KTH Royal Institute of Technology

Master's and PhD studies

Presented by:
Urban Westergren, professor
Department of Applied Physics
School of Engineering Sciences

Director China Relations

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:
  - 14,000 full time students
  - 1,500 PhD students (with at least 50% activity)
  - 2,900 new students in master programs (in 2024)
  - 300 new PhD students each year
  - 600 members of faculty
  - QS ranking in 2025 is 78, Times Higher Education 95
  - Highest QS subject rankings is 25 for Mechanical Engineering, and many other subject rankings are better than 100

Engineering and Science rankings

Comparison of QS rankings by subject 2025		
	KTH	SEU
General ranking	**78**	**392**
Mechanical Engineering	25	251-300
Materials Science	29	151-200
Electrical and Electronic Engineering	33	151-200
Architecture & Built Environment	42	46
Civil and Structural Engineering	43	51-100
Physics and Astronomy	54	301-350
Chemical Engineering	60	201-250
Computer Science and Information Systems	69	351-400
Mathematics	70	251-300
Chemistry	80	251-300
Data Science and Artificial Intelligence	51-100	-
Yellow shading: higher rank than KTH		
Red shading: lower rank than KTH		

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, such as the examples on the next slide:

ROYAL INSTITUTE OF TECHNOLOGY

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.

ROYAL INSTITUTE OF TECHNOLOGY

Stockholm – a city of islands

ROYAL INSTITUTE OF TECHNOLOGY

Stockholm: a dynamic environment, modern, historic, clean air and water

ROYAL INSTITUTE OF TECHNOLOGY

Stockholm: an international city

- A multi-cultural European capital, communities from China, India and other countries
- A city with very clean air and water
- 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

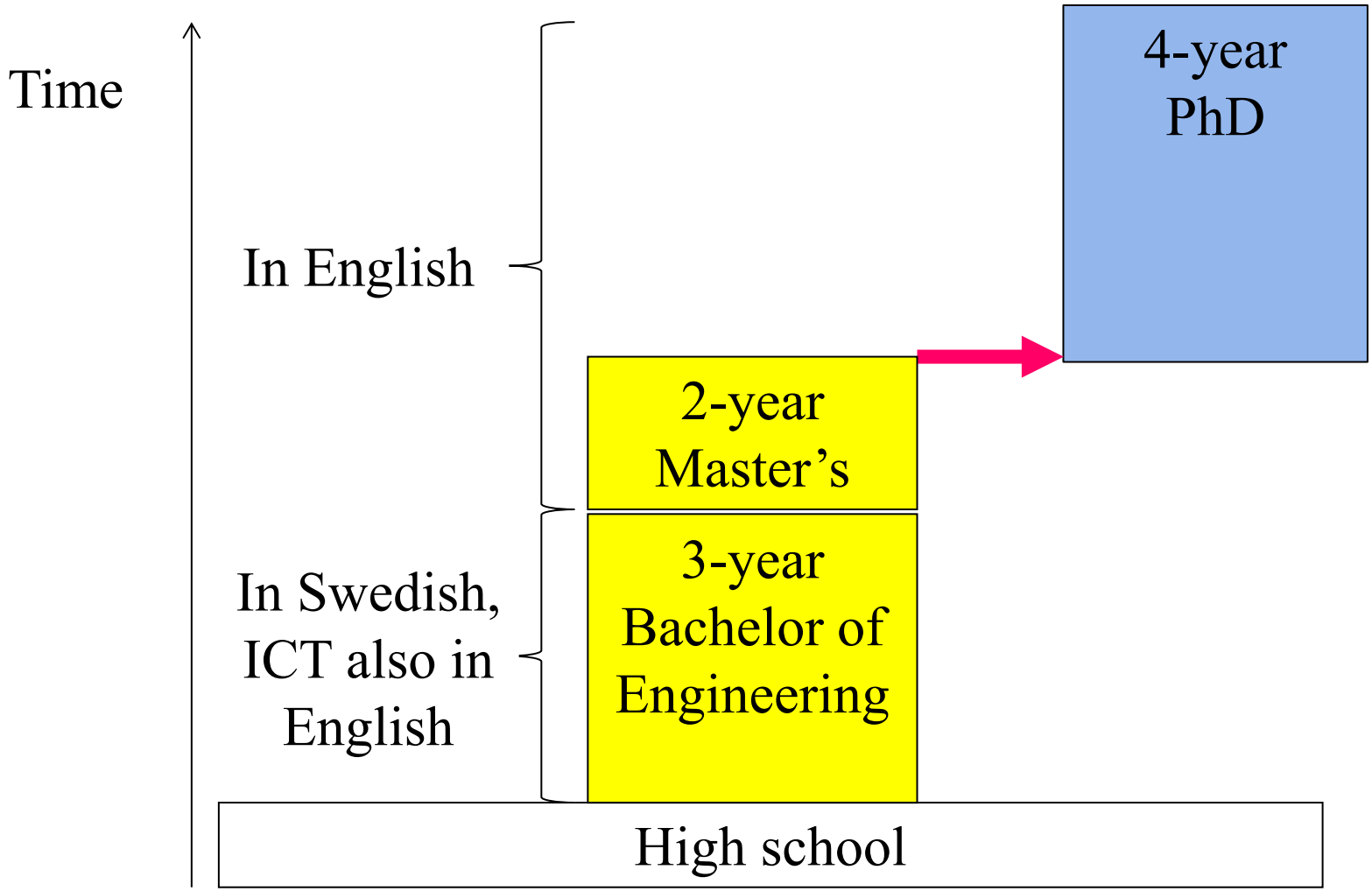

SHOP
SHOP
joy
BR Le
TAX FREE

ROYAL INSTITUTE OF TECHNOLOGY

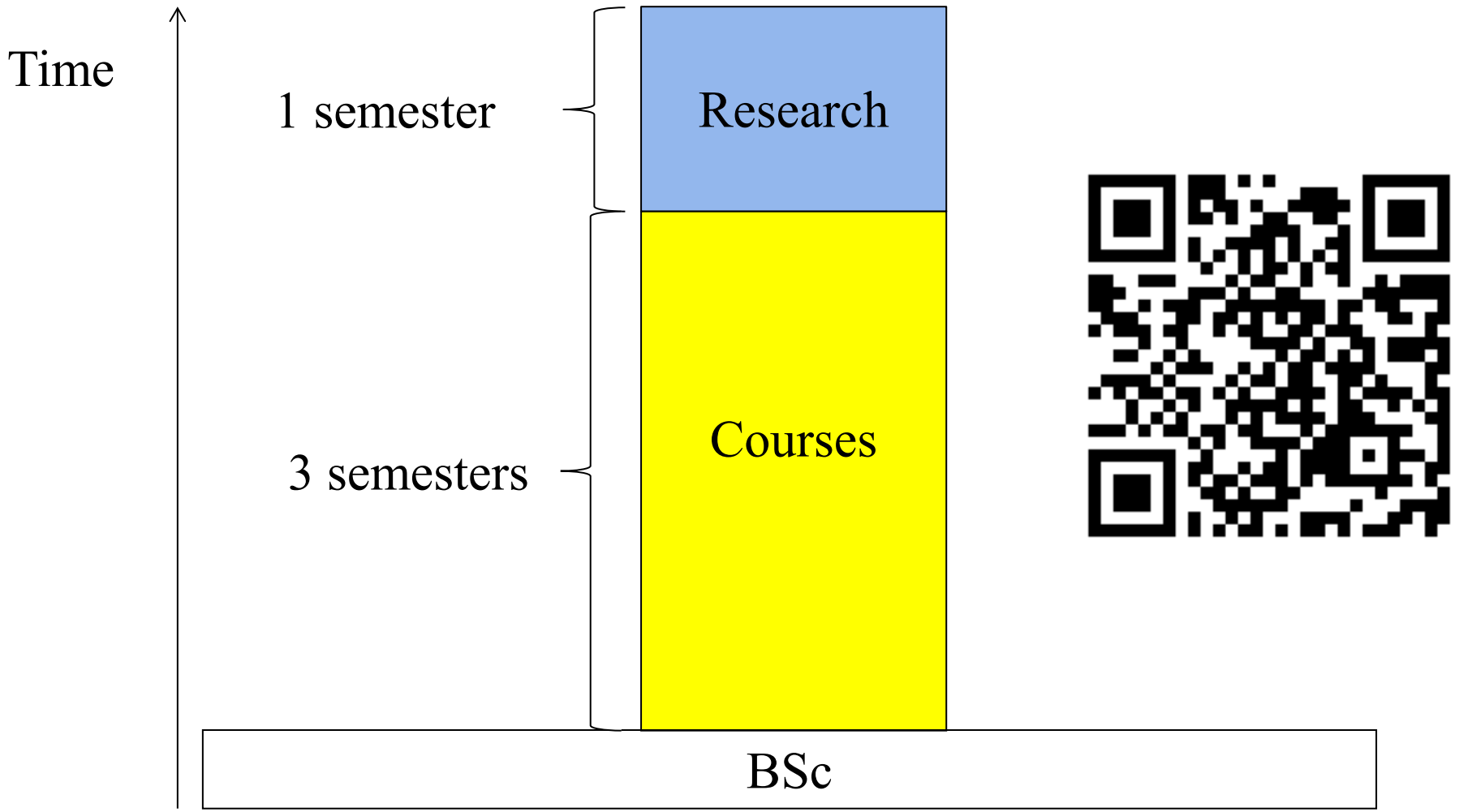
Stockholm student life, part of the city

KTH main campus

Structure of education at KTH



Structure of MSc education at KTH



ROYAL INSTITUTE OF TECHNOLOGY

MSc programmes for entry in 2026

More than 60 programmes in several subject areas:

- Architecture and the Built Environment
- Computer Science
- Electrical Engineering
- Engineering Physics and Mathematics
- Energy and Sustainable Development
- Industrial Management and Innovation
- Information and Communication Technology
- Life Science Technology, Chemistry and Chemical Engineering
- Materials Science and Engineering
- Mechanical Engineering

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 SEK180k (about RMB133k*) for one year of full-time master's study, architecture 70% higher and bachelor 20% lower

Scholarships are available, for example:

- KTH Scholarship (covering the tuition fee), very competitive: 7% of applicants got offers in 2024
- Joint programs: Erasmus Mundus and EIT (European Institute of Innovation and Technology)

* Assuming exchange rate RMB 1.0 = SEK 1.35

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 10584*, about RMB 7800**, per month for ten months of the year.

Student budget examples

Breakdown of budget per month, approximately:

- Food: RMB 2000
- Accommodation: RMB 3500 (for 19m^2)
- Local travel: RMB 500
- Phone/internet: RMB 500
- Other: RMB 1300

* This sum was valid on 1 January 2025, subject to changes
** Assuming exchange rate RMB 1.0 = SEK 1.35

ROYAL INSTITUTE OF TECHNOLOGY

Application requirements and process

- Completed Bachelor's degree is required except for 3+2 applicants, see following slides for terms
- English proficiency has to be shown (TOEFL 90 with writing 20, IELTS 6.5 with no subscore below 5.5 etc)
- 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, supporting document deadline 2 February
- Results of admission distributed March 26, 2026

Application for KTH scholarship

- Applications for KTH scholarships are open from

1 December 2025, to 15 January 2026

- Applications are entered via the KTH web page:
  - Go to master studies: www.kth.se/en/studies/master/
  - Select “Scholarships” in the left menu and then “KTH scholarship”
- Scholarship opportunities:

KTH Scholarship:

Application for KTH scholarship

An assessment of applicants for the scholarship is made based on the following criteria:

- The applicant's grades (GPA or equivalent)
- The ranking of the university where the applicant studied at bachelor level
- The applicant's extracurricular research experiences or publications, relevant work experience, relevant teaching experience, awards from competitions and extracurricular activities.
- The applicant’s motivation how they will contribute to the sustainable development goals with a master’s degree from KTH

ROYAL INSTITUTE OF TECHNOLOGY

Application for KTH scholarship

- Sustainable development goals

Application for KTH scholarship

- The motivation on sustainable development should at least show that the applicant has read the information on sustainability found in each master program description on the KTH web site. Example from a program: (scroll down to “Sustainable development”):

- Do NOT copy&paste from anything on the web! The motivation will be checked for plagiarism.

Compliance with entry requirements

Include a table of this type in your application, including what courses you will take during the spring before reaching KTH, example for KTH master program in Engineering Physics:

KTH master program prerequisites, see ”Entry requirements”	**Corresponding bachelor level courses at your home university**
Physics (including classical mechanics, thermodynamics, electromagnetism, waves, geometrical optics and quantum mechanics) equivalent to at least 45 ECTS	List courses and briefly describe contents
Mathematics (including differential and integral calculus, linear algebra, differential equations and transforms, and statistics) equivalent to at least 35 ECTS	List courses and briefly describe contents

60 ECTS credits is one full academic year of studies. At bachelor level, the credits from a Chinese university can usually be multiplied by 1,5 to get the corresponding number of ECTS credits, i.e. 1 credit at a Chinese university corresponds to approximately 1,5 ECTS credits

ECTS= European Credit Transfer System

ROYAL INSTITUTE OF TECHNOLOGY

Compliance with entry requirements

Example of a table to be included when applying for KTH Computer Science:

KTH master program prerequisites, see "Entry requirements"	**Corresponding bachelor level courses at your home university**
Mathematics equivalent to at least 28,5 ECTS, there must be: 1. a course in one-variable calculus, 2. a course in linear algebra and 3. a course in probability theory and statistics 4. a course in discrete structures	List courses and briefly describe contents: 1. ... 2. ... 3. ... 4. ...
Computer Science/Information Technology equivalent to at least 22,5 ECTS, there must be 1. a course in object-oriented programming, 2. a course in algorithms and data structures 3. a course in computational complexity	List courses and briefly describe contents: 1. ... 2. ... 3. ...
Multivariable analysis is a special eligibility requirement for compulsory courses within the tracks Data analysis and Cognitive systems.	State course(s) and brief description
Human-computer interaction is a special entry requirement for compulsory courses within the Interaction Design track	State course(s) and brief description

60 ECTS credits is one full academic year of studies.
ECTS= European Credit Transfer System

Acceptance rates

All numbers are available on the KTH website

Average acceptance rate for all master programs in 2025: 29%

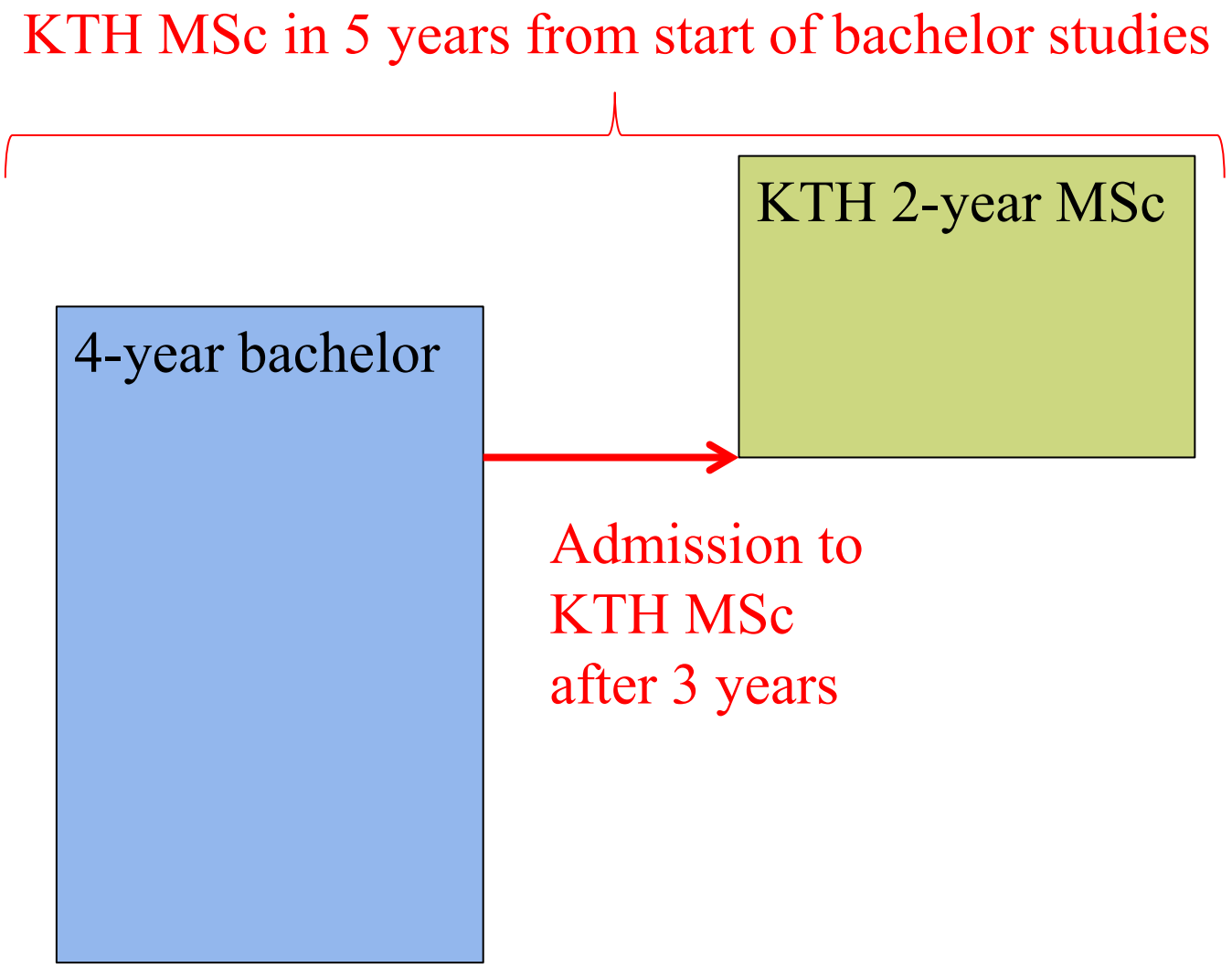
Most popular master programs 2025 (~10% or less)

- ICT Innovation: 5-11% depending on track
- Computer Science: 10%
- Systems, Control and Robotics: 9%
- Cybersecurity: 8%
- Applied and Computational Mathematics: 8%
- Machine Learning: 7%

Easier programs to be admitted to (≥50%)

- Technology, Work and Health: 75%
- Chemical Engineering for Energy and Environment: 73%
- Macromolecular Materials: 62%
- Nanotechnology: 61%
- Innovative Technology for Healthy Living: 60%
- Molecular Science and Engineering: 57%
- Sports Technology: 57%
- Industrial and Environmental Biotechnology: 55%

3+2 program


KTH MSc in 5 years from start of bachelor studies
KTH 2-year MSc
4-year bachelor
Admission to
KTH MSc
after 3 years

3+2 agreement

KTH and SEU have a very successful 3+2 agreement since 2017

Students can apply during the 3rd year of 4-year bachelor studies. These applicants **must contact their home university administration**

Applicants **should very carefully check the entry requirements for each master program** to which they apply.

Joint programs and programs at other Swedish universities are NOT included in 3+2.

Applications are made at universityadmissions.se as for all applications, deadline January 15, 2026

SEU – KTH 3+2 mapping
Recommended transitions

SEU-Automation	KTH Information and Network Engineering
SEU-Biomedical Engineering	KTH Medical Engineering
SEU-Civil Engineering	KTH Civil and Architectural Engineering KTH Sustainable Technology KTH Transport and Geoinformation Technology
SEU-Mechanical Engineering	KTH Engineering Mechanics
SEU-Electrical Engineering	KTH Electrical Power Engineering KTH Communication Systems KTH Electromagnetics, Fusion and Space Engineering KTH Embedded Systems
SEU-Electronic Science and Engineering	KTH Embedded Systems
SEU-Materials Science and Engineering	KTH Engineering Materials Science
SEU-Information Engineering	KTH Communication Systems KTH Information and Network Engineering KTH Embedded Systems KTH Electromagnetics, Fusion and Space Engineering
SEU-Power and Energy Engineering	KTH Sustainable Technology KTH Sustainable Energy Engineering

SEU – KTH 3+2 mapping
Recommended transitions

SEU-Measuring Control Technology&Instrumentation	KTH Embedded Systems, if elective courses have been chosen so that the following conditions are fulfilled: •At least 30 ECTS credits in mathematics, including calculus in one variable, calculus in several variables, linear algebra, mathematical statistics, and Laplace and Fourier Transforms. •Digital Design basics (equivalent to IE1204 or IE1205), Computer hardware organization basics (IS200 or IS1500), Electric Circuits Theory (equivalent to EI1202 or IE1206), and a basic course in programming (preferably C/C++).

Examples of SEU 3+2 applicants admitted to KTH in 2025

Stated SEU bachelor major	KTH master program
Architecture	Architecture
Automation	Information and Network Engineering
Double Bachelor's Degree in English and Information Engineering	Information and Network Engineering
Electrical Engineering and Automation	Electric Power Engineering
Electronic Science and Engineering	Embedded Systems
Electronic Science and Technology	Communication Systems
Energy and Power Engineering	Sustainable Energy Engineering
Highway and Bridge Engineering	Sustainable Technology
Industrial Engineering	Production Engineering and Management
Information Engineering	Information and Network Engineering
Information Engineering	Communication Systems
Materials Science and Engineering	Engineering Materials Science
Measuring Control Technology & Instrumentation	Embedded Systems
New Energy Science and Engineering	Sustainable Energy Engineering

Note: 3+2 applications are in full competition. Admission is not guaranteed and will depend on the strength of each application in terms of grades, elective courses etc. The entry requirements of each master program must always be fulfilled for applications to be considered eligible for admission.

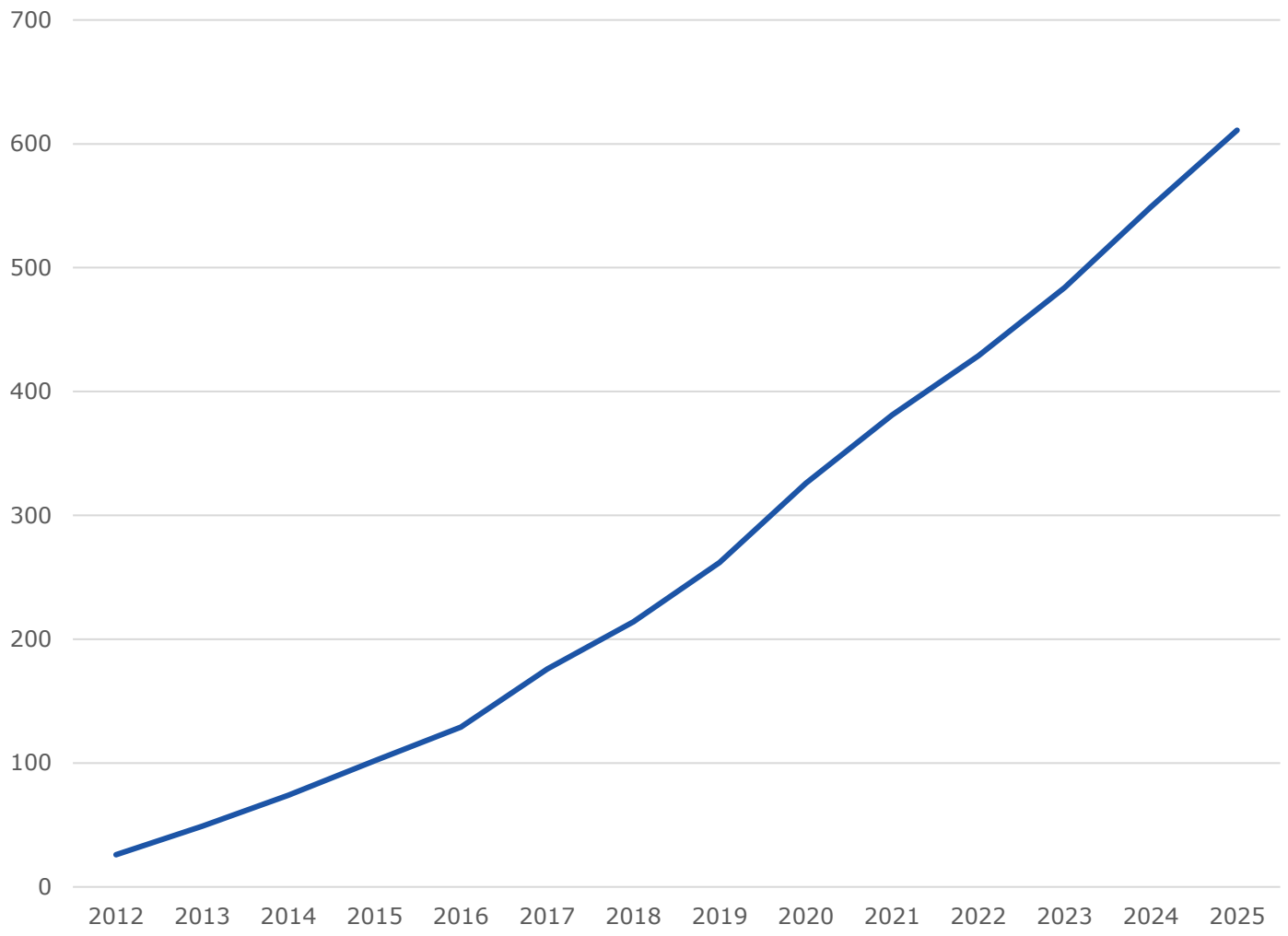
Comments on 3+2 applications

Most 3+2 applicants will see the status "unqualified" in universityadmissions.se during the admissions process: **Ignore this!** It usually only means that your transcripts indicate that you will not have a bachelor degree before entering KTH. If your name is on the list KTH has received from your bachelor university, KTH will mark your 3+2 application so that it is processed anyway.

Instead check carefully that you have uploaded all documents that are compulsory for each master program for which you are applying before February 2.

Do not wait until the last day to start uploading documents! Something may go wrong and then your application is considered LATE and is only evaluated if there is time left at the end of the evaluations. That is unusual since each master program may receive more than 1000 applications.

KTH 3+2 master students from China and India



Registered students, in total 611 until 2025,
109 of these were from SEU

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!**

Career prospects after a KTH degree

- Statistics for master's programmes:
  - 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

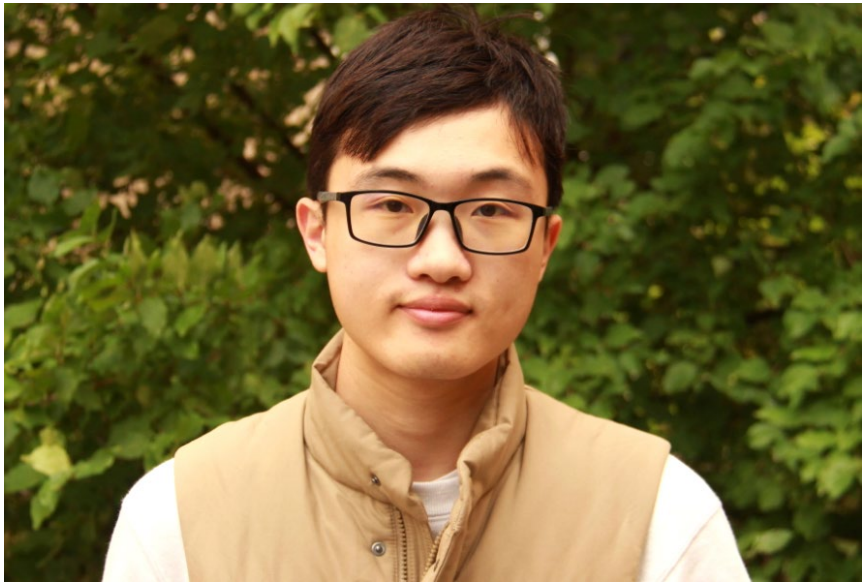
- Employment with a salary if admitted, but competition for positions

Things you can do after finishing education at KTH…

Thermal design engineer at Zhejiang Dahua Technology Co. Ltd, China, 2018

- Master in Sustainable Energy Engineering KTH, Sweden, 2017
- Bachelor in Energy and Environment System Engineering (KTH-ZJU 3+2) Zhejiang University, 2016

Things you can do after finishing education at KTH…



- Employed at IT company in Sweden
- KTH master program in Communication Systems, KTH-HUST 3+2 Program, KTH Scholarship holder, 2018-2020
- Bachelor: HUST, Telecommunications Engineering, ranked #1 of 200 students

Things you can do after finishing education at KTH…

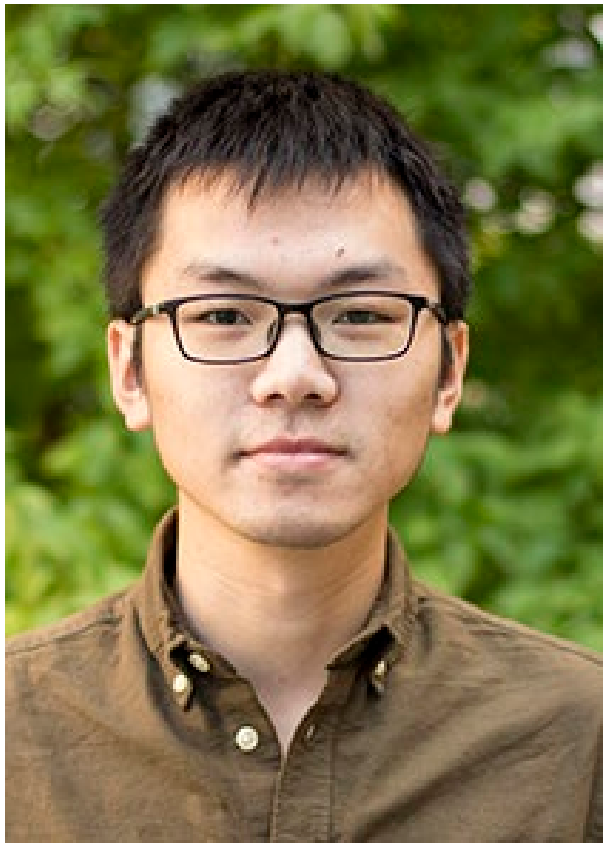
- PhD student in Data Science, at KTH, 2021
- Master in Communication Systems, at KTH, 2020 (KTH-HUST 3+2)
- Bachelor in Information Technology, at Huazhong University of Science and Technology

Things you can do after finishing education at KTH…

Ph.D. candidate Chemistry, KTH Royal Institute of Technology, 2020-current

- Process Engineer, PVD Division, Beijing NAURA Microelectronics Equipment Co. Ltd., 2018-2019
- Molecular Science and Engineering, Master of Science, KTH, 2015-2017
- Chemistry, Bachelor of Science, Southeast University, 2011-2015

Things you can do after finishing education at KTH…



- PhD candidate in systems and networking at University of Pennsylvania, USA
- Wireless Systems (Now Information and Network Engineering), Master of Science, KTH, 2016-2018
- Automatic Control, Bachelor of Engineering, Zhejiang University, 2013-2017 (KTH-ZJU 3+2)

Things you can do after finishing education at KTH…

Consultant, Ramboll Energy, Singapore

- Ph.D. in Thermal Energy Storage
  Nanyang Technological University,
  Singapore, 2020
- MSc in Sustainable Energy Engineering,
  KTH, Sweden, 2013
- BEng in Energy Engineering,
  Zhejiang University, China, 2011

Things you can do after finishing education at KTH…

- PhD Candidate in Dam foundation grouting, KTH
- Master in Civil & Architectural Engineering
  KTH, 2017-2019
- Bachelor in Civil Engineering
  Southeast University, 2013-2017

Things you can do after finishing education at KTH... go into space!

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

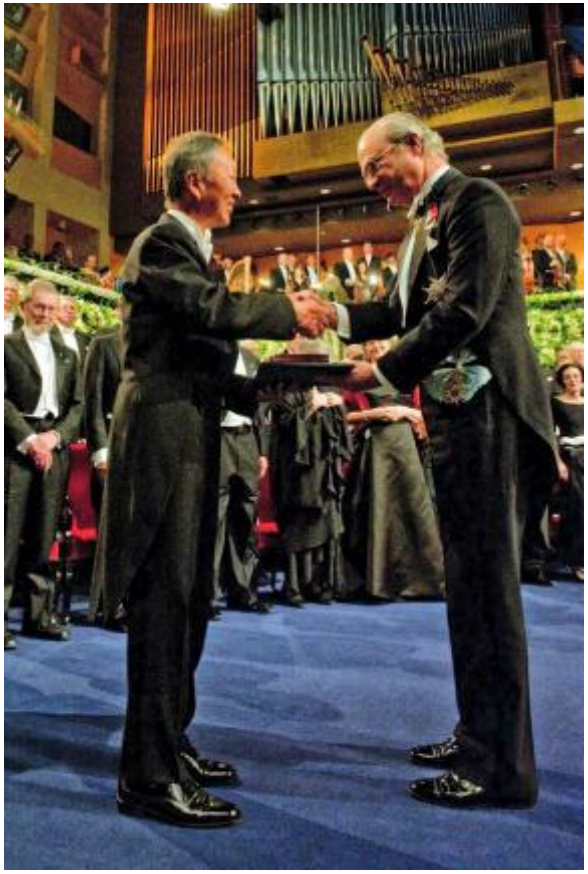
Things you can do after research at KTH… collect the Nobel prize!

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

ROYAL INSTITUTE OF TECHNOLOGY

Nobel Prize ceremony in Stockholm on December 10 every year



... may take a few years after graduation...

The Nobel Banquett

International students from KTH attended the Nobel Banquett in, the Stockholm City Hall, dressed in traditional costumes.

ROYAL INSTITUTE OF TECHNOLOGY

Welcome to KTH: launch your career!

Videos about KTH

https://space.bilibili.com/12838896/video

https://www.bilibili.com/video/BV1C5411j78Y?spm_id_from=333.999.0.0