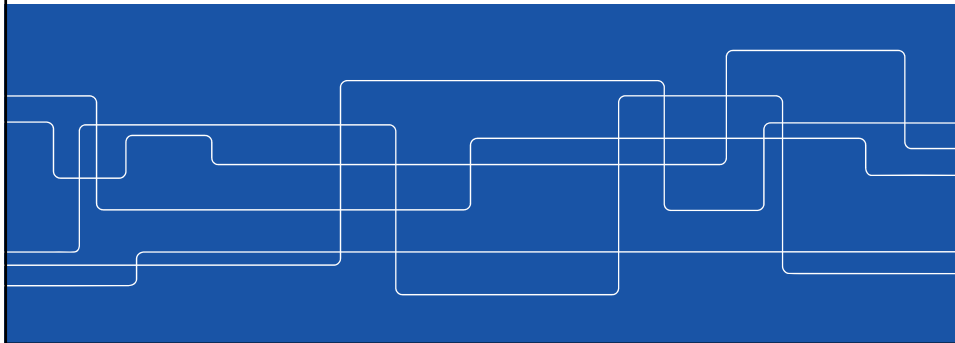




Welcome to the 2-year Master Program on Information and Network Engineering

Mats Bengtsson, Prof., Program director,
mats.bengtsson@ee.kth.se
Cristina La Verde, program coordinator
clv@kth.se



Welcome to KTH!

KTH, the Royal Institute of Technology
Excellence in Education, Research and Entrepreneurship





Welcome to Stockholm!



Welcome to Sweden!





KTH—Five Schools, Countless Opportunities

- School of Architecture and the Built Environment
- School of Chemistry, Biotechnology and Health
- **School of Electrical Engineering and Computer Science**
- School of Engineering Science
- School of Industrial Engineering and Management



School of EE Organization



- **Information Science and Engineering**
- **Network and Systems Engineering**
- Automatic Control
- Micro and Nanosystems



- Fusion Plasma Physics
- Space and Plasma Physics



- Electric power and Energy systems
- Electromagnetic Engineering





School of EECS - Research areas

- Automatic control
- Communication systems
- Computational science and technology
- Electric power and energy systems
- Electromagnetic engineering
- Electronics
- Fusion plasma physics
- **Information science and engineering**
- Media technology and interaction design
- Micro and nanosystems
- **Network and systems engineering**
- Robotics, perception, and learning
- Software and computer system
- Space and plasma physics
- Speech, music and hearing
- Theoretical computer science



Faculty at Information Science and Engineering Dept.

Professors

- Mikael Skoglund (head)
- Mats Bengtsson
- Peter Händel
- Joakim Jaldén
- Magnus Jansson
- Lars Kildehøj Rasmussen



Associate Professors

- Markus Flierl
- James Gross
- Tobias Oechtering
- Ragnar Thobaben
- Ming Xiao



Assistant Professors

- Saikat Chatterjee





Research at Information Science and Engineering (ISE) Department



Wireless Networks



Information and coding



Processing and learning



Multimedia communication



Privacy and security



Intelligent transportation



Positioning and navigation

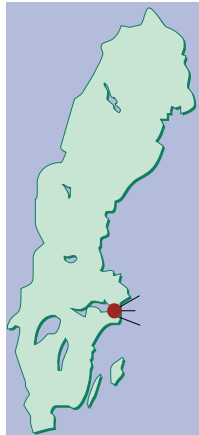


Research at Network and Systems Engineering Department

- Communication Networks
- Cyber Physical Systems Security
- Distributed Systems
- Game Theory
- Internet of Things
- Management of Technology
- Mobile Communications
- Mobile Edge Computing
- Network Analytics
- Networking
- Network Systems Management
- Opportunistic Networks
- Optimization Theory
- Privacy
- Product Development
- Project Management
- Quality Management
- Security
- Stochastic Modeling
- Wireless Communications



KTH Campuses in Stockholm



KTH Campus Valhallavägen



KTH Syd, Campus Telge



KTH IT University, Kista



KTH Campus – in Stockholm City (most courses)

Like a small town in the middle of a big city, the KTH Campus offers a student clinic, a newly built library, the Info-Center, a sports centre, a housing agency, the President's Administration and much more. There are also cafés and restaurants as well as the student union building Nymble.



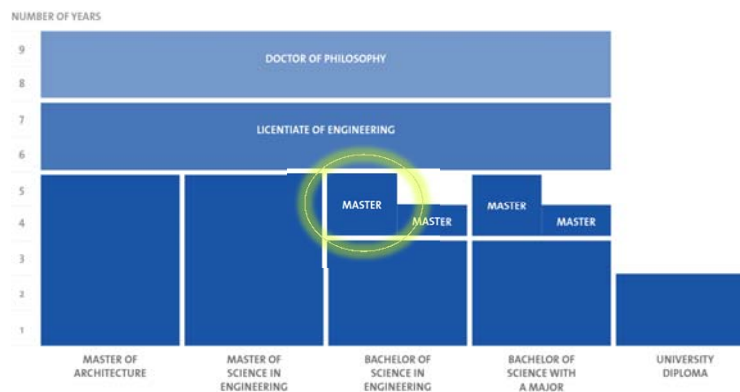


KTH Kista (some elective courses)

KTH Kista is Sweden's leading IT campus. Located in the middle of Kista, one of the world's leading high-tech centres for IT and communications, the campus hosts more than 5,000 students from KTH and Stockholm University.



Structure of Education at KTH





Degrees at KTH

- The Swedish Engineering degree (civilingenjör)
 - 5 years (300 cu's) of full-time studies
 - Degree translates into "M.Sc. in Engineering"
 - BSc+MSc! Explicit Bachelor's degree is optional
- *Master of Science with a major in ...*(teknologie magister i ...)
- ...

The Information&Network Engineering Master program degree:

- **Master of Science with a major in Electrical Engineering. Specialization in Information and Network Engineering.**



The Information&Network Engineering Master Program (TINNM)

- 2 years (3 semesters coursework, 1 sem. thesis)
- New! – First admissions Fall 2017
- Well established! – Based on two previous programmes,
 - Wireless Systems
 - Network Services and Systems
- Four study tracks:
 - Communications Engineering
 - Information Engineering
 - Multimedia Processing and Analysis
 - Networked Systems



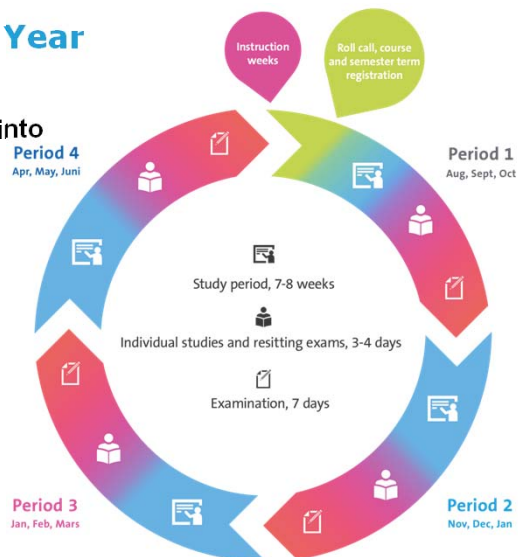
Curriculum, Degree Requirements

- 90 cr.u. courses + 30 cr.u. degree project
- 5 compulsory courses
- Fulfil requirements of **at least one** of the 4 study tracks
- Strongly recommended: 6-15 cr.u. non-technical courses
- Registration on the 3rd program semester (i.e., to begin the 2nd year) requires 45 credits taken (up to and including the August re-exam period).
- Detailed information on Internet:
www.kth.se/social/program/tinnm/
 easiest accessible through your KTH menu.



The Academic Year

- Academic year divided into 4 quarters/periods ("perioder")
- Credit units ("poäng"):
 1 week = 1.5 cr.
 1 quarter = 15 cr.
 1 semester = 30 cr.





Organization of Teaching

Voluntary: Lectures, Tutorials, Help Sessions, (Homework), ...

Mandatory: Exams, Labs, Projects, (Homework),...

Exams: Usually written. The ECTS grading system is used. Passing grades: **A** (highest grade), **B**, **C**, **D**, **E**.

Failing grades: **FX** (possibility to get passing grade if you do some extra assignment), **F**.

Students who fail an exam must take re-examination. Typically, exams for a course are given twice per year.

Honor code: Academic dishonesty taken very seriously at KTH



Course Selection

- First quarter course selection already done, EQ1220+EP2120+EQ2222
- Hand in **study plan** as soon as possible to Cristina, **deadline Tuesday August 28!**
- Study plan template with course lists+links to detailed course information, available at program web page.
- Tuition fee only covers 60 credits/academic year.
- Courses in one study track are obviously elective also in other profiles.
- Elective courses with course code ID***/IK***=Kista Campus, consider travel time between campuses.



More on the Course Selection

- Elective courses marked in red are very demanding, offered jointly for PhD students and you. Think twice before selecting!
- Some of these are only offered every second year: “even” = 2018/19, “odd” = 2019/20
- Swedish courses (optional!!!):
 - On-line “SWELL”
 - Class-room (limited space in this fall semester)
 - Consider [AK1213 Swedish Society, Culture and Industry in Historical Perspective](#) as an alternative



Thesis Project

- Perhaps the most rewarding part of the program
- Within the general topic of your study track
- 30 credits (20 weeks)
- Carried out in industry or at university (same requirements!).
- Within Sweden or anywhere in the world!
- Student's own responsibility to find a project!
- Grade: Pass/Fail




Thesis Project, Requirements

- Must have taken >60 credits **finished** courses from the program, to start
- Preferably done during the spring semester, 2nd year
- Must have taken relevant courses
- Must be approved by examiner and program director before start.
- Course requirements:
 - Written report, approved by your supervisor and the examiner
 - Oral presentation at KTH, approved by KTH examiner
 - Attend two other presentations at KTH
 - Act as opponent on another student's presentation



Practicalities


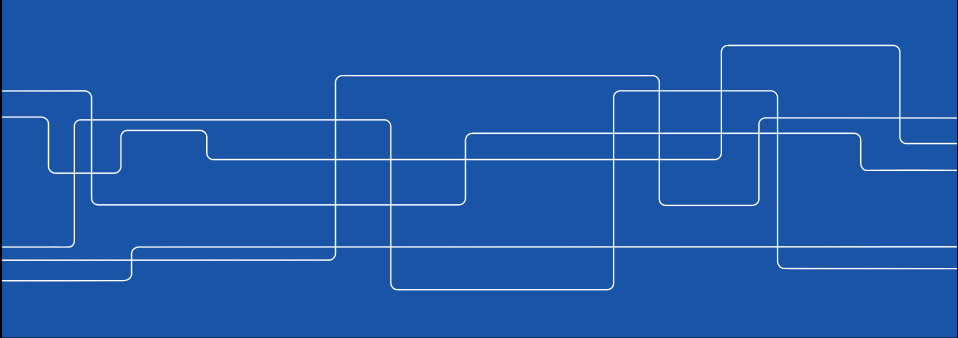
- Course material:
 - Buy yourself!
 - Main text book – at book store
 - Often extra compendiums, ... sold at the lab
- Time tables:
 - 8-10 means 8:15-9:00 + 9:15-10:00
- Separate access cards at Kista campus!
- Mailing list: tinnm18@eecs.kth.se Free to use for education related issues (Mats and Cristina are on the list).
- Programme web page, especially “Students admitted 2018...”
- Read your KTH email ([watch out with email forwarding](#))!



EQ2222 (EQ2223)
**Sustainable
Information&Network Engineer
course**

KTH ROYAL INSTITUTE
OF TECHNOLOGY

- Course objective and topics
- Organization and grading




Objectives

To cover some important topics of life as a student and as an engineer

- Study Information&Network Engineering – Why and How
- Studying and working in international environment
- Ethical aspects
- Sustainability – the engineers' role
- ...

Regularly discuss program related issues

Meet the other students of the program – across years





Course setup

- 4 seminars per year, 2 hours per seminar – 3ECTS (EQ2222)
 - 1.5 ECTS version for Erasmus, DD, etc. students (EQ2223)
- First and second year students mixed, groups of 8-10 students
 - Groups are defined by the teachers and are fixed
- Reading-reflection-discussion



Course setup

- Read some material to prepare
- Write one page reflection
- Read reflections from all the others
- Discuss at the meeting
- If you miss a meeting, submit a written reflection on reflections

- Detailed instructions with reading material and questions for reflection are posted on the course webpage



Grading

- Based on points collected for reflections and seminar participation
- Both reflections and participation are compulsory
- Reflection:
 - Submitted on time: 1 or 2 points
 - Submitted with little delay: 0 point
 - Submitted very late: -2 points
- Active participation at seminar: 1 point
- “Reflection on reflections” for missed seminar
 - Agreed in advance and submitted on time: 1 point
 - Not agreed in advance and/or not submitted on time: 0 point
 - Submitted late: -2 points



Grading

- Based on points collected for reflections and seminar participation
- Both reflections and participation are compulsory
- 1.5 credits reported after 1st year, full course credits after 2nd year.
- Max $8 \cdot 3 = 24$ points
- Grades:
 - A:24
 - B:21-23
 - C:18-20
 - D:15-17
 - E:12-14
 - Fx: If you miss the E with n points (e.g, if you have 4 points, then $n=8$) write a 12- n page long document to pass the course. Topic: On the contribution of wireless system engineers to the sustainable society



First meeting and preparation

- First seminar on week 38 (exact date and time depending on group)
- Reading material and questions available on week 36 the latest
- Deadline to submit reflections: one week before the seminar
- Remember all these, since there will not be any additional information meeting before first seminar!