



**I'M WORKING  
ON BRINGING  
NUCLEAR FUSION  
ENERGY TO  
CONSUMERS**

**Ivana Abramovic,  
graduate student  
Science and Technology  
of Nuclear Fusion**

# **Overview and Academic Programs**

**TU/e**

**EINDHOVEN  
UNIVERSITY OF  
TECHNOLOGY**

**BACHELOR COLLEGE / GRADUATE SCHOOL**

## TOP-RANKING DUTCH UNIVERSITY

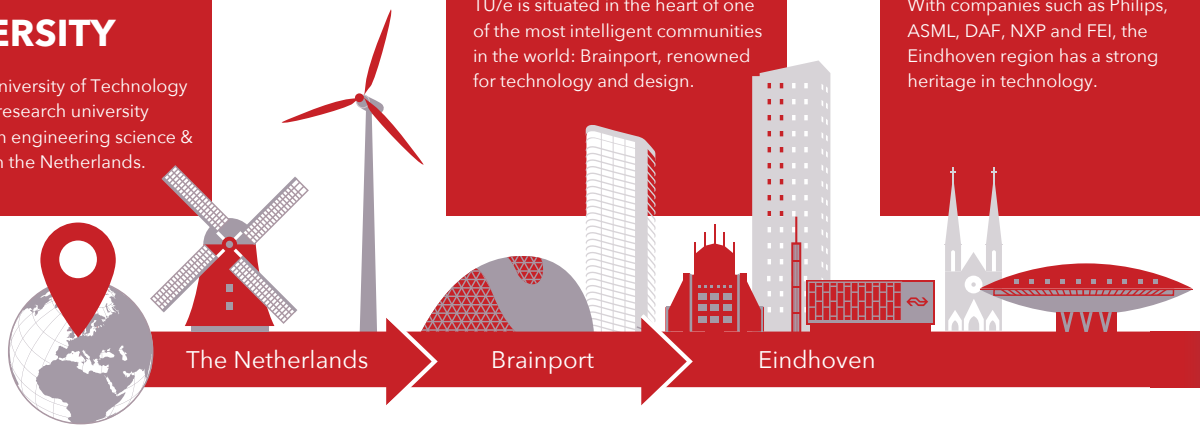
Eindhoven University of Technology is a first-rate research university specializing in engineering science & technology in the Netherlands.

## At the heart of the Brainport region

TU/e is situated in the heart of one of the most intelligent communities in the world: Brainport, renowned for technology and design.

## Strong technology heritage Eindhoven

With companies such as Philips, ASML, DAF, NXP and FEI, the Eindhoven region has a strong heritage in technology.



## About TU/e

Learn the fundamentals, explore the possibilities, and innovate to solve societal problems. Success is a process. The Eindhoven University of Technology (TU/e) offers a first-rate learning environment that allows you to excel. Together with your own drive and ambition this will be your way to make your dreams come true.

### HIGH-QUALITY EDUCATION

The Eindhoven University of Technology has built a reputation for focusing on high-quality education. We promise you a challenging, motivating and supportive atmosphere. Our flexible course structure gives you the opportunity to customize your curriculum to best fit your strengths, interests and ambitions. And with our challenge based learning projects you will immediately apply what you learned in practice. During these projects you will collaborate with your fellow students within and outside your own discipline. This is how you develop into a future-proof engineer, capable of solving complex problems in a multidisciplinary context. Not just today, but in the future as well.

A bachelor's degree from TU/e is an excellent investment in your future development as an engineer. Our master's degree programs will show you the breadth and depth of your scientific field, giving you a solid start in your career. Would you like to specialize even further as a research scientist or a high-level technological product or process designer? Then you will be interested in our PhD and PDEng programs. Throughout your stay at TU/e, you will work closely with respected academics in your field.

### LEADING IN RESEARCH

The Eindhoven University of Technology is a leading research institute for scientific innovation. You will enjoy working in our well-equipped, modern research facilities, including a large, ultramodern cleanroom. The TU/e campus is home to many other renowned research institutes, such as the Dutch Polymer Institute and the Intelligent Lighting Institute. In addition, we participate in networks and institutes throughout the world.

### STRONG TIES WITH INDUSTRY

At TU/e, we value entrepreneurship. Many of our professors work part-time in industry. TU/e is located in the Brainport area, the foremost high-tech innovation center of Europe. 33% of Dutch R&D spending takes place in this region, and many world-class technology companies and research institutes have research facilities here. These companies value TU/e graduates and are looking for well-educated engineers with an international background.

TU/e is world leader in publications together with industry. The stability of our network of unique and intensive partnerships will serve you well in finding assignments, internships, graduation projects and your future career.

### A GREAT PLACE TO LIVE

With a long history as a center of trade and innovation, the Netherlands has an international focus, an open, friendly culture, and a population that speaks English very well. With students from 80 different countries and over 33% international employees, TU/e's strong international community will make you feel right at home.

Eindhoven is a modern, green city, with many cultural and sports facilities. With an extensive rail and road network and an airport located nearby, all of Europe lies at your feet. Forbes magazine calls the city of Eindhoven "hands-down the most inventive city in the world". We call it a great place to start an international future.

### 3 STRATEGIC AREAS

The university focuses on three areas of societal challenges:

- ENERGY
- HEALTH
- SMART MOBILITY

# 76 15

### STUDY PROGRAMS RESEARCH AREAS

- 15 Majors
- 12 Bachelor's degrees (BSc)
- 22 Master's degrees (MSc)
- 35 Special master's degree tracks
- 11 Professional Doctorates in Engineering (PDEng)
- 15 Doctorates in Philosophy (PhD)

### RANKINGS

- QS World University Rankings 2019  
**TU/e in top 100 best universities worldwide**
- CWTS Leiden Ranking 2018  
**TU/e worldwide No.1 in combined research with industry**

## TU/e CAMPUS

The TU/e Campus is a science park in which university, technology institutes and companies drive innovation together, focusing on three research centers: Data Science, High Tech Systems and Photonic Integration.

Science Park covers an area of **75** hectares

ULTRA-MODERN CLEANROOM

LIVING LABS

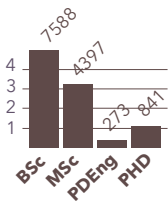
**28** KNOWLEDGE INSTITUTES

**18** TOP RESEARCH FACILITIES

## IMPACT

TU/e contributes to societal challenges by effective education, knowledge generation and knowledge transfer into companies, products and services.

**MORE THAN 80** STUDENT NATIONALITIES



**3221** EMPLOYEES



## Mens sana in corpore sano

Serious brain-work benefits from timely relaxation. The TU/e campus is a park-like area with extensive facilities for sports, cultural activities and recreation.

CAFÉ & FILM HOUSE DE ZWARTE DOOS

RESEARCH LIBRARY CHILDCARE CENTER

### 1 HEAT/COLD STORAGE SYSTEM

Provides savings similar to the use of 850 households.



**70** SPORTS ACTIVITIES

**38** SPORTS ASSOCIATIONS

**8** CULTURAL ASSOCIATIONS

**10** (INTER)NATIONAL STUDENT ASSOCIATIONS

**11** STUDENT TEAMS

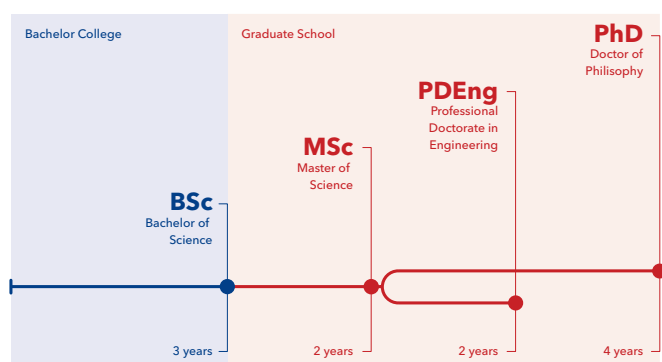
**5** CONFERENCE AREAS



# Structure of education

The Eindhoven University of Technology offers undergraduate programs at the Bachelor College and graduate programs at the Graduate School. All undergraduate programs award the Bachelor of Science (BSc) degree upon graduation. Graduate programs confer the Master of Science (MSc), Professional Doctorate in Engineering (PDEng), and Doctor of Philosophy (PhD) degrees.

Among other requirements, starting a master's degree program requires a bachelor's degree in a relevant field. Entry requirements for the PDEng and PhD programs include a master's degree in a relevant field.



## EUROPEAN CREDIT TRANSFER SYSTEM (ECTS)

University courses in Europe are standardized with the European Credit Transfer System (ECTS), awarding credits based on the work you need to do to complete course units. One ECTS credit is equivalent to a workload of 28 hours. A full-time, one-year program amounts to 60 credits, which comprises a student workload of about 1680 hours.

### Prof. Frank Baaijens, Rector Magnificus TU/e

*Welcome to TU/e. It's an excellent place to start your future, and you'll be challenged to be your best. Our first-rate education and strong ties with the nearby high-tech industry cultivate engineers who can innovate at the top of their fields. Yes, you'll have to work hard. But you'll be happy to do so. Why? Because you'll be following your interests and ambitions. Whether you're striving for scientific excellence, a high-powered career, or societal progress, TU/e allows you to fit your curriculum to your goals. And we don't just provide a great environment for studying - we have excellent sports facilities; the vibrant city of Eindhoven is rich in culture; and with Eindhoven Airport nearby, you can discover all that Europe has to offer.*



# Bachelor College

## DESIGN YOUR OWN CURRICULUM

A TU/e undergraduate program is an excellent foundation for your future as an engineer. All undergraduate programs at TU/e are part of the Bachelor College.

Our undergraduate programs offer a unique flexibility. Choose your major, fine-tune your curriculum with electives, and tailor your course load to your strengths, interests and ambitions with the assistance of your personal study coach. During your studies at TU/e, you will not just build a solid scientific foundation but also develop a professional, entrepreneurial attitude and learn to apply technology in practice.

We offer thirteen bachelor's degree programs in English and two in Dutch.

Degree:	Bachelor of Science (BSc)
Duration:	Three years (120 ECTS + 60 ECTS from electives)
Workload:	Full-time
Application deadline programs with selection:	15 January 2020
Application deadline other programs:	1 May 2020
Start date:	The mandatory introduction program for international students starts in August. Classes start in September

**For more information about TU/e's bachelor's degree programs, please visit our website at [tue.nl/bachelorprograms](http://tue.nl/bachelorprograms).**

## ADMISSION REQUIREMENTS AND APPLICATION

TU/e welcomes students from all over the world. Our admissions process checks whether your previous educational background is sufficient to participate successfully in a TU/e program. Enrollment at TU/e requires a sufficient mastery of the English language, a secondary education diploma that is recognized as equivalent to the accepted Dutch diplomas, and a specific minimum level of mathematics and physics.

**For more information about admission, please visit our website at [tue.nl/admission](http://tue.nl/admission).**

# Graduate School

## CHOOSE BETWEEN 14 GRADUATE PROGRAMS

Graduate programs in the TU/e Graduate School are developed in cooperation with leading research groups at TU/e, and consist of several degree programs. Currently, you can choose between fourteen graduate programs.

Each graduate program offers you opportunities for in-depth specialization or multidisciplinary collaboration. TU/e education is always up-to-date with ongoing research, and has an intrinsic focus on collaboration with industry. Our excellent fundamental research and relationships with industry make a TU/e graduate program a great start for a varied, challenging and lucrative career.

## CHART YOUR OWN ACADEMIC CAREER PATH

Each graduate program offers one or more master's degree programs and the opportunity to continue with a PhD program in the same field. Some graduate programs also offer you the option to enroll in a Professional Doctorate in Engineering (PDEng) program after you obtain your master's degree. PDEng programs are two-year, high-level traineeships focusing on technical product and process design - ideal for students who desire a career in industry and are looking to gain more extensive technological, practical and professional experience after getting their master's degree.

**For more information about TU/e's graduate programs, please visit our website at [tue.nl/graduateschool](http://tue.nl/graduateschool).**

## GRADUATE SCHOOL Master's degree programs

### A SPRINGBOARD FOR YOUR CAREER

Invest in your career with a master's degree program at the Eindhoven University of Technology. You will gain a solid scientific basis and depth, and master important professional skills.

The TU/e Graduate School currently offers 22 master's degree programs and 36 special master's degree tracks. All specializing in engineering, design, research, entrepreneurship or management. The special master's degree tracks are part of an accredited master's degree program. After completing a special master's degree track, you will receive the diploma of that master's degree program.

Degree:	Master of Science (MSc)
Duration:	Two years (120 ECTS)
Workload:	Full-time
Application deadline:	1 May 2020
Start date:	The mandatory introduction program for international students starts in August. Classes start in September. Most master's degree programs also provide the opportunity to start in February, without introduction program

**For more information about TU/e's master's degree programs, please visit our website at [tue.nl/masterprograms](http://tue.nl/masterprograms).**

## ADMISSION REQUIREMENTS AND APPLICATION

Admission to one of the TU/e master's degree programs requires a bachelor's degree from a relevant program with sufficient academic quality, or an accepted equivalent. You need a sufficient mastery of the English language and a specific percentage of the cumulative grade point average (CGPA) depending on your country of origin.

**For details about application and admission, please visit our website at [tue.nl/admission](http://tue.nl/admission).**



## GRADUATE SCHOOL PDEng programs

### HIGHLY EDUCATED, INDUSTRY-FOCUSED ENGINEERS

A PDEng program is a two-year, full-time salaried technological designer's program that allows you to expand your technological knowledge, gain practical experience with the latest design methods and work on your professional skills. A PDEng program is on par with a PhD program. The difference is their focus: a PhD is aimed to establish you as an independent researcher and a PDEng prepares you for a high-level position in industry or healthcare.

The first year of the PDEng program consists of advanced coursework to prepare you for the demands of complex industry design projects. During the second year, you will work on a large-scale, multidisciplinary technological design project in a leading high-tech company or healthcare facility. In some programs courses and design project run parallel.

After graduation, you will be awarded the Professional Doctorate in Engineering, an accredited degree that is equivalent to the British Engineering Doctorate.

As a PDEng trainee you will have the status of a TU/e employee. This means you will receive a salary and have excellent secondary conditions of employment.

Degree:	Professional Doctorate in Engineering (PDEng)
Duration:	Two years
Workload:	Full-time
Start date:	To be agreed with your department

### ADMISSION REQUIREMENTS AND APPLICATION

Admission requirements include a Master of Science degree from a relevant program with sufficient academic quality, or an accepted equivalent, and a sufficient mastery of the English language. A selection procedure is part of the application process. You can only apply for a PDEng position if there is a vacancy in the department of your choice.

**For more information about TU/e's PDEng programs, please visit our website at [tue.nl/pdeng](https://tue.nl/pdeng).**

## GRADUATE SCHOOL PhD programs

### PERSONALIZED SCIENTIFIC GROWTH OPPORTUNITIES

TU/e PhD programs are four-year, full-time salaried research positions. Under the supervision of a professor, you will carry out cutting-edge research within the field of your choice. Successfully defending your dissertation is valuable proof that you are able to work at a very high scientific level.

Our researchers get the space and support they need to excel, and our small scale and personal approach makes it easy to communicate and collaborate with other departments. PhD programs at TU/e offer a wide range of courses geared toward personal and professional development. In contrast to most other countries, PhD students in the Netherlands are salaried university employees.

Degree:	Doctor of Philosophy (PhD)
Duration:	Four years
Workload:	Full-time
Start date:	Any time, in agreement with your department

### ADMISSION REQUIREMENTS AND APPLICATION

Admission to one of the TU/e PhD programs requires a Master of Science degree from a relevant program with sufficient academic quality, or an accepted equivalent, and a sufficient mastery of the English language. A stringent selection procedure is part of the application process. You can only apply for a PhD position if there is a vacancy in the department of your choice.

Alternatively, we offer you the opportunity to find a supervisor and execute your own research at TU/e if you have an excellent research idea that matches our scientific ambitions and you have a grant or scholarship.

**For more information about TU/e's PhD programs, please visit our website at [tue.nl/phd-at-tue](https://tue.nl/phd-at-tue).**







## Exchange students

TU/e offers students from partner universities with whom TU/e has an exchange agreement with the opportunity to study at one of the TU/e departments as an exchange student. The status of exchange student is a special category granted to students who participate in: European educational programs such as Erasmus; exchange programs agreed by a TU/e Department with selected institutions; specific exchange programs agreed between the student's home country and the Netherlands. Exchange students from a partner university with which the TU/e has an exchange agreement do not need to pay tuition fee.

As an exchange student you remain enrolled at your home institution and spend between one semester and one academic year pursuing your studies at TU/e. You can transfer the credits you obtain at TU/e to your own degree. More information:

[tue.nl/exchange-programs](https://tue.nl/exchange-programs).

## Scholarships

You may be eligible for a scholarship to fund your education at TU/e, such as the ALSP scholarship, ASML technology scholarship, the China Scholarship Council scholarship, the Erasmus Mundus or KIC (Knowledge Innovation Center) double degree programs. Information about scholarships can be found on the TU/e website at [tue.nl/scholarships](https://tue.nl/scholarships) and [grantfinder.nl](https://grantfinder.nl).

Most scholarships require you to have been admitted to a master's degree or PhD program before you are allowed to apply for the scholarship. Therefore, it is important to apply to the TU/e master's degree program well in advance of the scholarship deadline. Some scholarships are often allocated on a first come, first served basis, so applying early improves your chances.

### We can help you with:

- Your application and other university procedures
- Your priority visa and residence permit
- Your housing
- Bank accounts
- Insurance

**It is not easy to choose the right program and university. That is why we offer plenty of opportunities for you to see whether TU/e and our programs are right for you.**

### Open days & Experience days

Visit our Bachelor's programs during the open days and/or experience days. Check out [tue.nl/opendays](https://tue.nl/opendays) and [tue.nl/bachelorexperiencedays](https://tue.nl/bachelorexperiencedays) for more information.

### Graduate School Event

Discover our master, PDEng and PhD programs during our graduate school event. Find out more at [tue.nl/graduateschoolevent](https://tue.nl/graduateschoolevent)

### Webinars

There is a yearly webinar about each program. Visit [tue.nl/webinars](https://tue.nl/webinars) for more information.

### Talk to a student

Meet our international student team on Facebook via [facebook.com/groups/tue.ist](https://facebook.com/groups/tue.ist) and ask them everything you would like to know.

**Do you want to be kept up-to-date about studying at TU/e and upcoming events? Visit [start.tue.nl](https://start.tue.nl) and create a [mystart@tue](mailto:mystart@tue.nl) account.**

### Why choose TU/e?

- Leading in engineering science & technology
- High-quality research and education
- Excellent modern student facilities
- Scholarships available
- International community of more than 80 nationalities
- Friendly, open culture
- International network with prominent universities and institutes
- TU/e alumni in high demand among employers
- Strong position in Brainport Eindhoven, the European high-tech region

# Program overview

## Bachelor College - English-language majors

- Applied Mathematics
  - Applied Physics
  - Architecture, Urbanism & Building Sciences\*
  - Automotive Technology
  - Chemical Engineering & Chemistry
  - Computer Science & Engineering\*
  - Data Science
  - Electrical Engineering
  - Industrial Design\*
  - Industrial Engineering
  - Mechanical Engineering
  - Psychology & Technology
  - Sustainable Innovation
- TU/e also offers 2 majors in Dutch*  
*\* These programs have enrollment limits: [tue.nl/programswithselection](http://tue.nl/programswithselection)*

## Graduate School - Graduate programs

### APPLIED PHYSICS

#### Master's degree program

- Applied Physics

#### Master tracks

- Fluids, Bio and Soft Matter
- Nano, Quantum and Photonics
- Plasmas and Beams

#### Master's degree program

- Science and Technology of Nuclear Fusion

#### PDEng programs

- Clinical Informatics (in Dutch)

#### PhD programs

### AUTOMOTIVE SYSTEMS

#### Master's degree program

- Automotive Technology

#### PDEng program

- Automotive Systems Design

#### PhD programs

### BIOMEDICAL ENGINEERING

#### Master's degree program

- Biomedical Engineering

#### Master tracks

- Biomechanics and Mechanobiology
- Biomedical Imaging and Modelling
- Medical Imaging
- Chemical Biology, Materials and Nanomedicine
- Regenerative engineering
- Regenerative Medicine & Technology

#### Master's degree program

- Medical Engineering

#### Master tracks

- Biomechanics
- Medical Imaging
- Medical imaging and Modelling

#### PDEng programs

- Qualified Medical Engineer (in Dutch)

#### PhD programs

### BUILT ENVIRONMENT

#### Master's degree program

- Architecture, Building and Planning

#### Master tracks

- Architectural Urban Design and Engineering
- Architectural Urban Design and Engineering - qualified to register as an architect
- Architectural Urban Design and Engineering - qualified to register as an urban designer
- Architectural Urban Design and Engineering - qualified to register as an architect and urban designer

- Architectural Urban Design and Engineering / Structural Engineering and Design

- Architectural Urban Design and Engineering/ Building Physics and Services

- Architectural Urban Design and Engineering/ Urban Systems and Real Estate

- Building Physics and Services
- Structural Engineering and Design

- Urban Systems & Real Estate

#### Master's degree program

- Construction Management and Engineering

#### PDEng program

- Smart Buildings and Cities

#### PhD programs

### CHEMICAL ENGINEERING AND CHEMISTRY

#### Master's degree program

- Chemical Engineering

#### Master tracks

- Chemical and Process Technology
- Molecular Systems and Materials Chemistry

#### PDEng program

- Process and Product Design

#### PhD programs

### COMPUTER SCIENCE

#### Master's degree program

- Computer Science and Engineering

#### Master tracks

- Information Security Technology
- EIT Digital master program in Data Science
- Data Science in Engineering
- Big Data Management and Analytics

#### Master's degree program

- Embedded Systems

#### Master track

- EIT Digital master program in Embedded Systems

#### PDEng program

- Software Technology

#### PhD programs

### ELECTRICAL ENGINEERING

#### Master's degree program

- Electrical Engineering

#### Master tracks

- Connected World Technologies
- Structural Engineering and Design

#### PDEng program

- Design of Electrical Engineering Systems - track Information and Communication Technology
- Design of Electrical Engineering Systems - track Health Care Systems Design

#### PhD programs

### INDUSTRIAL DESIGN

#### Master's degree program

- Industrial Design

#### PDEng program

- User-System Interaction

#### PhD programs

### INDUSTRIAL ENGINEERING

#### Master's degree program

- Innovation Management

#### Master's degree program

- Operations Management and Logistics

#### Master track

- Manufacturing Systems Engineering

#### PhD programs

### INNOVATION SCIENCES

#### Master's degree programs

- Human-Technology Interaction
- Innovation Sciences

#### PhD programs

### MATHEMATICS

#### Master's degree program

- Industrial and Applied Mathematics

#### PhD programs

### MECHANICAL ENGINEERING

#### Master's degree program

- Mechanical Engineering

#### Master track

- Manufacturing Systems Engineering

#### Master's degree program

- Sustainable Energy Technology

#### Master track

- SELECT

#### Master's degree program

- Systems and Control

#### PhD programs

### SCIENCE EDUCATION AND COMMUNICATION (all programs in Dutch)

#### Master's degree program

- Science Education and Communication

#### Master tracks

- Science Education and Communication - teacher

- Science Education and Communication - STEM educational research

#### PhD programs

### Off-site programs in

#### DATA SCIENCE

#### Master's degree program

- Data Science and Entrepreneurship\*

#### PDEng program

- Data Science

\* We offer this Master's degree program jointly with Tilburg University in 's-Hertogenbosch.