Welcome to the MERIT Program

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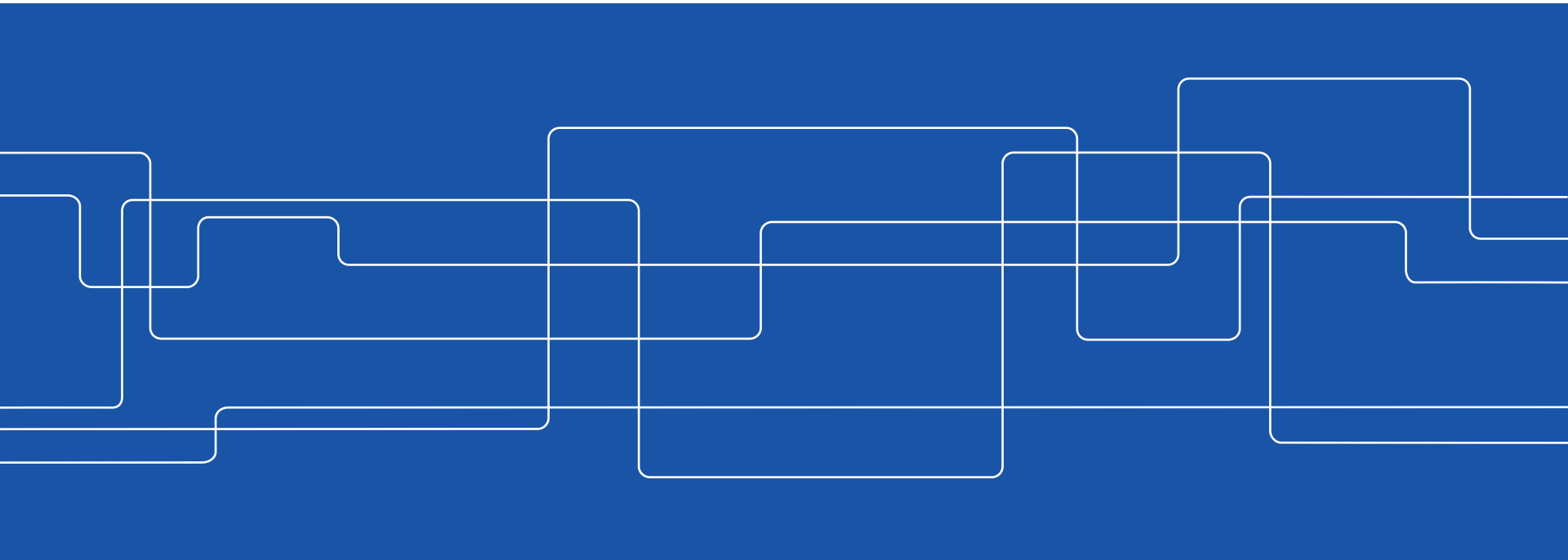


Welcome to KTH!

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

Welcome to Stockholm!

Welcome to Sweden!

KTH—Ten Schools, Countless Opportunities

- School of Architecture and the Built Environment
- School of Biotechnology
- School of Chemical Science and Engineering
- School of Computer Science and communications
- **School of Electrical Engineering**
- School of Engineering Science
- School of Industrial Engineering and Management
- **School of Information and Communication Technology**
- School of Technology and Health
- Education and Communication in Engineering Science

School of EE Organization

- Automatic Control
- Communication Networks
- Communication Theory
- Micro and Nanosystems
- Signal Processing

- Fusion Plasma Physics
- Space and Plasma Physics

- Electric power systems
- Electrical Energy Conversion
- Electromagnetic Engineering
- Industrial information and control syst.

EE Facts and Figures in Brief

- 441 employees, 32 professors, 28 associate professors and 10 assistant professors
- 11 departments and 2 Strategic Research Centres
- 946 students: 364 Master, 340 BSc and 242 Doctoral
- 7 International Master programs in English:
  - Wireless Systems
  - Electrical Power Engineering
  - Systems, Control and Robotics
  - Network Services and Systems
  - Electrophysics
  - Smart Electrical Networks and Systems
  - **Research on Information and Comm. Technologies**
- 1 BSc program in Electrical Engineering
- 1 Electrical Engineering Program
- 1 Doctoral program in Electrical Engineering

Signal Processing and Communication Theory Departments

Research at Signal Processing Dept.

- Signal Processing for Communications
  - Communication using multiple antennas/nodes
  - Measuring and combatting effects of “dirty radio”
- Positioning and navigation
  - Low-cost sensors, sensor fusion
  - Inertial navigation, cameras, UWB pulse radio, …
- Fundamentals in estimation and detection theory
  - Sparse signal processing, Compressed sensing
- Medical signal processing
  - Video tracking of cells
  - Ambient Assisted Living

Research at Communication Theory Dept.

- Fundamentals in Information Theory
- Coding theory
- Joint source and channel coding
- Control with communication constraints
- Sensor networks
- Distributed source coding
- Relaying, cooperative communication
- Network coding
- Physical layer privacy
- Multimedia communications

ACCESS Research Centre

Autonomic Complex Communication nEtworks, Signals and Systems

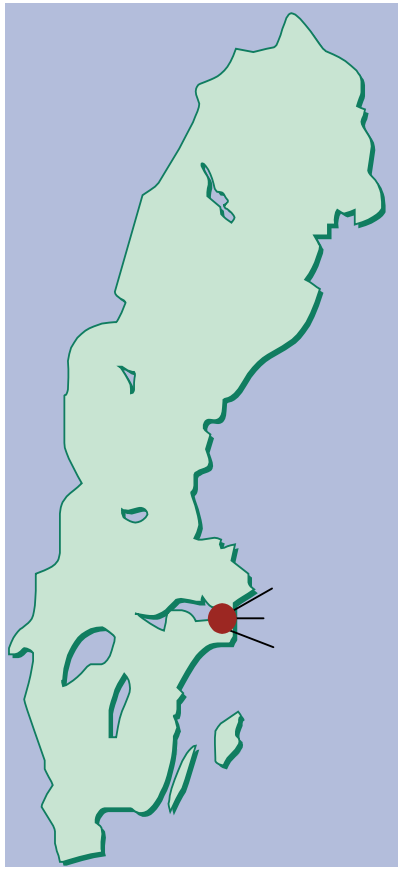
Brings together researchers from three schools at KTH

“Distinguished Lecture Series”

- Monthly open seminars, by top class international researchers
- Broadcast live
- Recorded seminars on the web

www.access.ee.kth.se

KTH Campuses in Stockholm



KTH Campus Valhallavägen

KTH Syd, Campus Telge

KTH IT University, Kista

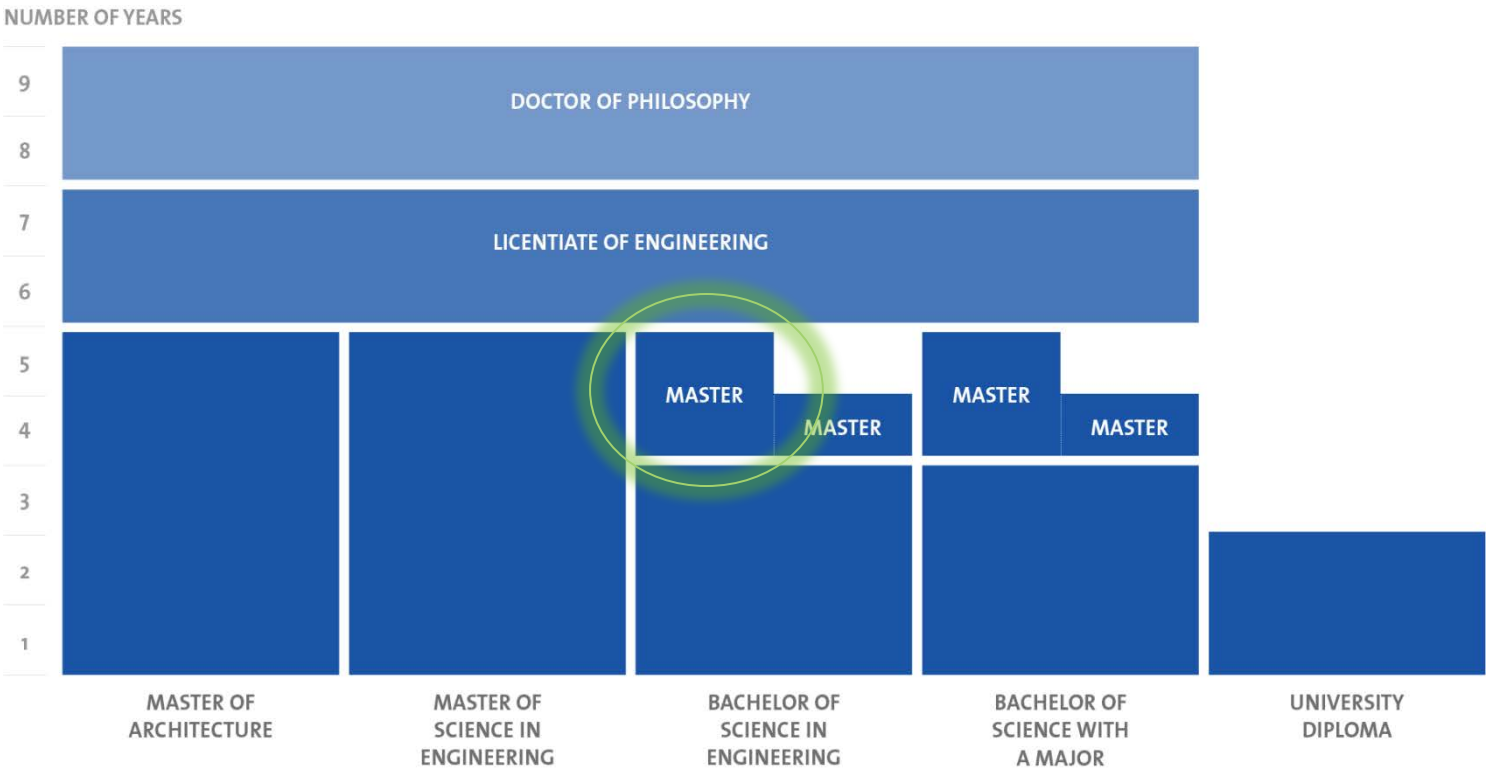
KTH Campus – in Stockholm City
School of EE (most courses)

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
School of ICT (some 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



The MERIT Program

- One of the first 19 Erasmus Mundus programs selected in the first call 2004
- KTH joined the consortium 2010
- Offers 9 tracks in 3 Areas of Knowledge (AoK)
- Tracks at KTH:
  - Information Transmission and Wireless Communication Systems (with UPC, UCL)
  - Wireless Network Management (with PdT)
  - Multimedia Signal Processing (with UPC, UCL)
  - Photonics (with KIT)
- Synergy with local KTH master programs:
  - Wireless Systems
  - Photonics
  - Networked Services and Systems

AoKs and Tracks

Microwave, Antennas, Remote Sensing and Photonics (UPC, KTH, PdT, KIT, UCL)	Wireless and Optical Communication Systems and Networks (UPC, KTH, PdT, KIT, UCL)	Multimedia Signal Processing (UPC, KTH, UCL)
1. Microwaves and RF Circuits and Systems (UPC, PdT, UCL) 2. Antennas and EM modelling (UPC, PdT, KIT) 3. Remote Sensing and Imaging (UPC, KIT) 4. Photonics (KTH, KIT)	1. Information Transmission and Wireless Communication Systems (UPC, KTH, UCL) 2. Wireless Network Management (KTH, PdT) 3. Optical Communication Systems and Networks (UPC, PdT, KIT)	1. Multimedia Signal Processing (UPC, UCL, KTH)

From www.meritmaster.org ➔ Study Programme

Curriculum, Degree Requirements

90 cr.u. courses + 30 cr.u. degree project

60 cr.u. first university + 60 cr.u. second university

Recommendation for study plan:

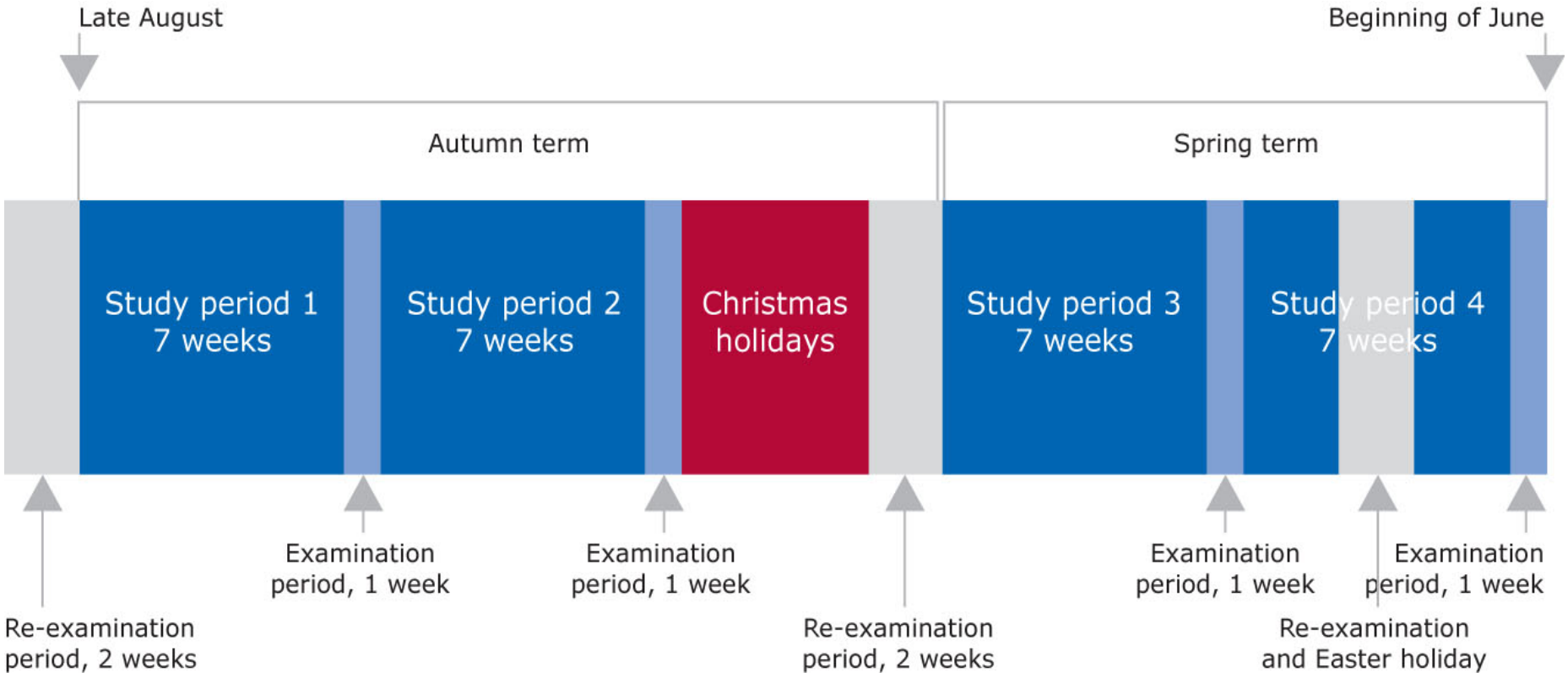
	Core	Concentration	Transversal
1st,2nd Semester (60 ECTS)	21 to 30 ECTS	18 to 33 ECTS	6 to 12 ECTS
3rd Semester (30 ECTS)		18 to 24 ECTS	6 to 12 ECTS
4th Semester	Master Thesis (30 ECTS)		

KTH “requirement”: AK2036 Theory and Methodology of Science or similar

Finding Information

- Main MERIT web: www.meritmaster.org
- Course lists for your track, click on the track name at http://www.meritmaster.org/programme/programme
- Programme page at KTH Social: www.kth.se/social/program/tiktm/
- Mailing list merit14@ee.kth.se Use for education related issues (Mats and Cristina are on the list).
- Read your KTH email!
- Academic advisor at KTH: Mats Bengtsson
- General MERIT administrative issues: merit@tsc.upc.edu
- KTH administrative issues: masterprogram@ee.kth.se

The Academic Year



- **Academic year divided into 4 quarters (”perioder”)**
- **Credit units (”poäng”): 1 week = 1.5 cu, 1 semester = 30 cu**

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

Folder with info on: rules for written exams, students' responsibilities

More on the Course Selection

Hand in study plan as soon as possible to Cristina with Cc: to Mats. Preferably this week!

Check time tables + travel time between campuses

Course code IK****=Kista Campus
(Exception: IK2507 in period 2, at main campus)

Some courses offered jointly to PhD students ➔ extra demanding!

Swedish courses (optional!!!):

- On-line “SWELL”
- Class-room (limited space in 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 track
- 30 credits (20 weeks)
- Carried out in industry or at the university (same requirements!). Within your 2nd study year country.
- Student's own responsibility to find a project!
- Grade: A-F

Thesis Project, Requirements

- Must have taken >60 credits from the program to start
- In principle, can be done any time during 2nd year
- Must have taken relevant courses
- Must be approved by examiner and program director before start.
- Thesis work at KTH requires
  - 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
  - At main Campus: 8-10 means 8:15-9:00 + 9:15-10:00
  - At Kista Campus: 8-10 means 8:00-8:45 + 9:00-9:45
- Separate access cards at Kista campus!
- MERIT scholarship holder: Degree must be completed within 2.5 years after you started (before January).