KTH Royal Institute of Technology

Information about master studies at KTH:
KTH Royal Institute of Technology

Introduction presented by:

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KTH web site   Facts about KTH   Study at KTH
KTH Royal Institute of Technology

One of the top technical universities in Europe
Short facts about KTH

• Established 1827 in Stockholm, Sweden

• People from more than one hundred nations

• Some numbers:
  - 13,000 full time students
  - 1,800 PhD students
  - 2,500 new students in master programs
  - 300 new PhD students each year
  - 600 members of faculty
Short facts about KTH

- QS ranking: Global World ranking 98 (2020) but many engineering areas are much stronger:
  - Electrical Engineering: 19
  - Architecture / Built Environment: 23
  - Mechanical Engineering: 26
  - Materials Science: 26
  - Statistics & Operational Research: 39
  - Computer Science & Info Systems: 41
  - Civil & Structural Engineering: 43
  - Mathematics: 44
  - Chemical Engineering: 51-100
  - Physics & Astronomy: 51-100
The Kingdom of Sweden

- About 10 million inhabitants, 2 million of whom live in the capital of Stockholm
- Has a pleasant climate thanks to the warm Gulf stream in the north Atlantic sea
- Combines a beautiful natural setting with modern technology and vibrant cities
- Home of the Nobel Prize, and many famous export companies

Do you know which?
Sweden makes a lasting impression

Swedish entrepreneurship and ingenuity has helped shape the worlds of communication, furniture, fashion, music and much more. And no matter what the industry, there always seems to be that engineering approach.
Stockholm – a city of islands
Stockholm: a dynamic environment, modern, historic, clean air and water
Stockholm: an international city

- A multi-cultural European capital, communities from China, India and other countries

- A clean and safe city

- Quick access to city, campus and nature with excellent transportation: public, by bicycle or even by boat

- Swedes speak good English, very limited need to learn Swedish while studying in Stockholm
Stockholm student life, part of the city
KTH - Research-based operations

- Total Revenue SEK 4,9 billion (ca RMB 3,8 billion)*

- Research and doctoral studies ca 67%
- Education, first and second cycle ca 30%
- Commissioned research ca 2%
- Purchased education ca 0.5%
- Commissioned education ca 0.5%

* Figure for 2016, exchange rate 1RMB = 1.3 SEK
Five campuses close to industry
Education in close collaboration with industry

- KTH has five campuses in and around Stockholm city
- Each campus closely integrated with local industry
- Campus in Kista is surrounded by the world’s largest collection of ICT businesses, more than 1000 companies, such as Ericsson, IBM, Intel, Sun, Compaq, Huawei, ZTE, and many more
- Final thesis can be written at a company, often leading to the first job after graduation
Structure of education at KTH

- **High school**
  - In Swedish, ICT also in English

- **Bachelor of Engineering**
  - 3-year program

- **Master**
  - 2-year program
  - In English

- **PhD**
  - 4-year program
  - In English
Structure of MSc education at KTH

- **Research**: 1 semester
- **Courses**: 3 semesters

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BSc
MSc programmes for entry in 2020

9 subject areas, >60 programmes:
- Architecture and Civil Engineering, 9 programmes
- Electrical Engineering, 10 programmes
- Engineering Physics and Mathematics, 6 programmes
- Energy and Sustainable Development, 10 programmes
- Industrial Management and Innovation, 3 programmes
- Information and Communication Technology, 9 programmes
- Life Science Technology, Chemistry and Chemical Engineering, 7 programmes
- Materials Science and Engineering, 3 programmes
- Mechanical Engineering, 10 programmes
Fees and Scholarships

There are application and tuition fees for non-EU/EEA/Swiss citizens for 1st and 2nd cycle studies (bachelor and master)

The tuition fee is SEK155k (about USD19k*) for one year of full-time master study, architecture 70% higher and bachelor 20% lower

Scholarships are available, for example:
- KTH Scholarship (covering the tuition fee)
- SI: the Swedish Institute
- Joint programs: Erasmus Mundus and EIT (European Institute of Innovation and Technology)

* Assuming exchange rate USD 1.0 = SEK 8.3
Living in Sweden

When applying for a residence permit, you must prove to the Swedish Migration Board that you will have a guaranteed sum of money at your disposal throughout the entire period of your studies. The amount is SEK 8190, about USD 990*, per month for ten months of the year.

Minimum budget per month:
- Food: USD 250
- Accommodation: USD 470
- Local travel: USD 70
- Phone/internet: USD 40
- Other: USD 160

* Assuming exchange rate USD 1.0 = SEK 8.3
Joint MSc programs: two degrees

European Institute of Innovation and Technology (EIT)
- Combines education, research and business
- Master programs in ICT, energy and electrical systems
- Studies in two European countries
- Scholarships available

Erasmus+
- EU program at master and PhD levels
- Studies in (at least) two European countries
- Scholarships available

Nordic Five Tech
- Studies in two Nordic countries
Application requirements and process

• Completed Bachelor’s degree is required

• English proficiency has to be shown (TOEFL 90, IELTS 6.5 etc), but there is flexibility regarding the scores for interviewed students from partner universities

• There are programme-specific requirements (see www.kth.se/en/studies/master)

• Apply at www.universityadmissions.se
• Online application period: October 16 to January 15
• Applications for admission and scholarship are only processed if the application fee is paid
• Results of admission distributed on April 3, 2020
KTH partner program ("4+2")

Partner university students can apply during the last year of their bachelor studies.

Language requirements may be slightly lowered after an interview in November each year but a language test (TOEFL, IELTS etc) is still required. Application fee must be paid before the interview.

The applications can be directed to all KTH master programs (but not joint programs), the normal prerequisites are required for each program.

Applications are made at universityadmissions.se, deadline in mid January, admissions announced in the beginning of April.
KTH exchange program

Partner university students can apply for exchange studies at KTH. Deadlines: April 15 and October 15, see: KTH (www.kth.se/en/) / Study at KTH / Exchange studies

Students can study for up to 1 year and do not have to pay tuition fees for exchange studies which do not result in a degree

During exchange studies, it is possible to apply, in competition, for admission to a KTH master program which results in a degree

Contact your study administration for details
Arrival for admitted students 2020

- **Arrival Days: early August and mid August:**
  - Bus provided from the airport Arlanda to KTH campus
  - Student service, pick up service and arrival information at campus
  - Sign your housing contract and pick up your keys (if you have accommodation through KTH)
  - Activate your personal KTH IT-account

- **Pre-sessional course** about English and studies at KTH starts after the first arrival day in early August. The course is free of charge

- **The lectures begin August 24, 2020**
Languages: English or Swedish?

- **Good knowledge of English is fundamental for successful education at KTH**
- Sweden has a local language but there is **very limited need to learn Swedish** when studying since people in Sweden speak good English.
- All KTH students who do not have Swedish as their first language are invited to an introductory course in Swedish language and culture. The course is free of charge for all students.
- **Good advice: focus on English in the beginning and take part in the pre-sessional course!**
After graduation

- After a KTH master degree: 1 year residence permit to look for a job or a PhD student position
  - KTH PhD student positions are publically announced at the web site, KTH MSc students may have an advantage
  - Many former KTH MSc students from China enrol as KTH PhD students

- After a KTH PhD degree: permanent residence permit in Sweden

- KTH graduates find positions all over the world
Career prospects after a KTH degree

• Statistics for master programs:

- 50% had a job even before graduation

- >90% had a job within 6 months of graduation

- >30% became PhD students
PhD studies

- Three years of full-time research, one year of courses
- Engages around 2,000 people
- A large proportion international PhD students
- A candidate has to apply for a position
- All PhD student positions are announced on the KTH web site: https://www.kth.se/en/studies/phd
- Employment with a salary if admitted, but competition for positions
ChihCheng (Ted) Yang
Traffic planner, SJ AB, 2016-now
Subway driver, TRTC, 2013-2015

• MSc in Transport and Geoinformation Technology, 2018 KTH, Stockholm

• B.B.A in Transportation Technology and Management, 2013 National Chiao Tung University, Hsinchu
Things you can do after finishing education at KTH...

Justin Chiu, Dr.
Consultant, EPS ab.
Manager, KIC Innoenergy.
Assistant Professor, KTH.

• Postdoctoral researcher at Graduate Institute of Environmental Engineering. National Taiwan University, Taiwan, 2014.

• PhD in Energy Storage. KTH, Sweden, 2013.

Yves Hsieh, PhD
Assistant Professor, KTH
Division of Glycoscience, School of Biotechnology
Wallenberg Wood Science Center, School of Chemical
Science and Engineering

• ARC Postdoctoral Research Fellow
  University of Adelaide, Australia, 2014-2015

• PhD, School of Chemistry, University of Sydney,
  Australia, 2009-2013

• Research Assistant, Genomic Research Center,
  Academia Sinica, Taiwan, 2006-2009
Lee-lun Lai

- BSc, Department of Photonics, National Cheng Kung University, 2015-2019

- MSc student in Engineering Physics, KTH Royal Institute of Technology, The School of Engineering Sciences, 2019-2021

- Project research in microsystem technology at the MST Lab, KTH, The School of Electrical Engineering and Computer Science, 2020-
Professor Christer Fuglesang
Professor in Space Physics, KTH

- Mission crew STS-116 & STS-128
  Shuttle Discovery, NASA-ESA
  2006 & 2009
- Astronaut at European Space Agency
  1992-present
- PhD in Experimental Particle Physics
  Stockholm University, 1986
- Master in Engineering Physics
  KTH, 1981
Things you can do after research at KTH... **collect the Nobel prize!**

**Professor Hannes Alfvén**

- Nobel Prize in Physics, 1970 for Magnetohydrodynamics
- Professor in Electrical Engineering University of California, 1967-1991
- Professor in Electromagnetic Theory and Electrical Measurements KTH, 1940-1991
- PhD in Electromagnetic Waves Uppsala University, 1934
Nobel Prize ceremony in Stockholm on December 10 every year

... may take a few years after graduation...
International students from KTH attended the Nobel Banquett in, the Stockholm City Hall, dressed in traditional costumes.
Welcome to KTH: launch your career!
KTH Royal Institute of Technology

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