Mobile communication is nowadays a commodity, research is taking it to the next level Master’s programme.

Diploma  Master of Science Electrical Engineering
Track: Telecommunications & Sensing Systems

Credits  120 ECTS, 24 months
Starts in  September
Language of instruction  English

% International students  65%

Telecommunications and remote sensing systems form an integral and essential part of modern society for high speed distribution of fast increasing vast amounts of data and for the collection of essential environmental information.

New amenities like the internet, smartphones and digital TV have become available in a very short period of time. Nowadays, it is easy for anyone to exchange any type of information by wired and wireless media at any time and any place. The rise of social media has a significant impact on the bandwidth needed. Safeguarding security and privacy are important social themes, while consumers are asking for smaller and more energy-efficient devices.

Telecommunication engineers develop and manage transmission systems, protocols, networks and services for short-range applications like WiFi and RFID, but also for future mobile and optical fibre networks covering the whole world. Another domain of this master is that of extremely high frequency (microwave and THz) applications and observation systems, including radar and remote sensing technologies for such varied tasks as safety scanners, weather forecasting and inspection of crops.

Programme
The TU Delft Master of Science Electrical Engineering offers the track Telecommunications & Sensing Systems. The track is designed for students with a Bachelor in Electrical Engineering.

When you join TU Delft’s Track in Telecommunications & Sensing Systems, you will be trained in the fundamentals to understand, develop, manage and maintain telecommunications technologies and networks as well as remote sensing systems. You will learn to advance the technologies that drive them by developing and delivering innovative applications.
I came to the Netherlands to continue my studies in the MSc Telecommunications & Sensing Systems track. I was soon impressed by the lively and stimulating atmosphere of the faculty and the existing international diversity among the students. The MSc Telecommunications & Sensing Systems track was well-organized into a comprehensive multi-disciplinary program with many different specialization tracks to choose from. The courses were well-designed to familiarize the students with the theoretical aspects of the subject as well as the cutting-edge research topics in the area accompanied by project-based assessment that encouraged group work and developed the problem-solving skills of the students. One of the interesting aspects of the program for me was the existence of a strong link between the university and the industry. After learning the fundamentals in the first-year courses, I was glad to find out there were many different possibilities to do an internship in a company. Therefore, in the second year I started working on my thesis project within a company and put the knowledge and the skills that I had learned in the first-year into practice to tackle real engineering problems. After finishing my master studies, I had the opportunity to start my PhD research in the Circuits and Systems group at TU Delft where I am working on the computational aspects of the next generation radio telescopes now.
Increasing robustness of Software-Defined Networks
Software-defined radio receiver design and development for China Digital Radio (CDR)
Opportunistic Routing for Indoor Energy Harvesting Wireless Sensor Networks
Theory and Practice of Waveforms for Compressive-Sensing Radar
Analysis and design of a dual-band THz imager based on incoherent detectors

Career prospects
With the extraordinary advances made in recent decades in digital technology, the opportunities for telecommunications specialists in commerce, industry and government are simply vast. There is a close connection between Delft University of Technology and the industry. During your studies you will get the opportunity to get in contact with high tech companies via internships and thesis projects, but also via the EEMCS recruitment days and the technical career fairs where you can get your first job interview. Graduates of the programme have a wide choice of career paths. The solid engineering background provides an excellent foundation for careers in research, development, and consultancy as well as commercial and management positions. Our graduates are working in the telecommunications and radar industry, at internet companies, in the energy sector as network architect, product manager, business developer and sales engineer. Typical recent employers of Telecommunications graduates include Philips, Thales, TNO Defense and Security, TNO Information and Communication Technology, Broadcom, NXP, and various mobile and fixed network operators, like KPN.
Admission requirements and application procedures

Dutch BSc degree
If you hold a Dutch BSc degree closely related to the Master’s programme, you will be admitted directly. However, if your undergraduate programme is not closely related to the Master’s programme you will be required to take additional courses in what is called a bridging programme. This may be a standard programme or it may be tailored to your specific situation.

To see which Master’s programmes are open to you on completion of your bachelor’s degree from a non-technical Dutch university go to www.studychoice.nl If you completed your bachelor’s at a technical university, go to www.doorstroommatrix.nl

Dutch HBO degree
An HBO Bachelor’s degree does not qualify you for direct admission to a TU Delft Master’s programme. You will first need to complete a supplementary programme in order to bring your knowledge to the required level. You can do this during your HBO programme by means of a bridging programme after completing your HBO diploma. Entrance requirements for mathematics and English (some exceptions) apply for the bridging programme.

See www.hbodoorstroom.tudelft.nl for detailed information. Applications through Studielink: www.tudelft.studielink.nl

International applicants
To be considered for admission to an MSc programme you will need to meet TU Delft’s general admission requirements.

1. A University Bachelor’s degree (or proof that you have nearly completed a Bachelor’s programme) in a main subject closely related to the MSc programme to which you are applying, with good grades on the key courses.
2. A BSc Cumulative Grade Point Average (CGPA) of at least 75% of the scale maximum
3. Proof of English language proficiency. A TOEFL (Test of English as a Foreign Language) with an overall Band score of at least 90 and a minimum score of 21 for each section. Please note that we only accept the TOEFL internet-based test. Or an IELTS (academic version) with an overall Band score of at least 6.5 and a minimum of 6.0 for each section. Or proof that you have passed the University of Cambridge ‘Certificate of Proficiency in English’ with a minimum grade B or the University of Cambridge ‘Certificate in Advanced English’

For international students, the application period starts October 1 and closes at April 1. To start an MSc application, please complete the online application and pay the refundable application fee of € 100. Next, you will receive an email with the link to upload the required documents.

For more information about the application procedure and studying at TU Delft in general, go to www.admissions.tudelft.nl

Introduction week
All international students will be welcomed with the award-winning introduction programme. The introduction consists of a variety of workshops and projects, during which you will get to know other international students, visit the highlights of Delft and learn the ins and outs of the TU Delft campus.

After this very interesting and fun week, you will be introduced to the EEMCS faculty. During the Master Kick Off, you will receive helpful information about the Dutch education system and meet the fellow students from your programme in a variety of social and educational activities.

For further information, please contact:
E info-eemcs@tudelft.nl

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