be read.

Q1200 Signalteori
Datorkommunikation och datorn

DD2385 Programutvecklingsteknik

IS1200

any time during the third, fourth and fifth year of the programme.

out courses

anced courses within one direction has to be read.

any time during the third, fourth and fifth year of the programme.

out courses

anced courses within one direction has to be read.

| | Credits | Edu. level |
|---|----------------|-------------------|
| r Vision | 6.0 hp | Second cycle |
| ystems | 7.5 hp | Second cycle |
| id Other Learning Systems | 6.0 hp | Second cycle |
| ourse | 7.5 hp | Second cycle |
| | 7.5 hp | Second cycle |
| ation Systems | 7.5 hp | Second cycle |
| is, Systems Engineering | 7.5 hp | Second cycle |
| is, Case Studies | 7.5 hp | Second cycle |
| es | 7.5 hp | Second cycle |
| | 7.5 hp | Second cycle |
| ourse | 12.0 hp | Second cycle |
| ol Systems | 7.5 hp | Second cycle |
| Advanced Course | 7.5 hp | Second cycle |
| | 7.5 hp | Second cycle |
| d Networked Systems | 7.5 hp | Second cycle |
| | 7.5 hp | Second cycle |
| | 9.0 hp | Second cycle |
| | 6.0 hp | Second cycle |
| | 6.0 hp | First cycle |
| y | 7.5 hp | Second cycle |
| | 7.5 hp | Second cycle |

any time during the third, fourth and fifth year of the programme.

anced courses within one direction has to be read.

G2020 Elsystem gk

0 Modellering av dynamiska system

EQ1200 Signalteori

IS2000 Datorteknik

DD2385

any time during the third, fourth and fifth year of the programme.

out courses

anced courses within one direction has to be read.

any time during the third, fourth and fifth year of the programme.

out courses

anced courses within one direction has to be read.



Appendix 2: Specialisations

Degree Programme in Electrical Engineering (E), Programme syllabus for studies starting in autumn 2004

Biomedical Electrical Engineering (BIOE)

Electronics (ELNI)

This specialisation suits people interested in semi-conductors, analogue and digital systems and computer components. After graduation possible jobs include semi-conductor or analogue and digital electronic system construction or perhaps work with the optical and electronic systems connected to these.

Electrical Engineering (ELTE)

This specialisation suits students who are interested in electrical magnetism, electrical systems and similar fields. Jobs are to be found at companies who manufacture advanced electronic machines or techniques for transfer of electrical energy.

Communication Systems (KSY)

This specialisation provides extensive knowledge on the rapidly-growing area of communications, i.e. transferring information from one location to another. As a Master of Science in Communications Systems there are many job opportunities working with technical solutions for the development, construction or operation of future communication systems.

Systems Engineering (SYS)

Studies in this specialisation cover electrical engineering systems with the emphasis on the big picture rather than the component parts – not as easy as it sounds as in-depth knowledge of all the parts is essential in order to be able to reject those that do not affect the whole. There are many possible routes to go after studying this specialisation – working with industrial systems in some form or with research.