Welcome

Welcome to Eindhoven University of Technology (TU/e), one of Europe's leading universities of science and technology. This Study information guide you are now consulting provides all information to students and staff who want to visit or study at our university. TU/e is a modern university that combines high-quality education in engineering and technological design with world-renowned research in these same areas. The new generation of engineers and designers that is educated at TU/e will help to build the society of the new century. The university realizes that good scientific education and research require co-operation with many organisations and people both inside and outside our own region. The world of science and scientific education does not end at national borders. Extensive international mobility of both students and staff is, therefore, imperative. TU/e places great value on close ties with universities and research institutes around the globe. The university strongly encourages its students and staff to cross boundaries, and it likewise encourages visitors from abroad to study and work here. International exchanges not only contribute to furthering individual development, but they also raise the level of teaching and research in the participating institutes. Visitors who can contribute to this goal are welcome to come to Eindhoven and experience the world of a competitive, highstandard university of technology.

I hope that your stay at TU/e will challenge and stimulate you to continue to develop your and our competencies.

Prof.dr.ir. C.J. van Duijn, Rector Magnificus

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All you want to know about studying at TU/e

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1. All you want to know about studying at TU/e

1.1 The Netherlands and Eindhoven

The Netherlands is a small, internationally oriented and innovative country, located at the heart of Europe. Higher education in the Netherlands has an excellent reputation around the world. Dutch scientific research is also highly regarded internationally. In addition, the Netherlands was the first non-English-speaking country to offer education in English.

Four reasons to study in the Netherlands:
- 1,455 study programs in English;
- Excellent education and research;
- International studying environment;
- Multicultural society at the heart of Europe.

About the Netherlands

Society in the Netherlands is multicultural. The Dutch have always had extensive – economic – connections with other countries and continents. This international orientation together with the religious tolerance – the country has a wide religious diversity – have led to large groups of people from other countries settling in the Netherlands over the centuries. And although the Netherlands has a language of its own, the majority of the population speak English and often other foreign languages as well, for example German or French.

The Netherlands has a characteristic landscape. When you arrive in the Netherlands at Schiphol Airport, you will get a first impression of the polders, ditches, rivers and cities as seen from the air. The Netherlands is also referred to as Holland, a collective name for the two western provinces (North and South Holland). If you continue your journey from Schiphol by train, you will see that urban and industrial areas are alternated by meadows, forests and lakes. The country is very flat, which makes the horizon look rather wide. The roads are busy, and so are the inland waterways, while there is also a lot of air traffic. Since the Netherlands is a relatively small country (40,000 km2) with an extensive rail network, you can reach all the places of interest quickly and easily. The official language is Dutch, but fortunately most Dutch people speak and understand English. The country has a knowledge-based society; its prosperity is primarily based on advanced, global services. That is why there is an attitude of openness towards the rest of the world. It is open to business, but it is also socially and culturally open. This makes it an ideal environment for students who want to enrich their knowledge abroad.

Why study in Eindhoven?

Eindhoven is located in the south-east of the Netherlands, within 50 kilometers of both the German and Belgian borders. The Eindhoven region is internationally recognized as a center for advanced technology, and is characterized by knowledge and creativity. Eindhoven is the fifth largest city in the Netherlands, and number one in terms of technology. It holds a strategic position as one of Western Europe's leading technology centers, and has been the base for the research and development facilities of Philips Electronics for over a century. Philips has recently built a High Tech Campus for 10,000 researchers in Eindhoven. Many other global companies have established development and production facilities in the Eindhoven area. Eindhoven is a modern city with extensive cultural and sports facilities, but it also has a lot to offer for people with a technological focus. As a student you can benefit from the presence of many high-tech companies located both on and near the TU/e campus.

1.2 Eindhoven University of Technology: Where innovation starts

Studying at the TU/e is a good choice. Some of the most important reasons are:
- high-quality of education and research;
- excellent student facilities;
- Eindhoven is a modern student city;
- international contacts with leading universities;
- good relationships with potential employers;
- excellent reputation of engineers from TU/e;
- attractive career opportunities.

Engineers from the TU/e

As an engineer educated in Eindhoven you will be able to carry out complex analyses and develop solutions based on your findings. You are a problem solver with the ability to design new products, processes and systems. That means you can offer the community new opportunities for sustainability, safety, health, welfare and prosperity. You study in a modern city with excellent student facilities and opportunities for a varied and unforgettable time as a student. As a graduate, TU/e gives you a sound basis for life. You will be able to pick up on new developments independently and to focus constantly on new social challenges. TU/e doesn't just train you for a job, but for a career. As an 'Eindhoven engineer' you can look forward to a varied, challenging, lucrative and socially useful career.

Profile of the university

The TU/e is a relatively young, modern, university. With 7100 students, 240 professors, 640 doctoral candidates and 3000 employees, the TU/e is a medium-size university. The TU/e offers 11 Bachelor's programs, 1 special Bachelor's track, 22 Master's programs and 6 special Master's tracks. The difference between programs and special tracks is in their formal status. The relatively new special tracks have not yet been recognized as independent programs. If you graduate in one of these special Bachelor's or Master's tracks, you will receive the diploma of the recognized Bachelor's or Master's program .

Students find the atmosphere at the TU/e open, informal and friendly. That means it's easy for students to make contact with teachers and other staff.
The TU/e is an internationally leading university that specializes in Engineering Science & Technology. With high-level teaching and research, the university contributes to progress in the technical sciences and to the development of technological innovations, and as a result to the growth of welfare and prosperity in the Eindhoven region and far beyond. The high-level of teaching at the TU/e is underlined by the fact that our programs achieve high scores in independent surveys. Based on national polls among students and professors, the TU/e has been for many years among the three highest scoring universities in the Netherlands for the quality of its teaching. In a survey carried out in 2006 by the UK newspaper The Times, the TU/e was found to be the best university in the Netherlands. A scientific focus and social involvement go hand-in-hand at the TU/e. Close links are maintained with industry, as well as with the healthcare, building and transport worlds. The university has an international and multicultural community, which is why English is increasingly becoming the lingua franca.

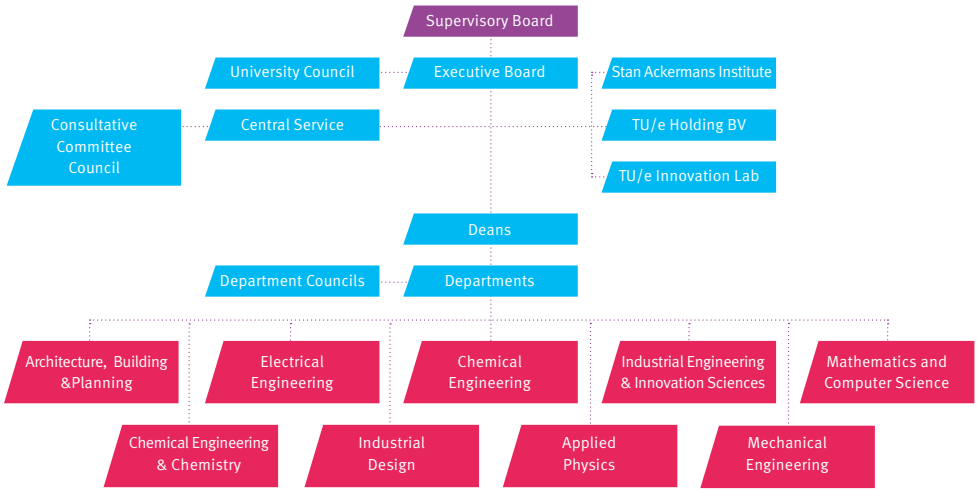
Why follow a study program at TU/e?

The combination of research, design and entrepreneurship provides on the one hand a widely varied choice of programs with interesting working approaches, and on the other hand an excellent preparation for practice. TU/e is a relatively small university. This means that you will soon feel at home on the campus and that you will study and work together in smaller groups. You are accepted easily within the university community, which incorporates many nationalities. TU/e takes full advantage of the fact that it is located in an internationally prominent region of knowledge technology. Companies such as Philips, Océ Technologies BV and ASML are technologically outstanding and knowledge-intensive companies. The university's Departments have many contacts with these as well as other companies. In its educational philosophy, TU/e has developed the so-called Design-oriented education method, which is being implemented in all study programs. By this method you will learn how to develop new approaches to applying technological knowledge in solving different kinds of problems. More information on this subject can be found at chapter 1.3. All these factors together are what makes studying at TU/e so unique.

Internationalisation

TU/e highly values the international exchange of knowledge and actively encourages its Department members, researchers and students to cooperate with colleagues abroad. This is shown, for example, by participation in many European Union programs and membership of European networks of leading universities of technology, such as CLUSTER, Santander Group and CESAER. Outside of Europe the TU/e also has strong alliances with leading universities, for example in China and India. That makes TU/e a university with a really European and global dimension. Students of more than 35 nationalities are currently studying at TU/e. For more information, please visit: www.tue.nl/internationalisation and www.tue.nl/exchangestudent

Organisation chart



Academic authorities:
Rector Magnificus: ***Prof. dr. ir. C.J. van Duijn***
Director International Relations Office: ***Dr. K.S. Ali***

Academic year 2010/2011
https://venus.tue.nl/owinfo/agaj2010_en.html

The academic year at Eindhoven University of Technology is divided into two semesters.
The academic year 2010/2011 starts on Monday 30 August 2010.

Semester 1
Monday 30 August 2010 through Saturday 29 January 2011

Semester 2
Monday 31 January 2011 through Saturday 2 July 2011

Holiday periods and Public Holidays
TU/e is closed between Christmas and the first working day of the New Year. This is also the case for Good Friday, Easter Monday, Queen's Birthday (30th April), Liberation Day (5th May), Ascension Day, second Ascension Day and Whit Monday.

1.3 Education at TU/e

The Bachelor's and Master's structure

All our study programs are divided into a three-year Bachelor's degree program and a two year Master's degree program. All our Master's degree programs, except Science Education and Communication, are taught in English. The Dutch government monitors the quality of all Dutch Master's degrees, so that academic titles are conferred only by recognized institutions and are legally protected in the Netherlands. All the regular courses at TU/e are legally recognized and accredited.

Bachelor's education at TU/e

Eindhoven University of Technology offers 11 Bachelor's programs and 1 special Bachelor's track. The difference between these two Bachelor's is their formal status. The special Bachelor's track is officially not yet independent, but is formally a track of one Bachelor's degree program. The Bachelor's programs are taught in Dutch. Industrial Design is taught in English. After obtaining your Bachelor's diploma at TU/e you are entitled to use the degree of Bachelor of Science (BSc). On completing the special Bachelor's program you will receive the Bachelor of Science diploma of the corresponding Bachelor's program.

List of Bachelor's programs: (www.tue.nl/bachelorprograms)

- Applied Physics
- Architecture, Building and Planning
- Biomedical Engineering
- Chemical Engineering and Chemistry
- Computer Sciences
- Electrical Engineering
- Industrial and Applied Mathematics
- Industrial Design
- Industrial Engineering and Management Sciences
- Industrial Engineering and Management Sciences for Healthcare*
- Innovation Sciences
- Mechanical Engineering

*) This is a special Bachelor's track that still formally forms part of the Bachelor's degree program Industrial Engineering and Management Science.

Major-minor: broadening or deepening your knowledge

Time is made available at the beginning of the third year of the Bachelor's program to take a minor lasting a half-year, which counts for thirty study points. During this time you will study a different subject (the minor) from that of your main educational program (the major). The major-minor system gives you the opportunity to take a look over the boundaries of your own subject, and as a result to broaden your vision and experience. Your choice of minor allows you to add an extra dimension to your education that may well be valuable for the job you want to do after you graduate. By taking a minor, you may find you become so interested in the other subject that you decide to take a Master's program in that subject after completing your Bachelor's. The major-minor system also allows you to make choices that are linked directly to your personal situation and interests. For example if you're interested in going into business, you could choose the university minor in entrepreneurship. The choice of minors available to you as a student is constantly being further developed.

Master's education at TU/e

Eindhoven University of Technology offers 22 Master's programs and 6 special Master's tracks. The difference between these two Master's tracks is their formal status. Special Master's tracks are officially regarded as tracks within a Master's program. This means that the special Master's programs are not yet independent. For some of these programs recognition as independent Master's programs has already been applied for. These special Master's tracks are a response to today's social developments, and for this reason they can still be considered to be in a start-up phase. In addition, these special Master's tracks are in many cases interdisciplinary, which means that they combine elements from a number of separate programs. During a Master's program you can specialize in various areas. The Master's programs are taught in English. After obtaining your Master's diploma at TU/e you are entitled to use the title of 'ingenieur' (ir.) or the degree of Master of Science (MSc). Upon completing a special Master's program you will receive the Master of Science diploma of the corresponding Master's program.

Master's degree programs: see also www.tue.nl/masterprograms

- Applied Physics
- Architecture, Building and Planning
- Automotive Technology
- Biomedical Engineering
- Broadband Telecommunication Technologies*
- Building Services
- Business Information Systems
- Chemical Engineering
- Computer Science and Engineering
- Construction Management & Engineering
- Electrical Engineering
- Embedded Systems
- Fluid and Solid Mechanics*
- Human-Technology Interaction
- Industrial and Applied Mathematics
- Industrial Design
- Information Security Technology*
- Innovation Management
- Innovation Sciences
- Mechanical Engineering
- Medical Engineering
- Nano-Engineering*
- Operations Management & Logistics
- Polymers and Composites*
- Science Education and Communication (taught in Dutch)
- Science and Technology of Nuclear Fusion *
- Sustainable Energy Technology
- Systems and Control

*) This is a special Master's track which is formally a track of one or more Master's degree programs.

Design-oriented education

In its educational philosophy, TU/e has developed the so-called Design-oriented education method, which is being implemented in all study programs. By this method you will learn how to develop new approaches to applying technological knowledge in solving different kinds of problems. This means that TU/e pays a lot of attention to the integration of knowledge, with students working in small groups together with other students from their own and other programs. It ensures that scientific and technological knowledge is immediately translated into applications which can be used in society. All this means is that your Master of Science training will give you a well-developed ability to provide society with new and better technological products and systems.

Information and communication technology (ICT)

As a Master of Science, you will need to be very familiar with the opportunities offered by today's information and communication technology. This will therefore form an important part of your studies, which is why information and communication technology has been integrated into the TU/e education system. You will learn how ICT broadens your study and research horizons by using your own notebook. As a TU/e student you can buy a powerful notebook, including software, at a special price.
For more information www.tue.nl/notebook
At home or at the university you will be able to communicate with teachers and fellow students through the university network. You will find your notebook is just as essential as your textbooks and writing materials. You will be able to consult databases, carry out simulations, read electronic publications and do trial exams. And since you will be working right from the start with the same specialized software that is used by professionals, this will give you an edge on the job market.

Part-time study

It is also possible to take a TU/e Master's degree program on a part-time basis. On our website www.tue.nl/masterprograms you can find out whether your programs of interest offer part-time study.

Dual learning for a practical orientation

Dual learning is a form of education that combined study and working. The integration of this vocational focus in the educational program results naturally in a practical orientation. At present, the Master's programs that offer this facility are Chemical Engineering and Building Services.

Postgraduate programs

Doctorate graduation

Graduates holding a Master of Science diploma can follow a PhD path at TU/e. Within four years you are trained to be an independent researcher. You have a temporary appointment at TU/e as a research assistant. After four years of research you wind up your PhD stage with a thesis. Then you may use the title of doctor (dr.).

Postgraduate programs in technological design

If you are considering a career in industry or business after you graduate, then it's worth knowing that you can get an excellent preparation for it at the 3TU.School for Technological Design, Stan Ackermans Institute. This institute is a cooperation of Delft University of Technology, University of Twente and TU/e. You will follow a two-year program as a trainee technological designer. As well as the personal qualification program, the first year comprises a number of courses that have been specially developed for the designer's programs. These courses are in many cases completed by group work in the form of cases or projects. Most programs are conducted in English, and a large proportion of students come from other countries. Upon your successful completion of this period you will be awarded a PDEng-diploma (Professional Doctorate in Engineering), which entitles you to carry the title of PDEng behind your name. For admission a doctoral diploma is required. A strict selection is made. Most programs allow you to start the program at different times of the year. See also: www.3tu.nl/sai

TiasNimbas Business School

The TiasNimbas Business School of Eindhoven University of Technology and Tilburg University provide part-time programs for professionals at an academic level in various fields of study. The interaction between practical applicability and conceptual knowledge occupies centre stage here. By using the complementary nature of the two universities, TiasNimbas Business School provides an integral training package. See also: www.tiasnimbas.edu.

1.4 Admission requirements and information for foreign students

1.4.1 Information for exchange students

Eindhoven University of Technology offers students from partner universities (like partner universities within the scheme of the Socrates/Erasmus program) the opportunity to study at one of the Departments of TU/e as an exchange student. Depending on the Department, students can choose to follow courses, do a thesis project or research project or an internship.
Exchange students can transfer the credits they obtained at TU/e to their own degree through the European Credit Transfer system on the basis of a prior agreement (to be signed by the student, TU/e and the home institution) on the content of the study program to be successfully completed at TU/e.

Application

How to apply at TU/e as an exchange student or Socrates/Erasmus student?
Students who want to apply for an exchange program at TU/e need to apply directly to the ECTS-coordinator of the Department where they want to study. A list of the Departmental ECTS-coordinators can be found at: www.tue.nl/contactpersons.

You can apply by sending in:
- the TU/e application form, including annex I to apply for housing and Annex II regarding sufficient mastery of English
- transcripts of records from the home university which detail all the study components undertaken to date at the home university
- a passport copy
- a passport photo (3x4 cm)
- if you need a visa: letter of home institution and bank statement.

The application form needs to be signed by you and the ECTS-coordinator of your home institution. Exchange normally takes place within the framework of a bilateral agreement. Students who apply as free movers and are accepted by the department, need to pay tuition fee to TU/e for the period they are studying at TU/e. You need to send the documents to the coordinator of the TU/e Department where you will study at least 2.5 months before the start of your studies (if you need a visa: at least 3 months before the start of your studies). The Department concerned will inform you of their admission decision. If you have been accepted to TU/e as an exchange student, a learning agreement needs to be completed between TU/e, you and your home institution.

Please note that students applying for housing via TU/e are offered a housing contract with a fixed period of one semester (Semester 1 2010/2011: 9 August 2010 - 28 January 2011, Semester 2 2010/2011: 31 January 2011 - 22 July 2011), regardless of their actual period of stay. TU/e can only guarantee housing for a limited number of exchange students. If housing cannot be guaranteed, you will receive a message about this from the department that handles your application.

All documents and procedures for admission as an exchange student can be found at www.tue.nl/exchangestudent:
- application form + annex I and II
- learning agreement.

Language preparation

Exchange students who want to study at TU/e need to have a thorough knowledge of the English language in order to be able to follow courses and participate in research or thesis projects. Students applying to TU/e are therefore required to have a good command of the English language. Information about your level of English should be provided on the application form for exchange students.

The Lifelong Learning Programme

Erasmus, Higher Education

The Lifelong Learning Program, LLP, is the European Community action in the field of education and training for the period 2007-2013. The Erasmus Program for higher education is one of the four sub-programs of LLP. The purpose of Erasmus is to improve the quality of higher education and strengthen its European dimension. It does this by encouraging transnational cooperation between universities, fostering the European mobility of students and teachers, and contributing to improved transparency and academic recognition of qualifications and studies throughout the European Union.

Participating institutions/countries

Erasmus targets universities but also all types of recognized non-university higher education establishments as well as post-university studies. Higher education institutions that have been awarded an Erasmus University Charter (that provides the general framework for all European cooperation activities) from the European Commission have the right to participate in activities supported by the Erasmus program.

Erasmus is applicable to Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, The Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Turkey and United Kingdom.

Activities that can be undertaken are a.o:

Student mobility to higher education institutions;
Student mobility to companies;
Teaching Staff Mobility.

Through participation in Erasmus, institutions can also apply for grants for their students who wish to spend a study period abroad in one of the above-mentioned countries. Grants will be given for a minimum period of three months and a maximum of twelve months.
Conditions which have to be fulfilled:
- the study period abroad must be part of the study program of the home institution and must be given full academic recognition;
- the study period abroad has to be agreed upon officially by the home and the host institution.

Information about The Lifelong Learning Program and all related actions is available on:
http://ec.europa.eu/education/index_en.htm

Students who would like to apply for a scholarship under the Erasmus program are advised to contact the international office/Erasmus office of their home institution, since applications for grants can only be submitted to the home institution.

Visa

If you come to the Netherlands as an exchange student for more than 3 months you might need a visa to enter the Netherlands. Students with the nationality of one of the following countries do not need to apply for a visa to enter the Netherlands: one of the countries of the European Union, Iceland, Norway, Liechtenstein, Switzerland, Monaco, Australia, New Zealand, Canada, the United States of America, Japan and South Korea.

If you do not have the nationality of one of these countries, please specify on the application form that you would like to apply for a visa. If you are accepted by TU/e as an exchange student, the International Relations Office will then contact you to make the necessary arrangements for obtaining a visa and support you in your priority visa application. For this you are required to submit some specific documentation. The International Relations Office will inform you about the procedure and the documents to be submitted.

For general information on visa requirements: www.nuffic.nl/international-students/preparation-stay/preparing-your-stay/visa-and-permits

For exchange students from non-EU/EEA countries:

For a stay of up to three months: You are required to report to the local immigration authorities (Aliens Police) within three days of your arrival.

For a stay of more than three months: You need to apply for a residence permit. To do this, the International office of STU will make an appointment with you after your arrival. They will help you with the application.

For general information on visa requirements:
www.tue.nl/exchangestudent

On arrival for Exchange students

On arrival

Although many arrangements are already made before you arrive in Eindhoven, there are some steps that you need to take on arrival in order to make your stay more comfortable.

1. Accommodation

If you have applied for accommodation through the university accommodation office, you can collect your key at the housing agency. Information about how and when to collect your key will be provided to you before arrival.

2. Announce yourself at your Department

Please inform the ECTS-coordinator of your Department of your arrival. He or she will give you a short introduction to the Department and inform you of the practical arrangements that need to be made. If you are going to take part in a research project or an internship, please also inform your supervisor of your arrival.

3. Collect your student card at the Education and Student Service Center

On the ground floor in the main building of the TU/e campus (HG 0.72), you will find the Educational and Student Service Center/International Relations Office. At the desk of the Education and Student Service Center you can collect your student card and a letter with your identity number and personal code which you need to access the education information system of TU/e: Digital Learning and Working Environment (www.education.tue.nl)

4. If you need a residence permit

Go to the Education and Student Service Center to apply for your residence permit as soon as possible after your arrival. (see: www.nuffic.net/immigration) One of the officers will help you with the forms and will make an appointment for you at the town hall.

5. Register yourself at the town hall

All international students who are staying in Eindhoven for more than four months need to register themselves at the town hall. The town hall is open every weekday between 9.00 and 16.00 hours. Their address is: Stadhuisplein 10, Eindhoven.

Transcript of records

After completion of your period of study abroad at TU/e, your TU/e Department will provide you with a transcript of records containing the study program components you followed at TU/e, the number of credits and the grades.

General information for exchange students: www.tue.nl/exchangestudent

1.4.2 Admission requirements Bachelors

• The Dutch VWO-diploma (pre-university education or equivalent at Western European level) is required for admission. The subjects Mathematics and Physics must have been taken in the last two years of secondary school, and must be mentioned on the diploma list. Students who do not have a Dutch VWO-diploma are assessed on their previous education and diplomas. If your diplomas are assessed as being equivalent to the Dutch diploma, you may be admitted to a Bachelor course.

• Knowledge of the Dutch language

As Dutch is the language of instruction in our Bachelor's programs (with the exception of Industrial Design), holders of foreign diplomas are required to pass the Dutch state exam "Dutch as a Second Language level 2" (also called NT2-II).
Preparation for this examination generally takes one year.
We recommend the following language institutions:
James Boswell Instituut, http://www.jbi.uu.nl;
Language Center Tilburg University www.tilburguniversity.nl/services/dsz/languagecentre;
ROC (regionaal opleidingscentrum) http://www.roc.nl.
After you have passed the NT2-II exam, you can register at the university.

• Knowledge of English

Holders of foreign diplomas are required to prove their knowledge of English by submitting one of the following tests:
TOEFL-test (computer-based minimum score 232, internet based: 90). Students can arrange for their TOEFL results to be sent to TU/e directly by using the TU/e university code number 8615.
Original academic IELTS scores of 6.5 on the overall score.
The TOEFL or IELTS test results may not be older than 2 years.

Application (procedure for foreign Bachelor students)

The following procedure must be followed.

1. Send a letter of application, copies of identity papers, curriculum vitae and enclose certified copies of diplomas and authenticated (certified) translations of diplomas and list of grades. The copies must be in English or Dutch or being translated into English or Dutch by an officially recognized translator.
2. Diplomas will be evaluated to determine whether they are equivalent to the required Dutch pre-university diplomas. The result of the evaluation will be sent to you. If you are accepted for admission, you will receive a letter of conditional acceptance. The acceptance will be conditional because of the fact that almost all Bachelor's programs are taught in Dutch. You will have to learn Dutch before you can become a student at our university (for more information, see below).
3. Housing and Visa will be taken care of by the STU/international relations office. STU/io will contact you in this case.
4. Inform the university of your arrival in the Netherlands.

Below: not for students of the Bachelor's program Industrial Design

5. Apply for an NT2-II Course at a recognised language institute (eg. ROC, James Boswell Institute, Language Centre at the Tilburg University).
6. Register for the Dutch State Examination NT2-II at DUO (the former IBG), the Dutch student registration office (www.ib-groep.nl)
7. Register at the university AFTER you have passed the NT2-II examination.

Note: you can only register at the university AFTER you have passed the NT2-II examination!
N.B. The admission procedure at the university takes approximately two months.
For more detailed information about the admission requirements and procedures: www.tue.nl/masterprograms

1.4.3 Admission requirements Masters

To apply for a Master's program you should follow the procedures described below.

Admission

There are some general requirements for admission to Master's degree programs:
- You need to have a relevant Bachelor's degree (or equivalent), based on a program of sufficient academic level and quality to be able to complete the TU/e Master's degree program in question;
- Sufficient mastery of the English language. In the case of the Master's Program Medical Engineering, proficiency in the Dutch language is also required;
- There may be additional specific requirements for specific programs, also depending on the nature of your prior education.

Application procedure

If you want to enroll as a student in one of the Master's programs at TU/e, you will need to apply for admission. You can apply online via: www.tue.nl/masterprograms under 'admission'.
You will also have to send a complete application package of originals/certified copies to the TU/e International Office. You will receive a confirmation e-mail from the International Office, which includes your application number. If you have not submitted all the required documentation you will be notified by e-mail, and further processing of your application may be delayed until the missing documents have been received by the International Office. TU/e has developed a procedure to evaluate the applications for the Master's programs, and to assess whether your previous education meets the requirements for admission.

Applications that arrive before February 2011 will automatically enter the selection procedure for a number of scholarships that are administered by the TU/e. However, scholarships are awarded in an ongoing process from December 2010 onwards. It is advisible to apply as soon as possible from October 2010 onwards. It is therefore not necessary for you to fill in any other forms to participate in the selection procedure for these TU/scholarships. See also: www.tue.nl/scholarships.
Please bear in mind that the admission procedure at the TU/e takes approximately 2 months once your complete application package has been received. Therefore if you also intend to apply for a scholarship, remember to send your application for admission to a TU/e Master program at least 2 months before the application deadline of the scholarship.

The exact procedures and requirements can be found at www.tue.nl/masterprograms. If you have any further questions about the admission procedure, please contact the STU/Admissions Office: io@tue.nl.

Services after admission

If you are admitted to one of our study programs, there are many things you will need to organize. To help you make the necessary arrangements, the Education and Student Service Center/International Relations Office offers a number of services, including:

Before arrival

- Information on enrolment and other procedures; for all foreign students;
- Support in priority visa application (if needed); for all foreign students;
- Accommodation; for all foreign students.

On arrival

- 'Meet and Greet' service; for Bachelor & Master students;
- Assistance with the enrolment procedure; for all foreign students;
- Assistance in opening a bank account; for all foreign students;
- Assistance in Insurance arrangements; for all foreign students;
- Welcome to Eindhoven pack; for all foreign students;
- TU/e Introduction Program; for Bachelor and Master students;
- Support in residence permit application; for all foreign students.

The International Relations Office can be reached by e-mail: io@tue.nl.
For more information please visit www.tue.nl/masterinfo

1.5 Main university regulations (notably recognition procedures)

ECTS at TU/e

European Credit Transfer System (ECTS)

ECTS credits are a value allocated to course units to describe the student workload required to complete them. They reflect the quantity of work each course requires in relation to the total quantity of work required to complete a full year of academic study and includes lectures, practical work, assignments, projects, private work - in the library or at home – and examinations or other assessment activities. In the Netherlands, credits are measured in terms of the hours of work involved: one ECTS is equivalent to a workload of 28 hours. A full-time one-year program amounts to 60 credits (30 credits per semester), which comprises a student workload of about 1,680 hours. Credits are awarded only when the course unit has been completed and all required examinations have been passed. At the end of a study period at TU/e, a Transcript of Records is made, which details all the course units that have been passed. Students should contact their course administration to obtain the transcript of records before they return to their home country.

Dutch Grading System

Grades at TU/e are given on a scale from 1 (very poor) to 10 (outstanding). The lowest passing grade is 6; 9s are seldom given and 10s are extremely rare and grades 1-3 are hardly ever used.

The Dutch grading system is listed in the table below:

Dutch grade Description
10 excellent
9 very good
8 good
7 satisfactory
6 sufficient/ pass
5 Insufficient / fail
4 Insufficient / fail
3 Insufficient / fail
2 Insufficient / fail
1 Insufficient / fail

ECTS institutional coordinator

Dr. K.S. Ali
Director Education and Student Service Center/International Relations Office.

Departmental ECTS-coordinators

A list of the departmental ECTS-coordinators can be found on the following website: www.tue.nl/contactpersons.

Qualification awarded

All TU/e program phases are concluded with an examination, for which you must sign up through the Digital Learning and Working Environment (www.education.tue.nl). Students who pass exams will receive the certificate connected to that exam on preset dates.

Passing a propaedeutic exam does not carry with it the right to bear a title, but allows you to participate in classes of subjects from the post-propaedeutic phase of the program.

If you pass the final examination of a TU/e Bachelor's program, the "Bachelor of Science" degree is granted. The subject area on which the degree is based, may be added to that degree. The degree may be expressed by placing "BSc" behind your name.

Students who have passed the final exam of a TU/e Master's program will be granted the "Master of Science" degree. The subject area on which the degree is based, may be added to that degree. The degree may be expressed by placing "MSc" behind your name. Students who have passed the final exam of a Master's program are also authorized to bear the (Dutch) title of "ingenieur" (abbreviated to "ir." when placed before the name). However, both titles must not be used at the same time.

Digital Learning and Working Environment (DLWO)

The Digital Learning and Working Environment (www.education.tue.nl) registers all data on a student, registration, study program followed and study progress. It is possible to organize many different administrative items via the above-mentioned website. For example, you have access to:

- information on lecture and examination schedules;
- the electronic guide to subjects;
- examination results;
- comparing your own study progress with that of your fellow students;
- registering for and withdrawing from courses and exams;
- passing on changes of address;
- an overview of the examinations registered for.

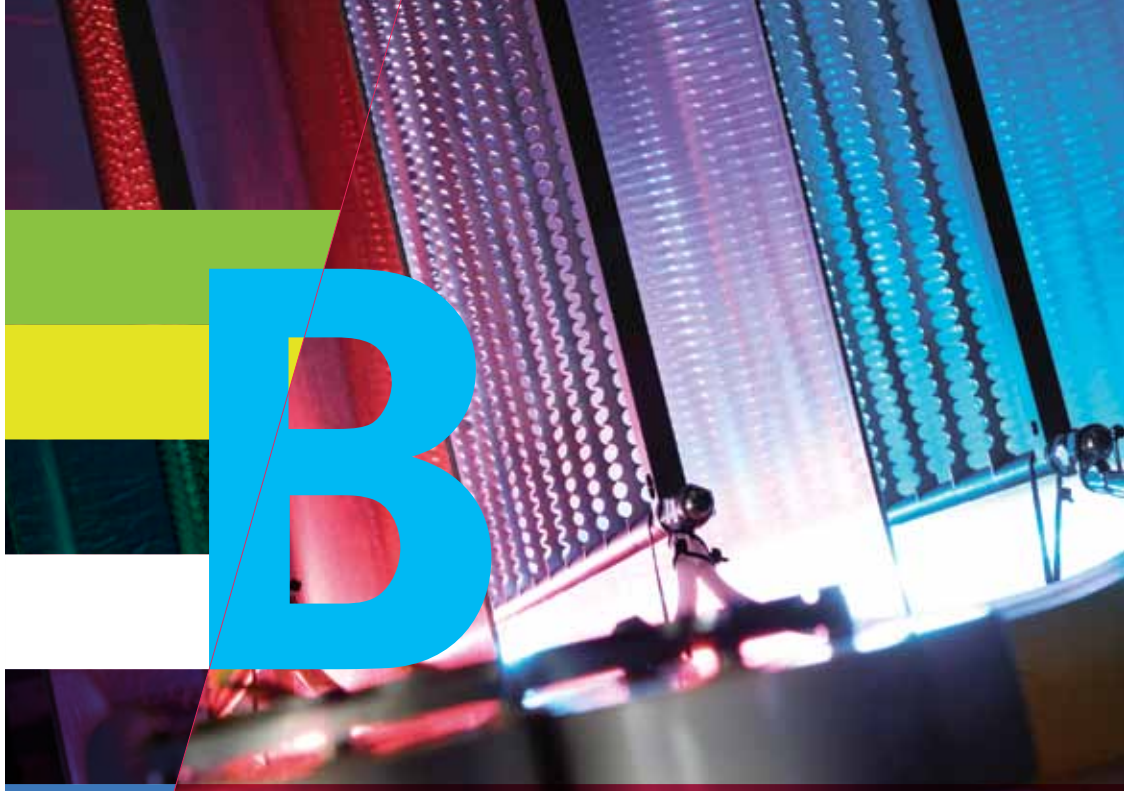
In addition, DLWO is your access point for course materials, course news and news from your study program. It is also the place to submit assignments, to collaborate on projects and to contact your teachers or your fellow students.

For access to the Digital Learning and Working Environment (www.education.tue.nl) you require your network username and password, which you receive after registration. Should you forget your password you can apply for a new one by showing your student ID card at the Service Desk of the Notebook Service Center.

For general information about the individual course units you are not required to have a username and password.

Student ID card

The student ID card can be picked up at the Service Desk after registration at TU/e.



B

The Departments and the study programs

B

1. Department of Applied Physics

Applied physicists have a different view on the world around us. Physical phenomena turn into challenges, fascinating questions to investigate and analyze. But as an applied physicist you go one step further, by applying your knowledge of these phenomena in new technological developments. In many cases these are ambitious endeavors, in which working in teams with people from other disciplines is a central factor. Research carried out by the Applied Physics Department focuses primarily on the nano-engineering of functional materials, transport physics and plasmas & radiation. A total of twelve research groups are working on these research areas. Each group spans the entire 'chain of knowledge', from fundamental to application-oriented research. This means that as a student you will be able to define your own areas of emphasis within each specialization, with the choice of a more practical, numerical or theoretical approach.

BACHELOR

1.1 Bachelor's program Applied Physics

In the Bachelor's degree program of Applied Physics you will acquire the basic knowledge and skills that you need in analyzing and explaining natural phenomena. In this process, mathematics is an important tool. By conducting experiments you will establish the link between theory and practice. During Design-oriented education projects and an internship you can directly apply the knowledge you have gathered. You can decide to fill in six months of the Bachelor's degree program with subjects and projects from other degree programs (this is called a 'minor'). It is also possible to do a combination study of Applied Physics and Industrial and Applied Mathematics. Then you will be following a slightly heavier program. After the first year you decide in which Bachelor's degree program you will continue.

Connecting Master's programs

After completion of your Bachelor's degree program in Applied Physics, you will be admitted directly to the following TU/e Master's degree programs:

- Applied Physics;
- Nano-Engineering *;
- Science and Technology of Nuclear Fusion*;
- Science Education and Communication;
- Automotive Technology;
- Fluid and Solid Mechanics *;
- Sustainable Energy Technology;

* This is a special Master's track which is formally a track of one or more Master's degree programs.

After the Bachelor's program?

After obtaining their Bachelor's diploma many graduates will transfer to a Master's degree program.

www.tue.nl/bacheloropleidingen/tn

Degree:	Bachelor of Science
Duration:	3 years – 180 ECTS
Language:	Dutch
Structure of the program:	First year: (60 ECTS) • Experimental courses and (Design-oriented) projects: 18 ECTS • Lectures and workshops - Physics: 22 ECTS - Mathematics: 20 ECTS
Structure of the program:	Second year (60 ECTS): Major 60 ECT
Structure of the program:	Third year (60 ECTS): Major 30 ECTS Minor 30 ECTS
Minors:	• Applied Physics • Computer Science Engineering • Connecting Intelligence • Design of Mechanical Systems • Education and Communication • Embedded Systems • Energytechnology • Engineering for Health • Entrepreneurship and Innovation • Finance and Risk • Industrial Design • Mathematics • Operations Management and Logistics • Polymers • Technology and International Sustainable Development

MASTER

1.2 Master's program Applied Physics

The Master's degree program in Applied Physics gives you the opportunity to get involved in physical phenomena, new technologies and measurement methods. These are based on technical applications of physical principles in the most diverse disciplines.

Graduation options

The five tracks are:

- Nano-engineering
- Science and Technology of Nuclear Fusion
- Functional (Nano-) Materials;
- Plasma Physics and Radiation Technology;
- Physics of Transport in Fluids;

www.tue.nl/masterprograms/ap

ECTS-coordinator Department of Applied Physics:	
www.tue.nl/contactpersons	
Study possibilities:	Full-time, part-time (by arrangement)
Degree:	Master of Science
Language:	English
Times of entry:	at the beginning of each semester
Duration:	2 years (120 ECTS)
Structure of the program:	first year (60 ECTS) • Electives: - specialization courses: 12 ECTS - technical courses: 9 ECTS - optional courses: 12 ECTS • Internship: 19 ECTS • Interdepartmental project: 8 ECTS
Structure of the program:	second year (60 ECTS) • Final internship: 60 ECTS

Internships

Approximately two-thirds of the Master's degree program consists of internships. Your first year will include an internship at a company in the Netherlands, or at a company or university in another country. This internship can be of a theoretical or practical nature, but a combination of both is also possible. The entire second year of the Master's degree program consists of a final internship, during which you will independently complete a major project. While doing this you will see that the knowledge and skills that you will by then have gained are essential for the successful completion of your project. After completing your final internship you will obtain the degree and the title of Master of Science in Applied Physics.

Future perspectives

Depending on your chosen track you could find a position in the research laboratories of organizations such as Philips, ASML, Océ or KPN, or in smaller companies and engineering bureaus. Physicists are also found in institutes such as the KNMI, TNO, Netherlands Institute for Space Research (SRON) and the Foundation for Fundamental Research on Matter (FOM). Since you learn during the program how to analyze and solve problems, you will also be able to work in (management) positions outside the field of physics. In practice, a substantial group of graduates choose this option, and take up careers outside the research laboratories and institutes, hospitals and education.

B

2. Department of Architecture, Building and Planning

Human behavior is influenced by the built environment, and certainly in a small country like the Netherlands this environment is subject to long-term planning. This means that building engineers have a high degree of responsibility in finding the right balance between science, technology and design. However, the conflicting interests also include economic, political and environmental aspects. The Netherlands is changing in demographic terms and in its social structures. Society will have to provide constant stimulation for building with innovative and market-oriented concepts. One of the characteristics of the built environment is that its physical lifetime is usually longer than the economic lifetime. This means that one of the focal research areas is the development of durable, flexible, environment-friendly and safe buildings and installations.

BACHELOR

2.1 Bachelor's program Architecture, Building and Planning

Through lectures, instructions and project work you will gain insight into the various building disciplines and develop your skills in analyzing, designing, cooperating and presentation. From the second year you will choose one of the four profiles. In Architecture and Technology you will explore the technical possibilities in architecture. In Technology and Management you will enter into the makability and the feasibility of buildings. In Management and Urban Design you will deal with the management and political problems in the development and restructuring of districts. Finally, in Urban Design and Architecture you will design at the level of neighborhoods and buildings.

www.tue.nl/bacheloropleidingen/bouw

Degree:	Bachelor of Science
Duration:	3 years – 180 ECTS
Language:	Dutch
Structure of the program:	First year: (60 ECTS) • Cursory education: 40 ECTS • Project work: 16 ECTS • Practicals: 4 ECTS
Structure of the program:	Second year (60 ECTS): Courses Education: 36 ECTS Project work: 24 ECTS
Structure of the program:	Third year (60 ECTS): Major 30 ECTS Minor 30 ECTS

Connecting Master's programs

After completion of the Bachelor's degree program in Architecture, Building and Planning you will be admitted directly to the following TU/e Master's degree programs:

- Architecture, Building and Planning;
- Construction Management and Engineering.

After the Bachelor's program?

After obtaining their Bachelor's diploma many graduates will transfer to a Master's degree program.

MASTER

2.2 Master's program Architecture, Building and Planning

Interdisciplinarity is the key characteristic of the Master's degree program in Architecture, Building and Planning. Based on your own discipline, you will learn to understand the problems of other disciplines. This will be important in your future career, because the work of a small architects' bureau cannot be compared to that of large project developers. Through the project-driven education, you will develop a design-oriented approach that is based on independent analytical ability, synthetic skills and the many opportunities offered by information technology. Next to communication skills and presentation techniques, a scientific approach and a good measure of creativity are essentials in the design process.

Graduation options

- Architecture;
- Building Technology;
- Construction Technology;
- Design & Decision Support Systems;
- Physics of the Built Environment;
- Real Estate Management & Development;
- Structural Design;
- Urban Design & Planning.

Internships

This Master's degree program does not include a compulsory internship. However, you may if you wish opt to carry out one or more Master's projects in a company. These assignments must then be equivalent in terms of teaching aims, structure, final result and scope to the corresponding Master's project within TU/e.

Future perspectives

Teaching in the Architecture, Building and Planning Department focuses on research and design. This means that the education does not train you for a specific career. The Master's degree program Architecture, Building and Planning provides you with a good basis for a further career in the field of building. Depending on your specialization you will be able to take on roles in the areas of design, consultancy, management and/or research. Building engineers are in constant demand in the Netherlands as well as other countries. You will be able to work for the government, architects' bureaus, contractors, supplying industries, housing associations, research institutes and education.

www.tue.nl/masterprograms/abp

ECTS-coordinator Department of Architecture, Building and Planning:
www.tue.nl/contactpersons

Study possibilities:	Full-time and part-time
Degree:	Master of Science
Language:	English
Times of entry:	At the beginning of each semester
Duration:	2 years (120 ECTS)
Structure of the program:	first year (60 ECTS) • Project work: 28 ECTS • Courses: 32 ECTS
Structure of the program:	second year (60 ECTS) • Final project: 37 ECTS • Project work: 9 ECTS • Portfolio: 7 ECTS • Courses: 7 ECTS

MASTER

2.3 Master's program Building Services

Building Services focuses on the design of healthy, sustainable and intelligent buildings. A great deal of attention is given to the total design process of buildings and installations, with the emphasis on optimizing the interior environment of a building while at the same time retaining its architectural qualities. The Master's degree program in Building Services is a multidisciplinary program at TU/e. The Architecture, Building and Planning, Mechanical Engineering, Electrical Engineering, and Mathematics and Computer Science Departments are directly involved in the teaching program. Building Services involves the study of eight main themes: Design methodology, Health and comfort, Integrated building design, Heat and moisture in building envelopes, Building performance simulation, Sustainable building systems, Intelligent buildings and Safety buildings. These themes are covered in lectures, and you can deepen your knowledge through projects and electives. Your final project in most cases consists of an assignment that is linked to one of these themes.

Graduation options

- Health and comfort;
- Integral building and system design;
- Building performance simulation;
- Sustainable building systems;
- Intelligent Buildings;
- Building services and management.

Internships

In your Master's program you can do an internship in the Netherlands or another country. You can also graduate at a company or knowledge institute in the Netherlands or another country.

Future perspectives

The need for a Building Services program arises out of the direct demand in professional practice. This is because of the increasing quality awareness, with the emphasis on comfort, health and sustainability. In addition, there is a serious shortage of graduates from the Master's degree program in Building Services.

You can find employment as an installations consultant working for the government, consultancy bureaus and management companies. As a researcher you can work for various knowledge centers. Member companies of the VNI-Uneto trade organization in the Netherlands (6,000 companies with 98,000 employees) are also important employers. You could also work as an energy-saving specialist at municipalities and energy utilities.

www.tue.nl/masterprograms/bs

ECTS-coordinator Department of Architecture, Building and Planning:	
www.tue.nl/contactpersons	
Study possibilities:	Full-time, part-time and dual
Degree:	Master of Science
Language:	English
Times of entry:	At the beginning of each semester
Duration:	2 years (120 ECTS)
Structure of the program:	first year (60 ECTS) • Lectures: 36 ECTS • Projects: 24 ECTS
Structure of the program:	second year (60 ECTS) • Lectures: 12 ECTS • Final project: 48 ECTS

B

3. Department of Biomedical Engineering

Biomedical engineering is a subject that is rapidly gaining in importance. Today's technology has become an essential part of modern healthcare and patient care. Both in industry and in healthcare there is an increasing need for people who can deal with today's increasingly complex biomedical problems. The biomedical engineer specializes in solving technical problems that require an understanding of the functioning of the human. Therefore the biomedical engineer possesses engineering skills and knowledge and a comprehensive medical en biological understanding.

BACHELOR

3.1 Bachelor's program Biomedical Engineering

In the Biomedical Engineering program you learn how to deploy engineering methods to solve biomedical issues. In this process you always start from your knowledge of biology. Subsequently you use methods of analysis and synthesis from physics and chemistry, arithmetic methods from mathematics, construction methods from mechanical engineering, measurement and control systems from electrical engineering and programming methods from computer science.

Connecting Master's programs

After completion of the Bachelor's degree program in Biomedical Engineering you will be admitted directly to the following TU/e Master's degree programs:

- Biomedical Engineering;
- Medical Engineering.

After the Bachelor's program?

After obtaining their Bachelor's diploma many graduates will transfer to a Master's degree program.

www.tue.nl /bacheloropleidingen/bmt

Degree:	Bachelor of Science
Duration:	3 years
Language:	Dutch
Structure of the program:	First year: (60 ECTS) • Courses: - Lectures: 9 ECTS - Assisted self-study: 9 ECTS - Self-study at home: 18 ECTS • Design-oriented education: - Group meetings: 3 ECTS - Research / Experiments / Training courses: 21 ECTS
Structure of the program:	Second year (60 ECTS): Major 60 ECTS
Structure of the program:	Third year (60 ECTS): Major 30 ECTS Minor 30 ECTS

MASTER

3.2 Master's program Biomedical Engineering

The Master's degree program in Biomedical Engineering (BME) aims to train engineers who are able to organize and carry out both fundamental and applied research in the field of biomedical engineering. This multidisciplinary program is based on integrating technical and life sciences, and you can specialize in a number of different disciplines. The subject matter is complex, and the focal areas involved include innovation and development. The program is research driven and design-oriented. Although most of the courses have a biomedical and technical orientation, and provide a basis for the specializations in the Master's degree program, it is also possible to choose courses that approach biomedical problems from a different angle, for example from an economic, ethical or health-science perspective.

Graduation options

- Molecular Bioengineering & Molecular Imaging;
- Biomechanics & Tissue Engineering;
- Biomedical Imaging & Modeling.

Internships

The two internships within the Master's program offer an introduction to current research projects. During your internship you will gain research experience and develop the professionalism you need for your graduation project. To gain an impression of your future career opportunities, you will take two internships. These two internships differ in their depth, duration and in most cases also in subject. You start with a short internship at TU/e or Maastricht University. The second internship is in a company or institute, or a research laboratory at another university. Of course you can opt to do the longer internship in another country, which is something that 80% of the present BME students do. All internships take place at a location with which your internship tutor maintains close contacts, ensuring that you have good supervision and support during your internship, and that your results are of the right academic level.

Future perspectives

As a biomedical engineer you will be able to work in a number of different disciplines within the overall field of biomedical engineering, for example as a developer or designer of products or services based on medical technology for trade and industry. These could include drug delivery systems and prosthetics, or scanning equipment. However, most biomedical engineers are interested in carrying out doctoral research at a university, after which there are extensive career opportunities in industry or at universities. It is also possible to follow a program for clinical physicists, although this means that you will have to take specific elective courses during your Master's program.

www.tue.nl/masterprograms/be

ECTS-coordinator Department of Biomedical Engineering:
www.tue.nl/contactpersons

Study possibilities:	Full-time, part-time (by arrangement)
Degree:	Master of Science
Language:	English
Times of entry:	At the beginning of each semester
Duration:	2 years (120 ECTS)
Structure of the program:	first year (60 ECTS) • Electives: 30 ECTS • Internal internship: 10 ECTS • External internship: 20 ECTS
Structure of the program:	second year (60 ECTS) • Final project: 60 ECTS

Other departments involved in the program:
Department of Electrical Engineering
Department of Chemical Engineering and Chemistry
Department of Applied Physics
Department of Mechanical Engineering
Department of Mathematics & Computer Science
Department of Health, Medicine and Life sciences (UM)

MASTER

3.3 Master's program Medical Engineering

In the Master's degree program in Medical Engineering you will follow the rapid developments in the field of (bio)medical technology, and you will learn to translate these to the needs of clinical practice. You will gain knowledge in quantifying patient measurements, and you will use the results as input for (mathematical) models. During the Master's degree program you will learn to use models for patient-specific solutions, improving the diagnostic abilities of doctors and enabling them to make a more soundly based choice of treatment. In addition, you will learn to carry out self-reliant clinical research. As a future medical engineer you will also gain insight into the healthcare system. Once you start your career, you will ultimately be able to act as a fully-fledged member of treatment teams, working together with medical specialists, with your own specific tasks and responsibilities.

Graduation options

Depending on your own interests, you can choose from a range of specializations and major fields. In many cases you will select the topics that best match your own preferences together with your finals mentor. For example, you could specialize in radiology, surgery, radiotherapy or cardiology, neurophysiology or audiology.

Internships

At the end of the first year you will follow an external internship. This internship allows you to deepen your knowledge of one of the clinical disciplines with which you have become familiar during the clinical modules in the first year. You will carry out research in this area over a period of three months, while working in a research group in a hospital, either in the Netherlands or abroad. This will give you a good impression of the current research projects. The project will enable you to gain experience and to develop the professional approach that you will need for your final project. This final project will take up the rest of your second year.

Future perspectives

After graduation you will be able to find employment in a teaching hospital or other large (regional) hospital. You will continue your professional development by carrying out clinical research and by working within specialized treatment teams. You will be able to take a responsible position in the decision-making process in relation to the diagnosis and treatment of individual patients. Your options will also include further training to become a clinical physicist or clinical chemist. Another good choice could be a position in industry, playing an intermediary role between medical specialists and product developers.

www.tue.nl/masterprograms/med

ECTS-coordinator Department of Biomedical Engineering:
www.tue.nl/contactpersons

Study possibilities:	Full-time
Degree:	Master of Science
Language:	English Dutch (during internship and clinical modules)
Times of entry:	At the start of each academic year
Duration:	2 years (120 ECTS)
Structure of the program:	first year (60 ECTS) • Courses: 24 ECTS • Clinical modules: 16 ECTS • Internship: 20 ECTS
Structure of the program:	second year (60 ECTS) • Final project: 60 ECTS

Other departments involved in the program:
Department of Electrical Engineering
Department of Chemical Engineering and Chemistry
Department of Applied Physics
Department of Mechanical Engineering
Department of Mathematics & Computer Science
Department of Health, Medicine and Life sciences (UM)

B

4. Department of Chemical Engineering and Chemistry

Chemical technology plays an important role in solving social problems. Examples of this are the development of new forms of clean energy, new materials with highly specific properties such as ultra-strong fibers, as well as the design of new molecules, for example for controlled drug delivery systems. The research focus in the Master's program in Chemical Engineering is on the areas of Organic and Macromolecular Engineering, Inorganic Chemistry and Catalysis, Process Engineering, Materials Sciences and Polymer Technology. Working on a molecular scale, new molecules are developed, making use of catalysis for the conversion of raw materials into the desired products.

BACHELOR

4.1 Bachelor's program Chemical Engineering and Chemistry

In the Chemical Engineering and Chemistry program you will gain knowledge from the disciplines of Chemistry, Materials Science and Process Engineering. The research is broad and extends well into other fields of study. This is visible in the study program, in which the following six socially relevant themes are central: Sustainable Energy, Nanotechnology, Health & Life Sciences, Advanced Materials, Product Design & Process Management and Sustainable Molecular Engineering.

Connecting Master's programs

After completion of the Bachelor's degree program in Chemical Engineering and Chemistry you will be admitted directly to the following TU/e Master's degree programs:

- Automotive Technology;
- Chemical Engineering;
- Polymers and Composites *;
- Sustainable Energy Technology;

* This is a special Master's track which is formally a track of one or more Master's degree programs.

After the Bachelor's program?

After obtaining their Bachelor's diploma many graduates will transfer to a Master's degree program.

www.tue.nl /bacheloropleidingen/st

Degree:	Bachelor of Science
Duration:	3 years - 180 ECTS
Language:	Dutch
Structure of the program:	First year: (60 ECTS) • Lectures: 20 ECTS • Assisted self-study: 20 ECTS • Skill blocks and Design-oriented projects: 20 ECTS
Structure of the program:	Second year (60 ECTS): Lectures: 20 ECTS Assisted self-study: 20 ECTS Skill blocks and design-oriented projects: 20 ECTS
Structure of the program:	Third year (60 ECTS): Major program: 30 ECTS: • Lectures: 8 ECTS • Assisted self study: 7 ECTS • Design-oriented projects: 8 ECTS • Individual major project: 7 ECTS Minor program: 30 ECTS

MASTER

4.2 Master's program Chemical Engineering

The Master's degree program in Chemical Engineering will train you to become a chemical engineer with a high level of professional expertise. During the Master's program you will specialize in the field of Chemistry, Materials Science or Process Engineering. By means of electives within these tracks, company internships and your final project you will be able to widen your knowledge of a specific subject, or in contrast you can choose to broaden your field of knowledge. The program also devotes attention to social developments and issues.

Graduation options

The following specializations are possible within the Master's degree program in Chemical Engineering:

- Polymers and Composites;
- Molecular Engineering;
- Process Engineering.

Internships

During your Master's program you will do an internship of at least three months in a company in the Netherlands or another country. These companies can vary greatly in nature and size, and include industrial multinationals, service providers, government institutions and engineering agencies. During your company internship you will become familiar with the working practice of a professional chemical engineer. You will gain experience in a multidisciplinary company, where you will be working on solving problems at the level of a starting engineer. In addition, you will learn how to conduct discussions and present results, both orally and in writing.

Future perspectives

After the Master's program in Chemical Engineering you will be well prepared for a varied career. This degree will give you a wide range of options in the employment market. For example you could work as a researcher, research leader, process/product engineer, environmental consultant, policy officer or teacher. Many managers in the chemicals industry also have a background in chemical engineering. In the business world you could take a position that makes use of your organizational, coordinating and leadership skills. Governments also employ large numbers of chemical engineers, for example in environmental departments, water boards and in healthcare. In addition, many of our graduates can be found in design and patent agencies.

www.tue.nl/masteropleidingen/ce

ECTS-coordinator Department of Chemical Engineering:
www.tue.nl/contactpersons

Study possibilities:	Full-time, part-time (by arrangement)
Degree:	Master of Science
Language:	English
Times of entry:	Preferably in September
Duration:	2 years (120 ECTS)
Structure of the program:	two years (120 ECTS) • Compulsory courses: 21 ECTS • Electives: 27 or 12 ECTS (depending on size of the final project) • Final projects: 38 or 53 ECTS (depending on size of the final project) • Company internship: 20 ECTS • Multidisciplinary project: 8 ECTS • Academic competences: 6 ECTS
Other departments involved in the program:	Department of Biomedical Technology Department of Applied Physics

B

5. Department of Electrical Engineering

Electrical Engineering deals with the application and modeling of electromagnetic phenomena in the fields of signal processing, telecommunications control and energy transmission. Research is carried out not only on hardware, e.g. electrical circuits and systems, but also on software, e.g. models and information systems. State-of-the-art electrical components and systems are designed, analyzed and implemented. The discipline of Electrical Engineering is a dynamic field of study, and graduates can be sure of explorative, innovative and leading roles. Electrical Engineering research is carried out in the Department's nine groups:
Electronic Systems, Mixed-Signal Micro Electronics, Electro-Optical Communications, Electromagnetics, Electrical Energy Systems, Electromechanics and Power Electronics, Control Systems and Signal Processing Systems. The department's research activities are focused on three fields: communication (The Connected World), healthcare (Care and Cure) and the environment (Smart and Sustainable Society).
The research program is in general divided among fundamental, application-oriented and design-oriented projects. Students are actively involved by means of internships and the final project.

BACHELOR

5.1 Bachelor's program Electrical Engineering

That all fields of the Electrical Engineering program are connected is something you will find out straight away during the projects that you do throughout your study. Indeed, these projects are based on the lectures that you follow in that period. In the first year you will get extensive assistance, but in the second and third year you will digest the subject matter more and more independently. You will learn how to turn electrotechnical networks into models, how to calculate a magnetic field, how a chip is constructed and how the latest communication systems are built up. All subjects require an abstract and mathematical way of thinking.

www.tue.nl/bacheloropleidingen/ee

Degree:	Bachelor of Science
Duration:	3 years – 180 ECTS
Language:	Dutch
Structure of the program:	First year: 60 ECTS • Lectures: 20 ECTS • Instructions: 20 ECTS • Project: 20 ECTS
Structure of the program:	Second year (60 ECTS): Major 60 ECTS
Structure of the program:	Third year (60 ECTS): Major 30 ECTS Minor 30 ECTS

Connecting Master's programs

After completion of the Bachelor's degree program in Electrical Engineering you will be admitted directly to the following TU/e Master's degree programs:

- Electrical Engineering;
- Broadband Telecommunication Technologies *;
- Embedded Systems;
- Sustainable Energy Technology;
- Automotive Technology;
- Medical Engineering;

* This is a special Master's track which is formally a track of one or more Master's degree programs.

After the Bachelor's program?

After obtaining their Bachelor's diploma many graduates will transfer to a Master's degree program.

MASTER

5.2 Master's program Electrical Engineering

During the Master's degree program in Electrical Engineering you will follow two 'mini-programs'. These are clusters of related courses; one of those must be in a technical subject. The other can for example be focused more on management. You will also follow a general professional development course, which will include skills such as writing a business plan. In the first two years you will take at least one internship, and in the second year you will take an internship of ten weeks, possibly in another country. After that, you will extend your knowledge in a track by means of elective courses, in preparation for your graduation project. This project marks the completion of your Master's program. You will compile the results of your graduation work in a paper that you will present at a symposium.

www.tue.nl/masterprograms/ee

ECTS-coordinator Department of Electrical Engineering:	
www.tue.nl/contactpersons	
Study possibilities:	Full-time and part-time
Degree:	Master of Science
Language:	English
Times of entry:	September
Duration:	2 years (120 ECTS)
Structure of the program:	first year (60 ECTS) • Mini-program: 24 ECTS • Electives: 18 ECTS • Professional development: 9 ECTS • Internship: 9 ECTS
Structure of the program:	second year (60 ECTS) • Internship: 14 ECTS • Final project: 46 ECTS

Graduation options

In the Master's degree program in Electrical Engineering you can choose to do your graduation project in one of nine research groups: Electronic Systems, Mixed-Signal Micro Electronics, Electro-Optical Communications, Electromagnetics, Electrical Energy Systems, Electromechanics and Power Electronics, Control Systems and Signal Processing Systems.

Internships

During the Master's degree program in Electrical Engineering you will follow one short internships and one long internship. You can also choose to do the long internship in another country, and this can be extended to give you more credits. Internships in other countries are a unique experience in both technological and social terms, and many students choose them for these reasons. For example, you could take an internship at the University of Rio de Janeiro, or in a company such as Siemens in Munich.

Future perspectives

Most graduates start their careers in research or product development, for example at one of the high-tech companies located in the Eindhoven region. Others find opportunities abroad, in high-tech companies, or at universities. The broadly based education and the systematic thinking that you have learned mean you will be able to operate not only in your own specialist field, but also in completely new domains.

B

6. Department of Industrial Design

Not so long ago virtually every product had a clearly defined form and function. However, the advent of computer technology has enabled a much richer interaction between products, their users and the environment. A phone, for example, is no longer just a device with which to call someone, but it also enables you to send e-mails, or take photos and films. Developments in the field of information processing and interchange are rapid, and bring with them a wide range of challenges and issues. To address these effectively engineers are required with the ability to match technology to the real needs and wishes of users. Students in the Industrial Design Master's program focus on intelligent products, systems and services. Among the factors that reflect the intelligence of the product or system is the extent to which it can be used effectively and flexibly by the user.

BACHELOR

6.1 Bachelor's program Industrial Design

The educational setup of the Industrial Design program is different from other TU/e study programs. Every six months this digital portfolio is assessed. From the first day you will work in a practical setting and in a team, so you will immediately put into practice whatever you learn during the program as well as all the skills that you develop. Sixty per cent of the time you will work as a student in these projects, which are ranged into eleven themes. Further there are individual assignments, study trips, special activity weeks and there is an internship. Studying in this program is often a day's work and sometimes even more than that. This is why strong motivation and commitment to the subject are of vital importance. Although you will usually speak Dutch, the Bachelor's degree program is officially in English. For this reason all reports will be in English.

www.tue.nl/bacheloropleidingen/id

Degree:	Bachelor of Science
Duration:	3 years – 180 ECTS
Language:	English
Structure of the program:	First year: 60 ECTS • Project learning: 36 ECTS • Assignments, activity weeks: 24 ECTS
Structure of the program:	Second year (60 ECTS): Project learnings: 36 ECTS Assignment, activity weeks: 24 ECTS
Structure of the program:	Third year (60 ECTS): Major 30 ECTS Minor 30 ECTS

Connecting Master's programs

After completion of the Bachelor's degree program in Industrial Design you will be admitted directly to the TU/e Master's degree program Industrial Design. You can also be admitted to Master's degree programs of the university of Delft or Twente.

After the Bachelor's program?

After obtaining their Bachelor's diploma many graduates will transfer to a Master's degree program.

MASTER

6.2 Master's program Industrial Design

The Master's degree program in Industrial Design is based on three pillars: technology, user focus and design, which means that it is fundamentally multidisciplinary. Master's students are expected to reach an adequate level in these areas, and in addition to have academic thinking and analytical levels together with well-developed social and ethical faculties. The Industrial Design Department applies a unique teaching model, in which students in both the Bachelor's and Master's programs learn on a competency-oriented basis. The ability to apply directly what you learn and the ability to integrate knowledge are essential characteristics of the program. Students' progress is monitored by means of half-yearly assessments.

As a student in this Master's program you first of all draw up a Personal Development Plan, which serves as a guideline for your entire program, and which you discuss carefully with your mentor, a so-called competency coach. You will learn from the feedback from your coaches, fellow students, people who give you assignments and experts, and you will collect your experiences together with your so-called learning evidence in a digital portfolio. You will take part in projects with various stakeholders, who may be clients from outside the university, fellow students or researchers. You will also work on assignments, specific tasks focused on a wide range of competencies.

Graduation options

After you first Master's year you choose between two directions: design or design research. You'll be working closely together with one of the research groups: Designed Intelligence, User Centered Engineering and Designing Quality in Interaction respectively.

Internships

During the half-year in which you graduate, you will normally spend a large part of your time with and in a company, often located abroad. These companies include Philips (for example the Philips Homelab), ATR in Japan which focuses on intelligent robots, as well as large companies such as Sony and Ericsson.

Future perspectives

As a graduate of the Master's degree Program in Industrial Design, you will have achieved an academic level that means you are familiar with a significant new technology domain: that of 'ambient intelligence'. This technology is expected to offer exciting future opportunities. Next to that, you will have a proactive and multifaceted background in technology, as well as in user research and design, and besides that you will be a true team player. This means you will be able to respond optimally to issues arising from the world of business, as well as from the community at large. Among the possible career areas are in-company design departments, design bureaus, or your own design company. When you choose the direction of designing research you can continue with a PhD in our own department.

www.tue.nl/masterprograms/id

ECTS-coordinator Department of Industrial Design:
www.tue.nl/contactpersons

Study possibilities:	Full-time
Degree:	Master of Science
Language:	English
Times of entry:	September or February
Duration:	2 years (120 ECTS)
Structure of the program:	first year (60 ECTS) • Projects: 30 ECTS • Assignments: 30 ECTS
Structure of the program:	second year (60 ECTS) • First half: flexible modules • Second half: graduation

Co-operation with other universities

For many programs the Industrial Design Department maintains intensive links with other programs and especially with other centers and institutes that work on 'ambient intelligence' such as Georgia Tech in Atlanta, Carnegie Mellon University, Pittsburgh and RMIT University Melbourne. Right from the start the department has also worked together with the National University of Singapore (NUS), the Royal College of Arts (London) and Politecnico di Milano.

B

7. Department of Industrial Engineering & Innovation Sciences

The Industrial Engineering & Innovation Sciences Department (IE&IS) at TU/e provides education and performs research focused on industrial and social applications. The department offers two bachelor's programs, one special bachelor's program and four master's programs, each with a broad educational focus. The curriculum thus encompasses economics, marketing, IT, logistics, and human and social factors, all of which play an essential role in making operational processes more efficient. These factors also affect the innovation success rate.

The staff performs strategic technology research on such things as:

- Stock control systems for spare and service parts, with the aim of lowering costs and shortening waiting times;
- Quantifying and improving the design and development process for creating new products and bringing them onto the market;
- Improving information systems within companies to effect more efficient communication between departments;
- Evaluating the effectiveness of teamwork and employee performance in the medical sector;
- Using engineered "real-life" situations to gain experience with sustainable alternatives (e.g., the future energy infrastructure known as smart grids);
- Impact of new technologies on human beings (levels of acceptance, confidence in them, ease of use, etc.).

BACHELOR

7.1 Bachelor's program Industrial Engineering and Management Science

Industrial Engineering and Management Sciences is an educational program in which you will look at business processes from the perspectives of people, technology and organizations. You will develop a thorough theoretical basis and will devote a lot of attention to its practical applications. The study program is broad, featuring courses in the areas of mathematical modeling and technology, industrial and organizational psychology, innovation management, economics, and organization and management. In addition to a 'broad view' you will also learn how to 'focus'. This means that you learn how to isolate a problem by distinguishing between main issues and side issues. Additionally, you will often have to think of new methods yourself; Finding creative solutions based on a thorough analysis will be your greatest challenge in this process.

www.tue.nl/bacheloropleidingen/tb

Degree:	Bachelor of Science
Duration:	3 years – 180 ECTS
Language:	Dutch
Structure of the program:	First year: 60 ECTS Lectures • Industrial Engineering courses: 30 ECTS • Mathematics and Statistics: 27 ECTS • Integrated courses: 3 ECTS
Structure of the program:	Second year (60 ECTS): Major 60 ECTS
Structure of the program:	Third year (60 ECTS): Major 30 ECTS Minor 30 ECTS

Connecting Master's programs

After completion of the Bachelor's degree program in Industrial Engineering and Management Science you will be admitted directly to the following TU/e Master's degree programs:

- Innovation Management;
- Operations Management & Logistics;
- Business Information Systems;
- Construction Management and Engineering.

After the Bachelor's program?

After obtaining their Bachelor's diploma graduates will transfer to a Master's degree program.

BACHELOR

7.2 Special Bachelor's track Industrial Engineering and Management Science for Healthcare*

* This is a special Bachelor's track which is formally a track of the Bachelor's degree program Industrial Engineering and Management Science.

Industrial Engineering and Management Science for Healthcare deals with the improvement of processes in health care by means of technology. The field of study of this program applies technological and behavioral scientific knowledge in solving problems in health care. You learn how to support and improve processes within and between health care institutions, but also between patient and caregiver by means of technology. You follow subjects such as health care processes and their organization, logistics, information systems for health care, research methods and technology, health psychology, economics of health care, mathematics, philosophy of science and ethics.

www.tue.nl/bacheloropleidingen/tbg

Degree:	Bachelor of Science
Duration:	3 years – 180 ECTS
Language:	Dutch
Structure of the program:	First year: 60 ECTS • Specific for this special track: 27 ECTS • Other: 33 ECTS Second Year: 60 ECTS • Specific for this special track: 27 ECTS • Other: 33 ECTS Third Year: 60 ECTS • Specific for this special track: 51 ECTS • Other: 9 ECTS

Connecting Master's programs

After completion of the special Bachelor's track Industrial Engineering and Management Science for Healthcare, you will be admitted directly to the following TU/e Master's degree programs:

- Human-Technology Interaction;
- Operations Management & Logistics;
- Innovation Management;
- Business Information Systems;
- Construction Management and Engineering.

After the Bachelor's program?

After obtaining their Bachelor's diploma many graduates will transfer to a Master's degree program.

BACHELOR

7.3 Bachelor's program Innovation Sciences

Innovation Sciences is a broad beta program in the field of technology, people, organizations and society. The central point of departure of the program is formed by technical innovations. Unique in this program is the combination of various fields of study.
You will go deeply into technical disciplines and into social sciences such as economics, psychology, sociology and law. In the course of the first year you will specialize in one technical discipline, whereby you can choose from energy technology, building and construction technology, and information and communication technology (ICT). The chosen technical specialization is formally considered as the Minor in this bachelor program. If you are interested in technology and innovation and especially if you have a broader interest, the Bachelor's degree program of Technical Innovation Sciences is a highly suited field of study for you.

www.tue.nl/bacheloropleidingen/tiw

Degree:	Bachelor of Science
Duration:	3 years – 180 ECTS
Language:	Dutch
Structure of the program:	First year: 60 ECTS • Mathematics and technical basic subjects: 22ECTS • Courses on social sciences: 24ECTS • Technical specialization ('Minor'): 14 ECTS
Structure of the program:	Second year (60 ECTS): Major 36 ECTS • Technical specialization ('Minor'): 24 ECTS
Structure of the program:	Third year (60 ECTS): Major 40 ECTS Technical specialization ('Minor'): 20 ECTS

Connecting Master's programs

After completion of the Bachelor's degree program in Innovation Sciences you will be admitted directly to the following TU/e Master's degree programs:

- Human-Technology Interaction;
- Innovation Sciences;
- Sustainable Energy Technology (specialization energy technology);
- Construction Management and Engineering (specialization building and construction technology);
- Business Information Systems (specialization information and communication technology).

After the Bachelor's program?

After obtaining their Bachelor's diploma many graduates will transfer to a Master's degree program.

MASTER

7.4 Master's program Innovation Management

The program conveys scientific theories, tools and techniques to manage innovations both within and across companies. You will learn how to apply the knowledge that you gain in carrying out research into innovation management and in industrial applications. You will also learn ways to analyze the current innovative performance of a company, how to explain it in terms of quality, cost and time, and how to improve this performance by re-engineering innovation processes. You will experience what it means to carry out research yourself, to gain new insights and to apply the acquired knowledge in the many projects.

Graduation options

The concluding Master's thesis project plays a central role in the program. At the end of the first semester you will select a subject for your Master's thesis project. You will then study this specialization in depth, under the supervision of your mentor. You will also choose a significant number of electives within this specialization. The Master's thesis project is an empirical research project, which means that you need to decide on the research topic to be addressed, and that you then also carry out the study yourself. This can possibly be in close co-operation with a business sponsor, and is always related to the activities of researchers.

Internships

The concluding Master's thesis project is a research internship that plays a central role in the overall Master's program. During the second and third semesters you will work on the preparations for your research project, and in the final semester you will focus totally on the research internship. You can follow all or part of this internship at or by working together with, one or more companies that are involved in the research project. You are admitted with an individual program. This means that you have to pass some extra undergraduate (minor/ pre-master) courses up to a maximum of 20 credit points. You are allowed to include these courses in the free electives' space of your master program.

Graduated... and then?

As a graduate of this Master's degree program you will be well prepared for a broad range of positions and careers. For example you could work as a product development manager in a production or service company, as a purchasing and inventory manager, as a strategy and marketing consultant, or a new venture or alliance manager. Starting your own company or following a career in research are also among the options.

www.tue.nl/masterprograms/im

ECTS-coordinator Department of Industrial Engineering & Innovation Sciences: www.tue.nl/contactpersons	
Study possibilities:	Full-time
Degree:	Master of Science
Language:	English
Times of entry:	September and February
Duration:	2 years (120 ECTS)
Structure of the program:	• Compulsory courses: 40 ECTS (65%) - theory lessons and self-study - group design project - preparation for thesis • Electives: 20 ECTS (35%) - theory lessons and self-study - group design project
Structure of the program:	second year (60 ECTS) • Electives: 20 ECTS • Preparation for thesis: 10 ECTS • Master's thesis project: 30 ECTS

MASTER

7.5 Master's program Human-Technology Interaction

The Master's degree program provides fundamental knowledge from the psychological sciences covering basic themes such as perception, cognition, communication, motivation and attitudes . This basic knowledge is then applied during the program to a technological domain of your choice. For example Information and Communication Technology (ICT), sustainable energy or the built environment. The program focuses on new opportunities and problems arising from these rapidly changing technological domains.

Graduation options

The second year of the Master's program is taken up by your international track, your research project and your Master's project. The research project consists of your first empirical research project, which is carried out in a team. Your Master's project consists of a research project carried out individually under the supervision of one of the researchers in the Human-Technology Interaction group of the School of Innovation Sciences . To meet the requirements, your project must have the right balance between human behavioral and technological aspects. You can carry out your final project in the Human-Technology group of the School of Innovation Sciences, in a company or in a public institute.

Internships

You are admitted with an individual program to eliminate your deficiencies. Instead of the standard international term during the second program year you will have to pass some extra undergraduate (minor/ pre-master) courses, up to a maximum of 20 credit points.

Graduated... and then?

As a graduate of the Master's degree program in Human-Technology Interaction, you will be able to assess the viability of new technological developments in relation to human constraints and capabilities. This knowledge will enable you to play an important role in the design of new technologies, in which you place the user in a central position.

After this Master's program you will be able to find employment in various academic government agencies, companies and organizations, working in consultancy or in research and development departments. These could include organizations concerned with telecommunication, sustainable energy, consumer electronics, the printing industry, aviation and automotive industries or financial companies. In addition, the HTI research group, being part of the ECIS School of Innovation Sciences at Eindhoven University of Technology, offers an internationally qualified research program in which postgraduate students play a significant role.

www.tue.nl/masterprograms/hti

ECTS-coordinator Department of Industrial Engineering & Innovation Sciences:
www.tue.nl/contactpersons

Study possibilities:	Full-time
Degree:	Master of Science
Language:	English
Times of entry:	September (recommended) or February (depending on the nature of your prior education)
Duration:	2 years (120 ECTS)
Structure of the program:	first year (60 ECTS) • Technical courses: 20 ECTS • Psychology courses: 20 ECTS • Design specializations: 20 ECTS
Structure of the program:	second year (60 ECTS) • International track: 20 ECTS • Research project: 10 ECTS • Master's thesis: 30 ECTS

Cooperation with other universities:
Denmark, Germany, Japan, South Africa, Sweden, the UK and the USA.

MASTER

7.6 Master's program Innovation Sciences

While innovation is crucial for economic growth, sustainable development, and welfare, many inspiring technological ideas never make it into society. Innovation Sciences focuses on gaining a deeper understanding of why this is the case, and how to improve the situation. Students learn to understand and manage the mechanisms and processes involved in developing and introducing new technological options. They gain a better understanding of the socio-economic implications of technical change. They will work on the design and evaluation of public policies, private business strategies and actions of non-governmental organizations. They learn to put technical change in a European and global context. Important questions are, for example, how can local or national societies create an innovative climate in a globalizing world? Which factors and actors determine whether a new technology will succeed? How can government and business introduce innovations which lead to sustainable development?

Graduation options

The Master's degree program Innovation Sciences provides elective clusters, in which you can graduate. These include, for example, the following clusters:

• Living in a Virtual World, The ICT Revolution, Engineering Health, Innovation & Sustainability, Knowledge Economy & Society, Technology, Globalization & Europeanization.

Internships

You are admitted with an individual program to eliminate your deficiencies. Instead of the standard international term during the second program year you will have to pass some extra undergraduate (minor/ pre-master) courses, up to a maximum of 20 credit points.

Graduated... and then?

As a graduate of this Master's program, you will be able to work in both the private and public sectors in organizations operating at the boundary between technology and its social application. In many cases you will work in interdisciplinary teams consisting of engineers, social scientists, consultants, policymakers, managers and researchers. You will also be able to work in industrial companies such as Philips, IBM and Shell, at universities and higher education institutes, at statistical institutes such as Eurostat, at TNO (Netherlands organization for applied scientific research) , in government or in NGOs such as the Red Cross or Oxfam Novib.

www.tue.nl/masterprograms/tp

ECTS-coordinator Department of Industrial Engineering & Innovation Sciences:
www.tue.nl/contactpersons

Study possibilities:	Full-time
Degree:	Master of Science
Language:	English
Times of entry:	September or or February (depending on the nature of your prior education).
Duration:	2 years (120 ECTS)
Structure of the program:	first year (60 ECTS)
Structure of the program:	• Compulsory courses: 36 ECTS - social sciences • Clusters / free electives : 24 ECTS second year (60 ECTS) • International internship: 20ECTS
	• Master's thesis: 40 ECTS - preparation of the Master's thesis (10 ECTS) - writing of the Master's thesis (30 ECTS)

Cooperation with other universities:

Cooperation with universities in Australia, Belgium, Denmark, France, Germany, Greece, Hong Kong, Italy, Norway, Singapore, Spain, the UK, the USA, South Africa and Sweden.

MASTER

7.7 Master's program Operations Management & Logistics

The Master's degree program provides theory, tools and techniques for the management of operations. You will apply the knowledge that you gain during the program in the various projects, in which you will learn what it means to carry out your own research. You will learn how to analyze the current operational performance of an organization, how to explain it in terms of quality, cost and time, and how to improve this performance by redesigning business processes.

Graduation options

At the end of your first semester you will choose a specialization, which could for example be:

- Human Performance Management;
- Information Systems, including business process management and e-business;
- Operations and Supply Chain Planning, including reliability, operational finance, and sustainable operations;

You study this specialization under supervision of a mentor.

Internships

The concluding Master's thesis project is a research internship that plays a central role in the overall Master's program. During the second and third semesters you will work on the preparations for your project, and in the final semester you will focus totally on the internship. You can follow this internship in part at one or more of the companies that are involved in the research project. You are admitted with an individual program. This means that you have to pass some extra undergraduate (minor/pre-master) courses up to a maximum of 20 credit points. You are allowed to include these courses in the free electives' space of your master program.

Graduated... and then?

As a graduate of this Master's degree program you will be well prepared for a broad range of positions and careers. For example, you could work as a supply chain manager, supply chain planner, operations manager, supplier relations manager as a reliability analyst in a production or service company, as a consultant in logistics management or information systems, as a business analyst or human performance manager. Starting your own company or launching a career in research are also among the options.

www.tue.nl/masterprograms/oml

ECTS-coordinator Department of Industrial Engineering & Innovation Sciences:
www.tue.nl/contactpersons

Study possibilities:	Full-time
Degree:	Master of Science
Language:	English
Times of entry:	September or February
Duration:	2 years (120 ECTS)
Structure of the program:	first year (60 ECTS)
	• Compulsory courses: 30 ECTS
	- theory lessons and self-study
	- group design project
	- preparation for thesis
	• Electives: 25 ECTS
	- theory lessons and self-study
	- group design project
	• Master thesis preparation: literature study: 5 ECTS
Structure of the program:	second year (60 ECTS)
	Electives: 25 ECTS
	• Master thesis preparation: research proposal: 5 ECTS
	• Master's thesis project: 30 ECTS

Cooperation with other universities:

Co-operation with universities in Argentina, Australia, Belgium, Canada, China, Denmark, France, Germany, Greece, Hong Kong, Italy, Mexico, Norway, Singapore, Spain, Taiwan, UK, USA, South Africa and Sweden.

B

8. Department of Mathematics and Computer Science

The department of Mathematics and Computer Science is divided into two groups, Mathematics and Computer Science.

The Mathematics group of the department focuses in its teaching and its research on a variety of fields which are highly relevant for industry, banks and government agencies. From optimization of networks to cryptographic schemes, from analyzing phenomena in which randomness plays a role to models and methods for the analysis of decision and optimization problems, from large scale numerical computations to models involving differential equations. The Mathematics group has a strong reputation in these fields. Its industrial and applied profile is a clear distinguishing characteristic of the mathematics group.

The Computer Science group of the Mathematics and Computer Science Department has a strong focus on design, and has an excellent reputation in this field. The research is concentrated on three areas of expertise: Information systems, Software and systems engineering, Specification and verification, and Algorithms and visualization. The emphasis in the research is on its application in embedded systems and business information systems.

BACHELOR

8.1 Bachelor's program Computer Science

The program of Computer Science and Engineering has two sides. On the one hand you will learn how to design good software and you will work on assignments and applications. Indeed, as a software design engineer you must be able to plan, work accurately, use the best available practices and methods, and be creative and resourceful.
On the other hand you will learn why you choose a specific method. In the theoretical courses and mathematics you will learn what the basis is of techniques and methods. As a software design engineer you must have a good overview of the field, be able to make a clear analysis of a problem and to formulate that problem soundly.

www.tue.nl/bacheloropleidingen/ti

Degree:	Bachelor of Science
Duration:	3 years – 180 ECTS
Language:	Dutch
Structure of the program:	First year: 60 ECTS • Programming and Algorithms: 30% • Mathematics: 20% • Computers: 10% • Theoretical computer science: 20% • Social aspects: 10% • Design-oriented education projects: 10%
Structure of the program:	Second year (60 ECTS): Major 60 ECTS
Structure of the program:	Third year (60 ECTS): Major 30 ECTS (including a Software engineering project of 12 ects) Minor 30 ECTS

Connecting Master's programs

After completion of the Bachelor's degree program in Computer Science and Engineering you will be admitted directly to the following TU/e Master's degree programs:

- Business Information Systems;
- Computer Science and Engineering;
- Embedded Systems;
- Information Security Technology *;
- Science Education and Communication (in Dutch).

* This is a special Master's track which is formally a track of the MSc Computer Science and Engineering program.

After the Bachelor's program?

After obtaining their Bachelor's degree graduates mostly transfer to a Master's degree program.

BACHELOR

8.2 Bachelor's program Industrial and Applied Mathematics

This program focuses on applications in industry, institutions and the government. How to apply mathematics is something you learn during project work, in which you will work together with other students.

www.tue.nl/bacheloropleidingen/tw

Degree:	Bachelor of Science
Duration:	3 years – 180 ECTS
Language:	Dutch
Structure of the program:	First year: 60 ECTS • Lectures and instructions: 53 ECTS • Practicals: 1 ECTS Design-oriented education and orientation: 6 ECTS
Structure of the program:	Second year (60 ECTS): Major 60 ECTS
Structure of the program:	Third year (60 ECTS): Major 30 ECTS Minor 30 ECTS

Connecting Master's programs

After completion of the Bachelor's degree program in Industrial and Applied Mathematics you will be admitted directly to the following TU/e Master's degree programs:

- Industrial and Applied Mathematics;
- Systems and Control;
- Automotive Technology;
- Fluid and Solid Mechanics. *
- Science Education and Communication (in Dutch)

* This is a special Master's track which is formally a track of one or more Master's degree programs.

After the Bachelor's program?

After obtaining their Bachelor's diploma many graduates will transfer to a Master's degree program.

MASTER

8.3 Master's program Computer Science and Engineering

The emphasis in the Master's degree program in Computer Science and Engineering is placed on the design of high-quality software. During the Master's program you will learn to combine a scientific attitude with an engineer's approach. Defining reliable protocols for the behavior of complex software systems requires knowledge of algorithms, performance, hardware, and design and documentation methods. You will also need an understanding of the variability and maintainability of these protocols. All these aspects can be found in the compulsory part of the Master's program, which consists of a choice of five courses from the following list: Advanced algorithms, Visualization, System validation, Formal methods, Generic language technology, Advanced databases, Real-time embedded systems, Business process management systems.

Graduation options

The following tracks are possible within the Master's degree program in Computer Science and Engineering:

- Specification and verification: Design and analysis of Systems and Formal Methods;
- Information systems: Databases and Hypermedia and Architecture of Information Systems;
- Algorithms and Visualization;
- Software and Systems engineering: Software engineering and technology, and System Architecture and Networks.

The special Master's track Information Security Technology still formally forms part of this Master's degree program.

Internships

In the elective part of the program you may include an internship with a maximum of 15 ECTS.

Graduated... and then?

The combination of a scientific attitude with the practical approach of an engineer forms an excellent basis for an interesting career. The numerous fields in which computer science is applied ensure a wide range of career opportunities. You can find our computer science graduates in research laboratories, software houses, banks, as well as in insurance companies, governmental organizations, multinationals and Internet companies. Most computer scientists start with positions as members of software design teams, but many of them rapidly grow into positions as team leaders and, in time, to management functions. Starting up your own company is also among the options.

www.tue.nl/masterprograms/cse

ECTS-coordinator Department of Mathematics and Computer Science: www.tue.nl/contactpersons	
Study possibilities:	Full-time and part-time
Degree:	Master of Science
Language:	English
Times of entry:	Preferably in September
Duration:	2 years (120 ECTS)
Structure of the program:	• Compulsory courses: 30 ECTS (restricted choice) • Electives: 60 ECTS - possibly including an internship of max.: 15 ECTS • Final project: 30 ECTS

* part-time means that the full-time program is taken in a longer period of time. No special arrangements are available, except video lectures for a number of courses.

MASTER

8.4 Master's program Industrial and Applied Mathematics

Industrial and Applied Mathematics plays an essential role in the development of new and innovative technologies. This is a result of the fact that mathematical models, advanced simulations and (computer) calculations are increasingly being used in new technological developments. More information about the fields on which this Department focuses can be found under 'Graduation options'. You can specialize in three fields in the Master's degree program in Industrial and Applied Mathematics. The Computational Science and Engineering specialization focuses primarily on technology, Discrete Mathematics and Applications involves the mathematics of our digital world, while the Statistics, Probability and Operations Research specialization concentrates mainly on business processes. For more detailed information, see 'Graduation options'.

This is a fascinating discipline with subjects ranging from cryptographic ciphers to operating systems, and from tool-assisted protocol verification to laboratory attacks on operating systems. The special Master's track in Information Security Technology is a collaboration between the computer science departments of the TU/e, the University of Twente and the Radboud University Nijmegen. This special track addresses the significant and increasing need for experts in this area. Hardly any comparable Master's tracks exist in Europe. The track gives you a broad view of Information Security Technology, both theoretically and technically, taking into account organizational, legal and ethical aspects. As a graduate of this Master's track you will combine a scientific attitude with an engineering approach. You will have learned to work independently, to reflect, to analyze critically and to generate new ideas. In addition, you will have an application-oriented working approach, with the ability to work systematically and methodically in a multidisciplinary environment.

Graduation options

You can graduate from the Master's degree program in Industrial and Applied Mathematics in one of the following three tracks:

- Computational Science and Engineering;
- Discrete Mathematics and Applications;
- Statistics, Probability and Operations Research.

Internships

Students can follow internships in external research institutes or in companies.

Graduated... and then?

As a graduate of the Master's program in Industrial and Applied Mathematics, you will have gained a thorough knowledge of mathematical modeling. You will also have developed skills to tackle technological and industrial problems; for example, the analysis of large databases in communication and information technology, and the improvement of weather forecasts. Or models as used in telecommunications and physics, queuing theory or optimization.

There is a great demand for graduates of this Master's program, not only in the high-tech industry but also in other industrial fields and at (semi-) governmental agencies. You will be able to find employment as a researcher, consultant or developer. Examples of potential employers are TNO, CBS, Philips, KPN Research, Ortec and ABN AMRO.

www.tue.nl/masterprograms/iam

Department of Mathematics and Computer Science:
www.tue.nl/contactpersons

Study possibilities:	Full-time and part-time
Degree:	Master of Science
Language:	English
Times of entry:	September
Duration:	2 years (120 ECTS)
Structure of the program:	• Compulsory courses: 45 ECTS • Electives: 15 ECTS • Internship: 15 ECTS • Final project: 45 ECTS

* part-time means that the full-time program is taken in a longer period of time. No special arrangements are available, except video lectures for a number of courses.

B

9. Department of Mechanical Engineering

Mechanical engineering is a very broad discipline. It focuses on conceiving, designing, analyzing, producing and improving mechanical products, processes and systems. But in addition to these technical aspects, social responsibility and an awareness of the role of technology in the life of people are also essential elements of the discipline. The description under Graduation options gives you more information about the specializations on which the Department focuses.

The Mechanical Engineering Department focuses on teaching and research. The Department has an international reputation in the research field, and participates in six major research schools. In addition, the Department participates in the following research institutes: Dutch Polymer Institute (DPI), Embedded Systems Institute (ESI) and Netherlands Institute for Metal Research (NIMR).

BACHELOR

9.1 Bachelor's program Mechanical Engineering

Education in the Mechanical Engineering program consists of a combination of courses with examinations and Design-oriented education in groups. By means of lectures and assisted self-study you will acquire the theoretical basis. This basis you will apply and combine during the Design-oriented education cases, in which you and your group tackle realistic problems, which are multidisciplinary and challenging.

www.tue.nl/bacheloropleidingen/wtb

Degree:	Bachelor of Science
Duration:	3 years – 180 ECTS
Language:	Dutch
Structure of the program:	First year: 60 ECTS • Courses 36 ECTS - mathematics, the language for solving technological problems - mechanics and dynamics - physical phenomena and materials science - system analysis and signal analysis • Design-oriented education projects: 24 ECTS
Structure of the program:	Second year (60 ECTS): Major 60 ECTS
Structure of the program:	Third year (60 ECTS): Major 30 ECTS Minor 30 ECTS

Connecting Master's programs

After completion of the Bachelor's degree program in Mechanical Engineering you will be admitted directly to the following TU/e Master's degree programs:

- Mechanical Engineering;
- Sustainable Energy Technology;
- Systems and Control;
- Polymers and Composites *;
- Fluid and Solid Mechanics *;
- Automotive Technology.

* This is a special Master's track which is formally a track of one or more Master's degree programs.

After the Bachelor's program?

After obtaining their Bachelor's diploma many graduates will transfer to a Master's degree program.

MASTER

9.2 Master's program Mechanical Engineering

In the Master's degree program in Mechanical Engineering, you learn to apply concepts and models from your Bachelor's to complex technical issues arising in science and industry. Teaching and research are closely integrated within the Master's program, and you are kept aware of the latest developments in the discipline. You become familiar with all the latest tools and technologies used by mechanical engineers. You can define a study program that matches your own wishes and preferences.

Graduation options

- Computational and Experimental Mechanics;
- Dynamical Systems Design;
- Thermo Fluids Engineering;
- Automotive Engineering Science;
- Micro- and Nanotechnology.

www.tue.nl/masterprograms/mech

ECTS-coordinator Department of Mechanical Engineering:	
www.tue.nl/contactpersons	
Study possibilities:	Full-time
Degree:	Master of Science
Language:	English
Times of entry:	September, or at other time by agreement
Duration:	2 years (120 ECTS)
Structure of the program:	first year (60 ECTS) • Electives: 33 ECTS • Multidisciplinary project: 9 ECTS • Internship: 18 ECTS
Structure of the program:	second year (60 ECTS) • Final project: 60 ECTS

Internships

During the internship that you follow in the first year of the Master's program, you will be able to put what you have learned up to then into practice, an to see for yourself how mechanical engineering works in everyday professional practice. Many students in this Master's program follow their internships outside the university, as well in both national as international companies and institutes. The TU/e has close working relationships with many high-tech companies in the Eindhoven region, such as Philips, ASML, Océ and Paccar/DAF. A number of professors are affiliated partly with the Department and partly with the business community.

Graduated... and then?

Very often Mechanical Engineering graduates find employment in business and industry, as designers, engineers and project leaders, or they start their own companies. For others the research in the Department is so interesting that they decide to carry out their own doctoral research. But of course your career choice is not limited to the track that you opted for during your Master's program. The program is designed to ensure that you will also be able to specialize in other areas, and to enable you to continue your development on a broad basis.

B

10. Interfaculty Master's programs/special tracks

MASTER

10.1 Master's program Automotive Technology

Vehicles are a source of multidisciplinary challenges for technicians and scientists. Multidisciplinary engineers are required due to increasing intelligence (electronics, software) in vehicles and due to the introduction of hybrid vehicles and vehicles that run on new fuels. These developments show that automotive engineers need a background in mechanics, electronics, computer science and chemistry. As a future automotive engineer you should have knowledge of all these aspects.
TU/e offers an automotive oriented Master's program that teaches students to see the car as a 'system' and also offers in-depth knowledge about one of the essential parts of a vehicle. The educational program of Automotive Technology exists of a multidisciplinary core program and plenty of electives to develop the specialization in one field of interest related to the research field of your choice . The Master´s program Automotive Technology provides graduates with an outstanding starting point for a successful career in the automotive industry, education or research institutes.

The Master's program Automotive Technology is a cooperation between 6 departments:
- Mechanical Engineering
- Electrical Engineering
- Chemical Technology
- Mathematics and Computer Science
- Industrial Engineering & Innovation Sciences
- Industrial Design

Internships

During the internship at the beginning of the second year of the Master´s program you will have the opportunity to apply your prior knowledge and gain more insight in the career opportunities in the automotive industry. The research done at the TU/e and the partnership between Automotive Technology and the automotive industry are leading in the Netherlands. With 80 percent of the automotive industry in the Netherlands located in the Eindhoven region, TU/e is at the core of the industry. This offers numerous opportunities for interesting internships. The Master's program is concluded with a final research project of three quarters of an academic year. During the project students will conduct a research or design project independently. This can be conducted within the university or in partnership with a company in the automotive industry.

Research profile

Research can roughly be clustered in two separate parts:
- Driving guidance: This field focuses on improving safety, comfort and handling of vehicles. Examples are dynamics, human car interaction and software.
- Efficient vehicle: This field focuses on decreasing fuel usage and cleaner fuels. Hybrid vehicles become more and more common but further research is still needed. Important items in this field are the internal combustion engine, drive train, electrical components and energy management.

www.tue.nl/masterprograms/at

ECTS-coordinator Department of Mechanical Engineering:
www.tue.nl/contactpersons

Study possibilities:	Full-time (under circumstances students can develop their own pace after consulting the student advisor).
Degree:	Master of Science
Language:	English
Times of entry:	September
Duration:	2 years (120 ECTS)
Structure of the program:	first year (60 ECTS) • Courses: 33 ECTS • Electives: 27 ECTS
Structure of the program:	second year (60 ECTS) • Internship: 15 ECTS • Final project: 45 ECTS

Cooperation with other universities:

By following a special program it is possible to gain the engineering diplomas of both TU/e and the Katholieke Universiteit Leuven without this requiring extra study time.

MASTER

10.2 Special Master's track Broadband Telecommunication Technologies *

* This is a special Master's track which is formally a track of the Master's degree programs Electrical Engineering and Applied Physics.

The special Master's track in Broadband Telecommunication Technologies is broadly based, including compulsory courses in electromagnetism, physics, mathematics, digital network technology and performance analysis. Wireless and optical communication systems and networks and RF electronic and photonic devices also form part of the track. You can choose your elective courses from a list of more than thirty subjects. These include photonic ICs, network operation, computational electromagnetics, adaptive signal processing, ultra-fast optical switching and coding theory. The special Master's track also contains courses on professional development and two internships. Your studies are completed by a research project.

Internships

The special Master's track includes two internships of six and ten weeks. One of these should preferably be in another country, if you have not yet gained international experience. But if you have already done so, then you can follow both internships within the university. The university can help you to find internship placements at companies or universities in Europe or beyond, for example in the USA or Japan.

Graduation options

As a Master's student you can work on research projects in one of the following Departments:

- Electrical Engineering;
- Mathematics and Computer Science;
- Applied Physics;
- Chemical Engineering and Chemistry;
- Industrial Engineering & Innovation Sciences.

Graduated... and then?

Telecommunication is a very broad field, comprising research, development and manufacturing of devices, equipment and systems, including software. It ranges from research in material physics for advanced devices to exploitation-oriented activities like network monitoring and management (operating protocols, processing methods). Further it covers the development and operation of a broad spectrum of applications.

As a graduate of the special Master's track in Broadband Telecommunication Technologies you will be able to find employment at a very wide range of companies and institutes. For example you could find work in telecommunication operators, manufacturers of equipment and systems, application developers, service providers, network installation and exploitation companies, research institutes, consultancies and government agencies.

www.tue.nl/masterprograms/btt

ECTS-coordinator Department of Electrical Engineering, Applied Physics, Electrical Engineering, Mathematics and Computer Science or Industrial Engineering & Innovation Sciences:
www.tue.nl/contactpersons

Study possibilities:	Full-time and part-time
Degree:	Master of Science
Language:	English
Times of entry:	September
Duration:	2 years (120 ECTS)
Structure of the program:	• Miniprogram 1 / BTT preparation (12 ECTS) • Miniprogram 2 / BTT core program(12 ECTS) • Electives / BTT broadening (12 ECTS) • Electives (6 ECTS) • Professional Development (9 ECTS) • Internship 1 (9 ECTS) • Internship 2 (14 ECTS) • Preparation graduation project (6 ECTS) • Graduation project (40 ECTS)

Cooperation with other universities:
By following a special program it is possible to gain the engineering diplomas of both TU/e and the Katholieke Universiteit Leuven without this requiring extra study time.

MASTER

10.3 Master's program Business Information Systems

Today's business world is unthinkable without the major contribution made by computer science. Information and communication technology (ICT), and especially information systems, have become a cornerstone of business management in multinationals, in banks and insurance companies, and in small and medium-sized enterprises. Companies have become dependent on these increasingly complex systems and out of necessity place stringent demands on their reliability and security.

The Master's degree program in Business Information Systems combines computer science and business management. The program places the emphasis on the development of high quality information systems based on a business perspective. As a graduate of this program you will combine a scientific attitude with a model-driven engineering approach. You will be able to understand the demands that are placed on information systems, and to initiate and implement new applications. This approach can already be seen in the compulsory courses of the program. The compulsory computer science courses are Business process management systems, Web information systems, Advanced databases, Business process simulation, and Information retrieval.
The compulsory business management courses are Business process management, Software requirements management (quality and functionality), IT governance, and Electronic business architectures and systems.
As profiling element streams are introduced. Each stream typically encompasses three courses.The streams one has to choose from are: Business process management, Health care, ICT services, and Logistics. A special stream is Education, which can be chosen in the double degree program of Business Information Systems and Science Education and Communication.

Graduation options

During the program you can place the emphasis on the computer science aspects or the business management aspects of the discipline. This means that your track will be in one of these fields. The final project, which accounts for a quarter of the program, is the crowning achievement of your education.
You can opt to carry out this project on an in-company basis, but you can also make a contribution to the scientific research of one of the two Departments.

Internships

The elective part of the program may include an internship of max. 15 ECTS.

Graduated... and then?

The combination of a scientific attitude with the practical approach of an engineer forms an excellent basis for an interesting career. You are trained to design information systems based on a business perspective. That means you will play an unquestioned key role in information-rich business processes, such as manufacturing, distribution or business services. You will be able to find interesting and challenging work in large and medium sized organizations in the development of information systems and the design of automated business processes. For example, you might work as a developer, architect or information manager. Most computer scientists start with positions as members of software design teams, but many of them rapidly grow into positions as team leaders and, in time, to management or consultancy functions.

www.tue.nl/masterprograms/bis

Department of Mathematics and Computer Science:	
www.tue.nl/contactpersons	
Study possibilities:	Full-time and part-time*
Degree:	Master of Science
Language:	English
Times of entry:	Preferably in September
Duration:	2 years (120 ECTS)
Structure of the program:	• Compulsory courses: 45 ECTS • Electives: 45 ECTS, including stream courses. • Final project: 30 ECTS
Other Departments involved in the program:	Department of Industrial Engineering & Innovation Sciences
Double degree program:	Science Education and Communication, track Computer Science, 160 ects.

*** part-time means that the full-time program is taken in a longer period of time. No special arrangements are available, except video lectures for a number of courses.**

MASTER

10.4 Master's program Construction Management & Engineering

The increasingly complexity of construction and consequent perceptual shift of interests and values have initiated the development of the Master's program of CME. CME focuses at the domain area between 'construction engineering' and 'scientific management and economics'. This Master's program is both process and organization oriented, with a central focus on design, organization and management of urban development and management processes.
Construction Management & Urban Development (CMUD) is a specialization of the Master's program. CMUD focuses on the societal and scientific analysis of real world problems. It combines two domains of science: (urban) building sciences management and innovation sciences. The major TU/e departments - Architecture Building & Planning and Industrial Engineering & Innovation Sciences - are supporting the education and research. They combine their distinctive research-driven and subject-oriented approach of the traditional engineer education in this Master's program. CME has a clear scientific signature profile with a strong involvement with research activities of staff and PhD researchers.

www.cme.tue.nl

ECTS-coordinator Department of Architecture, Building and Planning or
ECTS-coordinator Department of Industrial Engineering & Innovation Sciences:
www.tue.nl/contactpersons

Study possibilities:	Full-time
Degree:	Master of Science
Language:	English
Times of entry:	September: full program availability February : limited program availability
Duration:	2 years (120 ECTS)
Structure of the program:	first year (60 ECTS) • Compulsory courses: 37 ECTS • Master projects: 23 ECTS
Structure of the program:	second year (60 ECTS) • Electives: 3 ECTS • Master project: 14 ECTS • Compulsory courses: 3 ECTS • Final project: 40 ECTS

Universities involved in the program:
Delft University of Technology and University of Twente

Graduation options

The graduation project is given in the form of two graduation studios. Participation in one of the two studios is obligatorily for all CMUD students at TU/e. You work on your graduation project within one of the two studios:

- Process engineering for urban development:

Negotiation, strategic behavior, simulation of expected results and process governance are the focus of the graduation projects in this studio.

- Business engineering for urban development:

Within this studio cities and urban districts are considered and approached in terms of entrepreneurial entities: profit and non-profit companies.

Internships

For all students it is possible, and in many cases preferable, to arrange the final Master's project together with a private company or a public institute (industry).

Graduated... and then?

The combination of a scientific attitude with the practical approach of an engineer forms an excellent basis for an interesting career. CME/CMUD maintains close contacts with the (building and construction) business and nationally or regionally focused governments. These close contacts are of great value for graduates of this Master's program.

MASTER

10.5 Master's program Embedded Systems

Embedded systems play an important role in society. They can be found in numerous products such as television sets and copiers. The interaction between computer science (software) and electrical engineering (hardware) in these products requires an integrated approach to the design process. This integration demands a new type of engineer who can draw on knowledge of both software and hardware. The emphasis in the Master's degree program in Embedded Systems is placed on the design of efficient and reliable systems. As a graduate of this program you will combine a scientific attitude with an engineer's approach.

Defining reliable protocols for the behavior of complex software systems requires knowledge of algorithms, performance, hardware, and design and documentation methods. You will also need an understanding in the variability and maintainability of these protocols. All these aspects can be found in the compulsory part of the Master's program, in which the computer science courses are Architecture of distributed systems, Real-time embedded systems, Automated reasoning, and System validation. The compulsory electrical engineering courses are: Embedded computer architectures, Systems on silicon, Multiprocessors, Performance analysis of embedded Systems, Embedded Systems Laboratory.

Graduation options

The final project, which accounts for a quarter of the program, is the crowning achievement of your education. You can opt to carry out this project on an in-company basis, but you can also make a contribution to the scientific research of the university. You can choose from a wide variety of subjects. And you can also choose whether you want to graduate under a professor in Electrical Engineering or Computer Science.

Internships

In the elective part of the program you may include an internship with a maximum of 15 ECTS.

Graduated... and then?

The combination of a scientific attitude with the practical approach of an engineer forms an excellent basis for an interesting career. The numerous fields in which embedded systems are applied ensure a wide range of career opportunities. You can follow a career in research laboratories, software houses and multinationals. Companies such as Philips, ASML and Océ have a great demand for engineers with this expertise and attitude. Most graduates start with positions as members of embedded system design teams, but many of them rapidly grow into positions as team leaders and, in time, to management functions. Starting up your own company is also among the options.

www.tue.nl/masterprograms/es

ECTS-coordinator Department of Electrical Engineering or
ECTS-coordinator Department of Mathematics and Computer
www.tue.nl/contactpersons

Study possibilities:	Full-time and part-time*
Degree:	Master of Science
Language:	English
Times of entry:	Preferably in September
Duration:	2 years (120 ECTS)
Structure of the program:	• Compulsory courses: 445 ECTS • Electives: 45 ECTS - possibly including an internship of max: 15 ECTS - possibly including deficiency courses of max: 15 ECTS - possibly including preparation of graduation project of max: 10 ects • Final project: 30 ECTS

*** part-time means that the full-time program is taken in a longer period of time. No special arrangements are available, except video lectures for a number of courses.**

MASTER

10.6 Special Master's track Fluid and Solid Mechanics*

* This is a special Master's track which is formally a track of the Master's degree program Mechanical Engineering.

The mechanics of fluids and solids plays a vital role in competitive engineering of advanced products, processes and systems. The principles and balance equations derived from fluid and solid mechanics yield a description of the behavior of these materials within the products, processes and systems concerned. This can subsequently provide the basis for analysis and optimization, and as a result also for design. Fluid and solid mechanics form a very important, fundamental core of engineering sciences such as mechanical engineering, biomedical engineering, applied mathematics and physics, as well as chemical engineering. The advent of modern computers has created totally new challenges and perspectives for the discipline of fluid and solid mechanics.

In the special Master's track in Fluid and Solid Mechanics, students learn to describe, analyze and optimize the static and dynamic mechanical behavior of products, processes and systems. For this purpose the Master's track covers aspects of fluid and solid mechanics, of modeling, of analytical, numerical and experimental methods, and of optimization. The applications range from systems on a nano, micro and millimeter scale, through large-scale industrial processes to environmental issues. Graduates of this Master's track will be able to play a significant role in design and project teams working on a broad range of industrial applications.

Graduation options

There are four sub-tracks within this special Master's track:

- Mechanics and Materials;
- Heat and Flow;
- Dynamics and Control;
- Computational Science & Engineering.

Internships

Most internships take place within the projects of the participating groups and departments. These projects involve co-operation with other participating groups, or with industry and large research institutes at national level.

Graduated... and then?

The opportunities for graduates of the Master's degree program in Fluid and Solid Mechanics are excellent, both nationally and internationally. You can take up a career in research institutes, industry and at universities. This Master's track links up seamlessly with the teaching programs (PhD programs) of the nationwide research schools JM Burgerscentrum (fluid mechanics) and Engineering Mechanics (solid mechanics). The very broad spectrum of applications means that graduates of this Master's track will be able to find careers in a wide variety of institutes and industries.

www.tue.nl/masterprograms/fsm

ECTS-coordinator Department of Mechanical Engineering:
www.tue.nl/contactpersons

Study possibilities:	Full-time
Degree:	Master of Science
Language:	English
Times of entry:	September, or at other times by agreement
Duration:	2 years (120 ECTS)
Structure of the program:	first year (60 ECTS) • Courses (lectures): 36 ECTS • Projects: 24 ECTS - including internships 15 ECTS
Structure of the program:	second year (60 ECTS) • Individual space: 15 ECTS • Final project: 45 ECTS

Other universities involved in the program:
Delft University of Technology and University of Twente

MASTER

10.7 Special Master's track Information Security Technology*

* This is a special Master's track which is formally a track of the Master's degree program Computer Science and Engineering.

The protection of electronic data against all kinds of threats during storage or transmission is of ever-increasing importance. These threats range from unauthorized access to malicious manipulation. Information Security Technology provides essential tools for secure communication and data protection in many situations.

This is a fascinating discipline with subjects ranging from cryptographic ciphers to operating systems, and from tool-assisted protocol verification to laboratory attacks on operating systems. The special Master's track in Information Security Technology is a collaboration between the Computer Science departments of the TU/e, the University of Twente and the Radboud University Nijmegen. This special track addresses the significant and increasing need for experts in this area. Hardly any comparable Master's tracks exist in Europe. The track gives you a broad view of Information Security Technology, both theoretically and technically, taking into account organizational, legal and ethical aspects. As a graduate of this Master's track you will combine a scientific attitude with an engineering approach. You will have learned to work independently, to reflect, to analyze critically and to generate new ideas. In addition, you will have an application-oriented working approach, with the ability to work systematically and methodically in a multidisciplinary environment.

Graduation options

The final project, which accounts for a quarter of the track, is the crowning achievement of your education. You can opt to carry out this project on an in-company basis, but you can also make a contribution to scientific research in one of the two aspects, mathematics or computer science. You can choose from a wide variety of subjects and approaches.

Internships

The elective part of the special Master's track may include an external internship of a maximum of 15 ECTS.

Graduated... and then?

As a Master of Science in Information Security Technology you will be able to take part in the design of new security systems and the evaluation of existing systems. You will also be able to define the relevant security requirements for an application, and to select the right techniques to address these issues. You can get involved in cryptographic primitives, security protocols, data storage, and communication or information security management. You could work as an internal or external consultant, focusing on the security of information systems and networks, or on the security policies of a company or an organization. Working on the security of information systems and the related strategies, you will be able to find employment in a wide range of organizations. These can include research laboratories and scientific institutes, carrying out applied R&D in industry, the financial world, government agencies and consultancies.

www.tue.nl/masterprograms/ist

Department of Mathematics and Computer Science:
www.tue.nl/contactpersons

Study possibilities:	Full-time and part-time*
Degree:	Master of Science
Language:	English
Times of entry:	Preferably in September
Duration:	2 years (120 ECTS)
Structure of the program:	• Compulsory courses: 36 ECTS • Electives: 54 ECTS • Final project: 30 ECTS

Other Departments involved in this special track:

- Department of Electrical Engineering, Mathematics and Computer Science (University of Twente)
- Department of Science (Radboud University Nijmegen)

On average, one has to travel one day a week to one of the other participating universities.

Double degree program:
Science Education and Communication, track Computer Science, 160 ects.

* part-time means that the full-time program is taken in a longer period of time. No special arrangements are available, except video lectures for a number of courses.

MASTER

10.8 Special Master's track Nano-Engineering*

* This is a special Master's track which is formally a track of the Master's degree program Applied Physics.

Nanoscience & Technology focuses on the control of materials on an ultimately small (nanometer) scale. It involves emerging technologies that enable scientists to address individual atoms and molecules and to place them in any desired position.
The program focuses on a combination of physics and chemistry. It features research on a wide range of materials, such as organic macromolecular systems, polymers, semiconductors, oxides and metals. This spans the entire 'chain of knowledge', from fundamental theories and experiments right up to analyzing, constructing and manipulating structures on a nanometer scale.

Graduation options

- Functional nanomaterials and -devices;
- Selforganized nanostructures;
- Nanoprobing and -manipulation;
- Theory of nanostructures;
- Bio-nanostructures.

Internships

In the first year of your Master's track you will carry out a project over a period of three months in a company in the Netherlands or another country, or at a university in another country. This internship may be of a theoretical or practical nature, although a combination of both is also possible.
A final internship forms the major part of the second year. During this internship you will work independently on a large project on a topic related to Nanoscience & Technology. You can choose to carry out the project within TU/e or in a company in the Netherlands or another country.

Graduated... and then?

After completing the special Master's track in Nano-Engineering you will possess the knowledge and skills in the field of specialized techniques to enable you to construct and manipulate (bio-)materials on a nanometer scale. There is constant demand from industry and research institutes for graduates who can work on the boundaries between physics, chemistry and biology. Graduates can find employment in research and development laboratories in industry, for example at Philips, ASML, DSM and Océ, or at research institutes such as TNO. You could also take up a position that makes use of your organizational, coordinating and leadership qualities.

www.tue.nl/masterprograms/ne

ECTS-coordinator Department of Applied Physics:	
www.tue.nl/contactpersons	
Study possibilities:	Full-time, part-time (by arrangement)
Degree:	Master of Science
Language:	English
Times of entry:	at te beginning of each semester
Duration:	2 years (120 ECTS)
Structure of the program:	first year (60 ECTS) • Electives: - specialization courses: 12 ECTS - technical courses: 9 ECTS - optional courses: 12 ECTS • Internship: 19 ECTS • Interdepartmental project: 8 ECTS
Structure of the program:	second year (60 ECTS) • Final internship: 60 ECTS

MASTER

10.9 Special Master's track Polymers and Composites*

* This is a special Master's track which is formally a track of the Master's degree programs Chemical Engineering, Mechancial Engineering and Applied Physics.

Polymers are widely used as alternatives for natural materials. Their characteristics are a low density, the ease of processing and designing, and the ability they offer to integrate various functions or properties in a single material. On top of that, polymers are in general very low-priced. It is for these and other reasons that polymers are so widely used today, for the most diverse applications such as packaging, protective coverings, insulation materials, clothing, furniture, building materials and in the biomedical field. As a polymer chemist or technologist you will work on the development of new materials, in which both the synthesis and the processing into the final product with the desired combination of properties are of great importance.

The special Master's track in Polymers and Composites will train you to become a chemical engineer with a high level of professional expertise in the field of polymer chemistry and technology. You will be able to specialize in a specific subject within the research field by means of electives, your final project and the internship of your choice. You can also opt to broaden your knowledge in polymers and related fields. The track also devotes attention for social developments and issues.

Graduation options

- Polymer Chemistry;
- Polymer Technology;
- Coatings Technology.

Internships

During your special Master's track you will do an internship of at least three months in a company in the Netherlands or another country. These companies can vary greatly in nature and size, and include industrial multinationals, service providers, governmental institutions and engineering agencies. During your company internship you will become familiar with the working practice of a professional chemical engineer. You will gain experience in a multidisciplinary company, where you will be working on solving problems at the level of a starting engineer. In addition, you will learn how to conduct discussions and present results, both verbally and in writing.

Graduated... and then?

After the special Master's track in Polymers and Composites you will be well prepared for a varied career. This degree will give you a wide range of options in the labor market. For example, you could work as a researcher, research leader, process/product engineer, environmental consultant, policy officer or teacher. Many managers in the chemical industry also have a background in chemical engineering.
In the business world you could take up a position that makes use of your organizational, co-ordinating and leadership skills. Governments also employ large numbers of chemical engineers, for example in environmental departments, water boards and in healthcare. In addition, many of our graduates can be found in design and patent bureaus.

www.tue.nl/masterprograms/pc

ECTS-coordinator Department of Chemical Engineering and Chemistry:
www.tue.nl/contactpersons

Study possibilities:	Full-time, part-time (by arrangement), dual
Degree:	Master of Science
Language:	English
Times of entry:	Preferably in September
Duration:	2 years (120 ECTS)
Structure of the program:	two years (120 ECTS) • Compulsory courses: 21 ECTS • Electives: 27 or 12 ECTS (depending on size of final project • Final project: 38 or 53 ECTS • Company internship: 20 ECTS • Multidisciplinary project: 8 ECTS • Academic competences: 6 ECTS

MASTER

10.10 Special Master's track Science and Technology of Nuclear Fusion*

* This is a special Master's track which is formally a track of the Master's degree program Applied Physics.

The worldwide collaboration on the development of nuclear fusion as a safe, clean and inexhaustible energy source is now culminating in the construction of the large test reactor ITER. With ITER the science and the engineering of nuclear fusion gets a major boost. ITER will also need a new generation of highly trained engineers and scientists for its operation. Eindhoven University of Technology (TU/e) has now selected fusion as one of its high profile areas. The TU/e is the only university in the Netherlands that offers this specialization. The curriculum is harmonized with other universities in Europe that offer education in fusion, through the European Fusion Education Network FUSENET, that is being coordinated by the TU/e. Fusion research is accelerating, ITER needs well-trained engineers.

Graduation options

Fusion education at the TU/e centers on the combination of plasma turbulence control, advanced measurement technology, control systems technology, plasma-surface interaction and microwave technology. Theory, modeling and experiment are all important and represented. Graduation projects in many cases are carried out in associated groups in the Netherlands (the FOM Institute of Plasma Physics), Europe (the Joint European Torus JET, all major national fusion laboratories, and soon also the international fusion reactor ITER) and the world.

Internships

Approximately two-thirds of the Master's degree program consists of internships. These internships can be of a theoretical or practical nature, but a combination of both is also possible. The entire second year of the Master's degree program consists of a final internship, during which you will independently complete a major project. While doing this you will see that the knowledge and skills that you have gained are essential for the successful completion of your project.

Graduated... and then?

The fusion track naturally is the perfect preparation for a career in international fusion research. Now that the construction of ITER is starting, a new generation of bright and well-trained fusion researchers and engineers is needed. But the skills and competences learned in the fusion track are applicable in a much wider field. It is an interdisciplinary field in which many specific expertises are brought together. In the Netherlands there are also about 30 companies - a wide variety, but generally high-tech - actively involved in (preparatory) work for ITER. One example is Remote Handling.

www.tue.nl/masterprograms/stnf

ECTS-coordinator Department of Applied Physics:
www.tue.nl/contactpersons

Study possibilities:	Full-time, part-time (by arrangement), dual
Degree:	Master of Science
Language:	English
Times of entry:	at te beginning of each semester
Duration:	2 years (120 ECTS)
Structure of the program:	first year (60 ECTS) • Electives: - specialization courses: 12 ECTS - technical courses: 9 ECTS - optional courses: 12 ECTS • Internship: 19 ECTS • Interdepartmental project: 8 ECTS
Structure of the program:	second year (60 ECTS) • Final internship: 60 ECTS

MASTER

10.11 Master's program Sustainable Energy Technology

Combination of disciplines

The Master's degree program in Sustainable Energy Technology is closely linked to the research fields energy from biomass, solar energy and micro reactors used as fuel cells. It anticipates on the growing demand of society for sustainable energy supplies. To meet this demand, the generation and use of energy must be as clean and efficient as possible, and the use of renewable energy sources needs to be increased. A number of introductory courses provide basic knowledge in the areas of energy from biomass, solar and wind energy, hydrogen as a sustainable energy carrier and intelligent electricity networks.

The field of Sustainable Energy Technology combines a variety of disciplines. The main areas involved are thermo fluids engineering, process technology, electrical energy supply, technology policy and sustainable building. Researchers in these areas are driven by scientific curiosity, focused on the development of new sustainable energy technologies that can be viable in a social context.

Graduation options

The multidisciplinary research in the field of sustainable energy technology is organized into six themes:

- Energy from biomass;
- Solar energy;
- Wind energy;
- Hydrogen technology;
- Electrical power engineering;
- Energy and society.

Students can specialize in one of these areas and graduate at the TU/e or at one of the partners: Delft University of Technology, University of Twente or the Energy Research Center of the Netherlands (ECN).

Graduated... and then?

There is a strong demand for graduate engineers from the Master's program in Sustainable Energy Technology. Developments like the liberalization of the energy markets in Europe, globalization and the increasing move towards sustainability in the energy industry imply that energy specialists need more than technical knowledge. They also need to have an understanding of economics, policy and innovation processes. The Master's program Sustainable Energy Technology provides students with a general knowledge in all of these fields and in depth knowledge of some fields.

These changes in the industry ensure a strong demand for Sustainable Energy engineers, both in the energy industry and in related fields such as the supply industry, research institutes, engineering bureaus, consultancy and other parties involved in energy policy such as government ministries.

www.tue.nl/masterprograms/set

ECTS-coordinator of the Department of Mechanical Engineering	
www.tue.nl/contactpersons	
Study possibilities:	Full-time (after consultancy with the student advisor a part- time program can be agreed upon)
Degree:	Master of Science
Language:	English
Times of entry:	September
Duration:	2 years (120 ECTS)
Structure of the program:	first year (60 ECTS) • Lectures, assignments and projects: 42 ECTS - core courses in sustainable energy - system integration courses - basic technical courses - social sciences • Project work: 18 ECTS - individual and group project
Structure of the program:	second year (60 ECTS) • Final project: 50 ECTS • Elective lectures: 11 ECTS
Cooperation with other universities	
Delft University of Technology (TUD) and University of Twente (UT).	

MASTER

10.12 Master's program Systems and Control

Systems and Control is an active research area in both the scientific and industrial worlds. It has become an important discipline in many fields, and one in which Dutch researchers have played a world-leading role during the last few decades. Systems and Control involves engineers with specialist knowledge about control systems for complex industrial products and systems. Systems and Control can be applied to a wide range of systems, so the discipline is of a highly universal nature. Applications can be found in mechatronic systems such as those used in pick-and-place positioning systems and robotics, but also in automotive, energy and (chemical) process industries.

The Master's program Systems and Control prepares engineers for a specialist role in the field of dynamics and control technology for complex industrial systems. The scientific research field Systems and Control has a broad theoretical base, which includes mathematical system theory, dynamic systems and signal analysis. Statistics, stochastics, control theory and optimization also form part of this discipline. The application can put challenges to the theories of Systems and Control. These challenges provide us with input for further investigations. This Master's program therefore ensures that engineers find the right balance between a formal mathematical basis and attractive, realistic applications.
Students choose one of the specializations:
-Control Systems
-Control systems Technology
-Dynamics and Control
-Electromechanics and Power electronics
-Systems Engineering
They discuss their program with their supervisor.

Graduation options

In order to graduate, students have to conduct a final research project of 45 ECTS. One can do a research project within one of the Systems and Control groups at the TU/e or in a company or research institute. There are numerous contacts with industry and knowledge institutes such as with ASML, Ford, Océ, Philips, Shell, Unilever, and TNO.

Internships

The Master's program includes a research internship, which can be replaced with several elective courses and a literature study.

Graduated... and then?

Graduated engineers of the Master's program Systems and Control can work in a broad range of positions, and there is a strong demand for these engineers. As a graduate of this Master's program you will be able to find employment in the automotive, energy and process industry, in engineering companies, in research institutes and in the software industry. In Eindhoven and the surrounding area there are numerous large and small high-tech companies working in the field of positioning systems and vehicle subsystems.

www.tue.nl/masterprograms/sc

ECTS-coordinator Department of Mechanical Engineering
www.tue.nl/contactpersons

Study possibilities:	Full-time
Degree:	Master of Science
Language:	English
Times of entry:	September, or at other times by agreement
Duration:	2 years (120 ECTS)
Structure of the program:	first year (60 ECTS) • Core courses: 24 ECTS •Elective courses: 36 ECTS
Structure of the program:	second year (60 ECTS) • Literature study / Internship: 15 ECTS • Final project: 45 ECTS

C

Facilities for students

C

Facilities for students

3.1 Living expenses

You must make sure at the outset that you have enough money for your stay in the Netherlands. Experience shows that foreign students need a minimum of € 10.000 per year to cover their living expenses and health and liability insurance. This amount does not include the tuition fees. Although differences between incomes are small in the Netherlands, most students live towards the bottom of the economic ladder. If you have an average student income - from a scholarship, for example - you will find that at least one third of it will go towards housing, and food will cost you another third. The remaining third of your money will go towards books, transportation, and other expenses.
For more information on this subject, look at: www.nuffic.nl/international-students

3.2 Student work

You might want a part-time job to pay for your study and living expenses. You can consider looking for a job at a job agency or working as a student assistant at the university (after completion of the foundation year for Bachelor students). If you want more information about working as a student assistant you should contact the Department or service concerned. EU students do not need a work permit and do not have restrictions for the amount of hours they may work. Students who do not have an EU passport may work for a legal maximum of 10 hours per week or take summer work (June/July and/or August), provided that they have a work permit. The employer needs to apply for a work permit.
A student cannot do it himself. For more information:
www.nuffic.nl/international-students/preparation-stay/staying-in-holland/working-while-studying

3.3 Accommodation

There are two ways to find accommodation in Eindhoven:
1 Make use of the service offered by TU/e
The TU/e offers foreign students help in finding accommodation. Unfortunately it is difficult to find affordable, furnished accommodation due to the limited availability of housing in Eindhoven. All guests will be accommodated in Eindhoven in student's houses.

Most students are accommodated in single bedrooms in student houses. These houses are shared by several (international) students. Students are provided with:
- a (single) bed;
- table & chair;
- lamp;
- wardrobe;
- basic kitchen utensils, such as pots, pans, cups, plates and cutlery;
- bed linen;
- use of a washing machine;
- The rent of a student room is approx. € 400.

The TU/e housing service is a 'blind-date' arrangement, which means that you cannot view the room before hand.

Accomodation for Exchange students
Please note that students applying for housing via TU/e are offered a housing contract with a fixed period of one semester (Semester 1 2010/2011: 9 August 2010 - 28 January 2011, Semester 2 2010/2011: 31 January 2011 - 22 July 2011), regardless of their actual period of stay. Rental agreements can only be extended with a full semester. Exchange students must all complete a Student Application Form before they come to the TU/e.
This form includes applications for housing. The form can be obtained from the contact person at the TU/e department where they will take courses. You must return the Student Application Form to your contact person at the TU/e department where you will take your courses at least 2.5 months before your arrival. TU/e can only guarantee housing for a limited number of exchange students. If housing cannot be guaranteed you will receive a message about this from the department that handless your application. On the following website you can find information on how to look for accommodation yourself: www.tue.nl/accommodation.

Accomodation for Master students
Master students who would like to apply for accommodation via the university need to complete the confirmation statement that is sent to you in May. For more information about the housing mediation and for information on how to look for accommodation yourself, please visit www.tue.nl/accommodation.

2 Find accommodation yourself

You do not have to make use of the housing service offered by TU/e. Bear in mind though, that you should start in time if you would like to find housing by yourself. To find accommodation you can, for example:

- Rent a room for a short time as a subtenant;
- Place an advertisement in a supermarket or on a website (e.g. www.casaswap.com);
- Rent in the private sector with a landlord;
- Rent a room in a youth hostel (www.stayokay.nl);
- Rent a room in a hotel (www.vvveindhoven.nl).

If you are staying longer than a few months, you can also try to find housing via a housing corporation or agency. For addresses please contact the international relations office (io@tue.nl).

3.4 Meals

There are eleven canteens on the TU/e campus, which serve coffee, tea, milk, soup, rolls, snacks and light lunches at reasonable prices. The canteens are generally open from 9.00 to 14.00 hours. The canteen in the Auditorium is open until 19.30 hours, except on friday until 16.00 hours. Hot meals are available at the canteen in the Auditorium. Outside canteen opening hours you can make use of the dispensers for hot drinks, lemonade, sweets or ice cream.

3.5 Medical facilities

Student doctor

The student doctor (in Dutch: 'studentenhuisarts') gives full medical assistance according to the standards set for the practice of medicine by doctors in the Netherlands. It is strongly recommended you register with this or any other doctor upon your arrival in the Netherlands. Consultations with a doctor are not for free and the same goes for the student doctor.

'Studentenhuisarts', V.J.G.M. de Kort. Telephone: +31 (0)40 2438215.

Address: Weverstraat 1, 5612 CW Eindhoven

If, in case of an emergency, you should need a general practitioner outside office hours, you should contact the 'Centrale Huisartsenpost'. Many general practitioners in Eindhoven work together to guarantee medical care at night, the weekend, and on official holidays.

You must first call: 0900 – 8861

Address Centrale Huisartsenpost: Michelangelolaan 2, 5623 EJ Eindhoven

Pharmacies

Medicines prescribed by a doctor can be picked up at one of Eindhoven's pharmacies (in Dutch: 'apotheek'). The pharmacies are open from 08.30 to 18.00 hrs on working days. Details on out of hours pharmacies is available by telephoning your local pharmacy (usually a recorded message informs you which pharmacy in the area is open evenings and weekends). The chemist (in Dutch: 'drogist') only sells lighter drugs for more common complaints, such as headaches, toothaches, menstrual pains and diarrhea. The addresses of the various pharmacies can be found in the city guide under the heading 'Medisch'.

Student dentist

Eindhoven has a special dentist's practice for students (in Dutch: 'studententandarts'). You can make an appointment with the dentist (tandarts) by telephone between 09.00 and 12.30 hrs. Please check whether you are properly insured. 'Studententandarts' Kliniek voor Mondzorg, Botenlaan 82, 5652 CB Eindhoven, Telephone: +31(0) 40 2514527.

Hospitals

Eindhoven and the Eindhoven region have a number of hospitals (in Dutch: 'ziekenhuis'):

- Catharina-ziekenhuis, Eindhoven;
- Maxima Medisch Centrum (Diaconessenhuis), Eindhoven;
- Maxima Medisch Centrum (Sint Joseph Ziekenhuis), Veldhoven.

For real emergencies there is one general emergency number to phone in the Netherlands (this number passes information on to the nearest police station, fire brigade or hospital): tel. 112.

If there is an emergency on the campus of the university you should dial the number of the TU/e security: 2222.

3.6 Insurance

Health & Liability Insurance

In the Netherlands everyone must have health insurance. Personal liability is strongly recommended. It insures you against costs incurred if you harm someone or damage someone else's possessions (for example: if you cause a traffic accident with your bicycle or as a pedestrian).

EU- students

Students from the EU can apply for an EU Health Card at their own health care insurance company. For more information, visit http://ec.europa.eu/employment_social/healthcard/index_en.htm.

If you do not have liability insurance that covers you in the Netherlands, you can buy this type of insurance in the Netherlands as well. The International Office can advise you about this.

Non- EU- students
Students from outside the EU are advised to take out health and liability insurance from AON (www.students-insurance.eu/). You can take out this insurance before or after your arrival. It costs approx €40 per month.
If your insurance from your home country also covers you in the Netherlands, then please send us a copy of your policy before arrival, so the International Office can assess whether your insurance has sufficient coverage.

Please contact the International Office (main building at TU/e campus) after your arrival to proof that you are sufficient insured.
For more information about this subject, look at:
http://www.nuffic.nl/international-students/how-to-prepare/insuranceFor questions you can contact The International Relations Office, tel.: +31 (0)40 247 4747, email: io@tue.nl

3.7 Financial support for students

Scholarships
When you study at TU/e you may qualify for a scholarship. You can find possible sources for scholarships on the websites of both TU/e (www.tue.nl/scholarships) and Study in the Netherlands (www.nuffic.nl/international-students/scholarships). For the latest information and advice on scholarships, visit our website (www.tue.nl/scholarships) or contact the International Relations Office (io@tue.nl).

Study grant ('Studiefinanciering') for regular students
Another special study grant is the so-called 'studiefinanciering'. If you live in the Netherlands but do not have the Dutch nationality, you may be eligible for this study grant in a limited number of cases. If you are from an EU member state you may be entitled to a regular student grant or to a refund of the tuition fee.

For specific information, contact the DUO – IB-Groep by telephone on +31 (0)50 599 77 55 or via the Internet: www.ib-groep.nl.

3.8 Education and Student Service Center (STU)

There are times before, during and after your study when you may need some good advice. Student grants, admission, coaching, studying abroad, help with personal matters and labor market information are some of the topics with which the Education and Student Service Center (STU) can assist you.

The Service Desk of the Education and Student Service Center (STU) is the place to go with your questions on student affairs. Usually you will get an immediate answer to your question or an appointment may be made with a student advisor.
Opening hours: Mon.- Fri. 8.30-17.00 hours
Location: HG 0.72 (main building)
Telephone: +31 (0)40 247 4747
Internet: www.tue.nl/stu

International Relations Office
If you are considering going abroad to study or for work experience, the International Relations Office can provide you with information and can help with the practical arrangements. The TU/e International Relations Office (IO) is a permanent task force within the Education and Student Service Center (STU) and is responsible for policymaking and implementation in the domain of internationalization. The IO staff can give you information on the possibilities for grants, insurance, international student organizations and various other items, which may be important for a period abroad.

The International Relations Office also provides advice and support to Departments and students on international education programs, university linkages and bilateral contacts, networking and international projects, etc.

For information, advice or support on the following topics, please contact the International Relations Office:
- Studying/work experience abroad;
- Funding/Scholarships/EU programs for Education;
- Analyses of foreign universities;
- International facts and figures;
- Admission procedures and assessment of diplomas;
- Visa applications;
- Accommodation;
- Insurance;
- Introduction programs for international students;
- Collaboration with the Nuffic and NESO;
- International university linkages and networks (CLUSTER, CESAER, Santander Group).

Internet: www.tue.nl/internationalisation

Information Center

The Information Center of the Education and Student Service Center (STU) offers you a variety of information, e.g.:

- Documentation on various courses or professions;
- Information on the current situation on the labor market;
- Information about jobs and companies;
- Brochures from the DUO- Informatie Beheer Groep (student grants office);
- TU/e funding regulations, the graduation fund and the so-called 'bestuursbeurzen';
- Literature and video tapes on communication skills such as effective presentations and meetings.

The Information Center is located in the
Education and Student Service Center.
Opening hours: Mon.- Fri. 8.30-17.00 hours
Location: HG 0.72 (main building)
Telephone: +31 (0)40 247 4747
Internet: www.tue.nl/stu

Administration

The Education and Student Service Center (STU) also has an administrative function such as enrolment, deregistration, student ID card replacement and notebook administration, etc. For enrolment and deregistration you have to comply with Dutch law. Please read carefully the information in the booklet 'Enrolment 2010-2011' and the Student Statutes. (w3.tue.nl/en/services/stu/regulations)

Digital Learning and Working Environment (DLWO)

The Digital Learning and Working Environment (www.education.tue.nl) registers all data on a student, registration, study program followed and study progress. It is possible to organize many different administrative items via the above-mentioned website. For example, you have access to:

- information on lecture and examination schedules;
- the electronic guide to subjects;
- examination results;
- comparing your own study progress with that of your fellow students;
- registering for and withdrawing from courses and exams;
- passing on changes of address;
- an overview of the examinations registered for.

For access to the Digital Learning and Working Environment (www.education.tue.nl) you require your network username and password, which you receive after registration. Should you forget your password you can apply for a new one by showing your student ID card at the Service Desk of the Notebook Service Center.
For general information about the individual course units you are not required to have a username and password.

Student ID card

The student ID card can be picked up at the Service Desk after registration at TU/e.

Diploma Supplement

The Diploma Supplement is an annex, an explanatory note attached to your BSc or MSc diploma. The Diploma Supplement follows the model developed by the European Commission, Council of Europe and UNESCO/CEPES. "The purpose of the supplement is to provide sufficient independent data to improve the international "transparency" and fair academic and professional recognition of qualifications (diplomas, degrees, certificates etc.)". It is designed to provide a description of the nature, level, context, content and status of the studies that were pursued and successfully completed by the individual named on the original qualification to which this supplement is appended." This document provides other universities or companies with all the information necessary to make a valid assessment of your degree or qualification.

The TU/e Executive Board has decreed that, from September 1st, 2004, the Supplement should be issued in English to every Bachelor or Master student free of charge upon graduation together with his or her official diploma. Since then the first Supplements have been awarded to students on their graduation.

Students with a disability

The task of the Executive Committee on Facilities for the Disabled is to ensure that the TU/e buildings are accessible to wheelchair users and people with other disabilities. This means that access is possible without the assistance of others.
Contact person of the Executive Committee on Facilities for the Disabled, Mrs.C. Holthaus, tel. +31 (0)40 247 21 33.

3.9 Study facilities

Notebook

TU/e gives all students who register for the first time as students for a full-time or part-time program and who pay tuition fees, a once-only opportunity to buy a notebook at a reduced, subsidized price. This subsidy depends on the fact whether the student is following a Bachelor's or a Master's degree program. The notebook arrangement does not apply to exchange students. The administration and the overall coordination relating to the notebook rest with the Education and Student Service Center, where you can also go with general questions. For technical questions you can turn to the Notebook Service Center.

Notebook Service Center

The Notebook Service Center (NSC) delivers notebooks and provides back-up service to students. You can contact the Notebook Service Center with any technical problems concerning the notebook or dial-up and network connections. It is also possible to rent a notebook from the NSC or to get a memory upgrade for certain types, or arrange for repairs. Notebook Service Center, De Hal 0.06, call center: +31 (0)40 247 88 88, e-mail: nsc@tue.nl. www.tue.nl/nsc

Library

The library website (http://w3.tue.nl/en/services/library) gives you access to the extensive digital Library of TU/e. Here you can access catalogues, reference books, full-text periodicals and specialized information sources. Of course you can also physically visit the central library and the seven Departmental libraries to borrow books or to study. (http://w3.tue.nl/en/services/library)

ICTheek

In the ICTheek you can study quietly at one of the 45 work stations or log in with your own notebook. The ICTheek also gives you the opportunity to use several (color) printers, scanners, CD writers and a zip drive. There is always someone at the front desk of the ICTheek to answer your questions.
http://w3.tue.nl/en/services/dienst_ict/organisatie/ictheek
ICTheek, De Hal 1.47, tel.: +31 (0)40 247 44 81, e-mail: ictheek@tue.nl

Sales of Lecture Notes

Lecture notes can be bought from a shop in the main building (Winkel Collegedictaten) open from 9.00 to 15.00. A list of available notes can be found on the website.
dictatenverkoop
Winkel Collegedictaten, HG –1.40, tel.: +31 (0)40 247 24 46, e-mail: dictatenverkoop.diz@tue.nl

Language courses

The Centre for Communication, Language and Technology (CTT) offers language courses to staff and students of TU/e. There are courses taught by a teacher and self-study courses. For more information about the courses please contact the secretary of the CTT in ''De Hal'', telephone number: +31 (0)40 147 2912, e-mail; ctt@tue.nl.

Self-study takes place in the language laboratory (Talenpracticum), which is situated in the central library in de Hal (ground floor). The opening hours are Mondays from 9.00 to 21.00 hours and Fridays from 9.00 to 17.00 hours, www.tue.nl/ctt.

3.10 Sports facilities

Student Sports Center

TU/e feels strongly about sport. Students of TU/e, Fontys and the Design Academy may use all the facilities of the Student Sports Center on and around the campus. There are 45 different sports to choose from: from badminton to ice hockey and from karate to cardiofitness. Recently a new swimming pool has been added to the sports facilities. The Student Sports Center offers a variety of courses, all accessible with a student sports card, costing € 69 per academic year available from the desk at the sports center. Just show your student ID card. http://www.tue.nl/sportcentrum.

3.11 Other facilities

Hairdresser

The TU/e hairdresser can be found in the main building (hoofdgebouw). A haircut costs approx. 14.50 Euro. The hairdresser is open Monday, Thursday and Friday from 10.00 to 18.00 hours. HG room 30, tel.: +31 (0)40 247 21 15.

Childcare

The TU/e childcare facility the “TUimelaar” offers students and staff childcare for children up to four years of age. The TUimelaar is situated on the edge of the TU/e grounds, close to the Sports Center. Children are welcome from the age of 10 weeks onwards for a minimum of 6 months and a minimum of two half days. De TUimelaar, Den Dolech 2, tel.: +31 (0)40 247 47 15, e-mail: tuimelaar@tue.nl, www.tue.nl/tuimelaar.

University newspaper the Cursor

The university newspaper is called the Cursor and the latest edition can be found at various places all over the university every Thursday morning. The Cursor is free of charge for students and staff members. The Cursor contains news, background stories, interviews, opinion on scientific research and education, and of course on student life. The Cursor also reports on the political and social affairs that influence the university. There is a paper and a digital version of the Cursor (www.tue.nl/cursor).
Cursor, La Place 0.40, tel.: +31 (0)40 247 29 61, e-mail: cursor@tue.nl.

Reproshop

The following is available from the Reproshop: copies and collotypes in black/white and color. Also enlargement, reduction and sorting, double-sided copies and copies on colored paper or overhead sheets/ acetates. You can also bind your (term) papers and theses. The Reproshop is open weekdays from 10.00 to 16.00 hours.
Reproshop, HG -1.42, tel.: +31 (0)40 247 3376 e-mail: reproshop@tue.nl

The University Print Service

The University printer can give you information on the various activities of the Print Service and the Reproshop, including analogue and digital printing, and document binding. For more information contact the Print service office HG -1.50,
tel. +31 (0)40 247 2265/2341, e-mail: printservice@tue.nl.

RSI workshops and courses

RSI (Repetitive Strain Injury) is a difficult problem to solve. That is why the AMSO (Arbo en Milieuservice Organisatie – the organization for health, safety and the working environment), together with the Student Sports Center and the company doctor, have decided to take an integral approach. At the core of this approach is an RSI prevention workshop and exercise regime. For more information and registration see the website.

Stekkercafe

The Stekkercafé in “de Hal” is a place to chat with your fellow students, read a newspaper or plug in your notebook. All the things that are not possible in the Library! Of course you can also have a cup of coffee and a bite to eat. Stekkercafé, De Hal 0.04.

Meditation Center

The Meditation Center is centrally placed in ‘de Hal’ and provides an opportunity for peace and quiet. The Center does not have any particular religious affiliation, although you are welcome to come and pray here or simply to sit quietly. The Center is open from 8.00 to 21.00 hours.
De Hal 1.46

3.12 Extramural and leisure activities

Study Associations

Apart from becoming a member of a TU/e student association, it is also possible to join a study association. The associations reflect the interests of the course they represent. The following are examples of the kinds of activities organized by the study associations: study trips, lectures, excursions, parties, drinks, sport events, book sales and sales of old examination papers, etc. Surf to the site of the program of your interest for more information on the various study associations to contact them.

Studenten Advies Orgaan - Student Advisory Body (SAO)

The Student Advisory Body provides requested and unrequested advice to the Board of Governors. This concerns both educational policy and student policy. The SAO also functions as a means of dialogue between students and the Executive Board. There is a representative from each Department in the SAO. The Rector chairs the SAO.

University Council

TU/e has a representative advisory body – the University Council. The Council consists of students and members of staff who advise the Executive Board on important TU/e matters.
University Council Secretariat, Traverse 0.02, tel.: +31 (0)40 247 25 54, e-mail: secretariaat.ur@tue.nl.

Student associations

Culture

Throughout the year there is a variety of performances, exhibitions and concerts to be seen in Eindhoven at the Parktheater (city theatre), Plaza Futura (alternative cinema), het Muziekcentrum (the music center) and the Van Abbemuseum (Van Abbe Museum). TU/e also has much to offer in the area of culture. The various clubs within Scala and Studium Generale are examples of this.
Scala: www.studentencultuur.nl

A variety of clubs and associations have established themselves with the cultural student center Scala.
For example:
- a club for classical music (Quadrivium);
- a Big Band (Studentproof);
- a dance club (Footloose);
- a stage club (Doppio);
- a film and photography club (Dekate Mousa);
- role play group (Knights of the Kitchen Table);
- a pop music club (Modern).

Scala is situated in 'de Bunker'. Within the clubs and associations it is not just culture that is important... the clubs are a great way to meet people, to go to a concert with a group, or to join in a music, dance or film evening.
Cultureel Center Scala, John F. Kennedylaan 3, tel: (0)40 247 85 01, e-mail: info@studentencultuur.nl.

Studium Generale: www.tue.nl/sg
Studium Generale (SG) organizes lectures, readings, interviews, exhibitions, concerts, and theater, literature and film events. The SG program confronts you with technological, scientific, social and political matters. In addition, you come into contact with various forms of culture. There is a wide variety of workshops and excursions for people with all kinds of interests. Studium Generale also organizes cultural events for a wider public and so contributes to the cultural function of the university in the city and region.

Many activities are organized in cooperation with individual students and employees of TU/e or with study associations. Program information can be found in the folder Sgrift, on the notice boards and screens in the TU/e buildings, or you can be kept informed personally by e-mail.
Studium Generale, tel: +31 (0)40 247 49 00, e-mail: studium.generale@tue.nl.

International associations
TU/e encourages students to find work experience placements or to follow part of their study period abroad. Various associations on the TU/e campus such as AEGEE, BEST, IEEE and ESTIEM, give you the opportunity to prepare for a possible foreign adventure by making contact with international organizations and students. On http://w3.tue.nl/en/doelgroepen/student/student you will find some information about the international student associations.

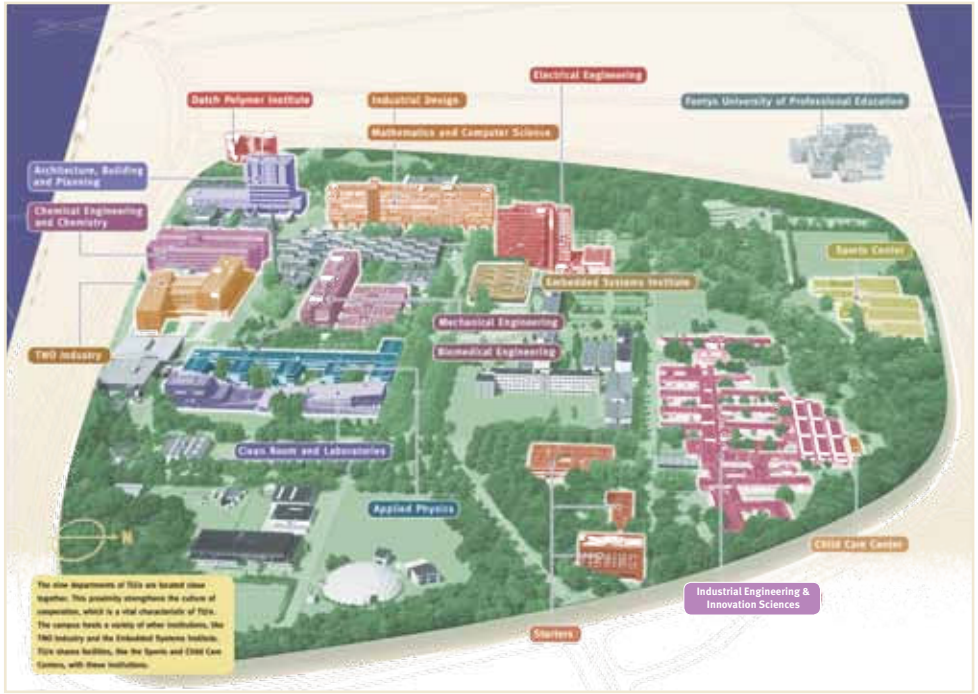
Student associations
Besides your study, relaxation is also important. You could of course just watch television or go out on the town, but you could also join one of the student clubs. w3.tue.nl/nl/navigatie/portals/studentenverenigingen.

Sports clubs
On www.tue.nl/sportcentrum you will find information about the sports that TU/e offers. The Eindhoven Students Sports Federation (ESSF) coordinates these clubs.
More information: www.essf.nl
The ESSF is located at the Studentensportcentrum, Onze Lieve Vrouwestraat 1, 5612 AW Eindhoven, tel.: +31 (0)40 247 57 38.

3.13 Route and map

Eindhoven University of Technology is in the center of Eindhoven. The compact green campus not only houses the university buildings, but sports facilities and a student center as well. Most of the buildings are connected via walkways, making TU/e one of the most easily accessible universities for the handicapped.
http://w3.tue.nl/en/the_university/route_and_map

For more practical information about Eindhoven University of Technology and living in Eindhoven, www.eindhoven.eu.



Important addresses and links

Eindhoven University of Technology TU/e Bachelor's and Master's degree programs
If you would like to know more about the TU/e study programs, see the website:
www.tue.nl/bacheloropleidingen
www.tue.nl/masterprograms
For information about student support, admission, practical information and exchange programs at TU/e, please contact the International Relations Office:

International Relations Office
PO Box 513
5600 MB Eindhoven
Tel: +31 (0)40 2474747
Fax: +31 (0)40 244 1692
e-mail: io@tue.nl
www.tue.nl/internationalisation

For questions related to admission, please send an e-mail to: io@tue.nl
Information for exchange students: www.tue.nl/exchangestudent

Nuffic

Nuffic stands for Netherlands organization for international cooperation in higher education. This organization can provide you with information about studying in the Netherlands, scholarships and assessment of foreign diplomas in terms of the Dutch education system.

Nuffic

PO Box 29777
2502 LT The Hague
Tel: +31 (0)70 426 0260
www.nuffic.nl
www.studyin.nl

City of Eindhoven

www.vvveindhoven.nl
www.eindhoven.eu

Colophon

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