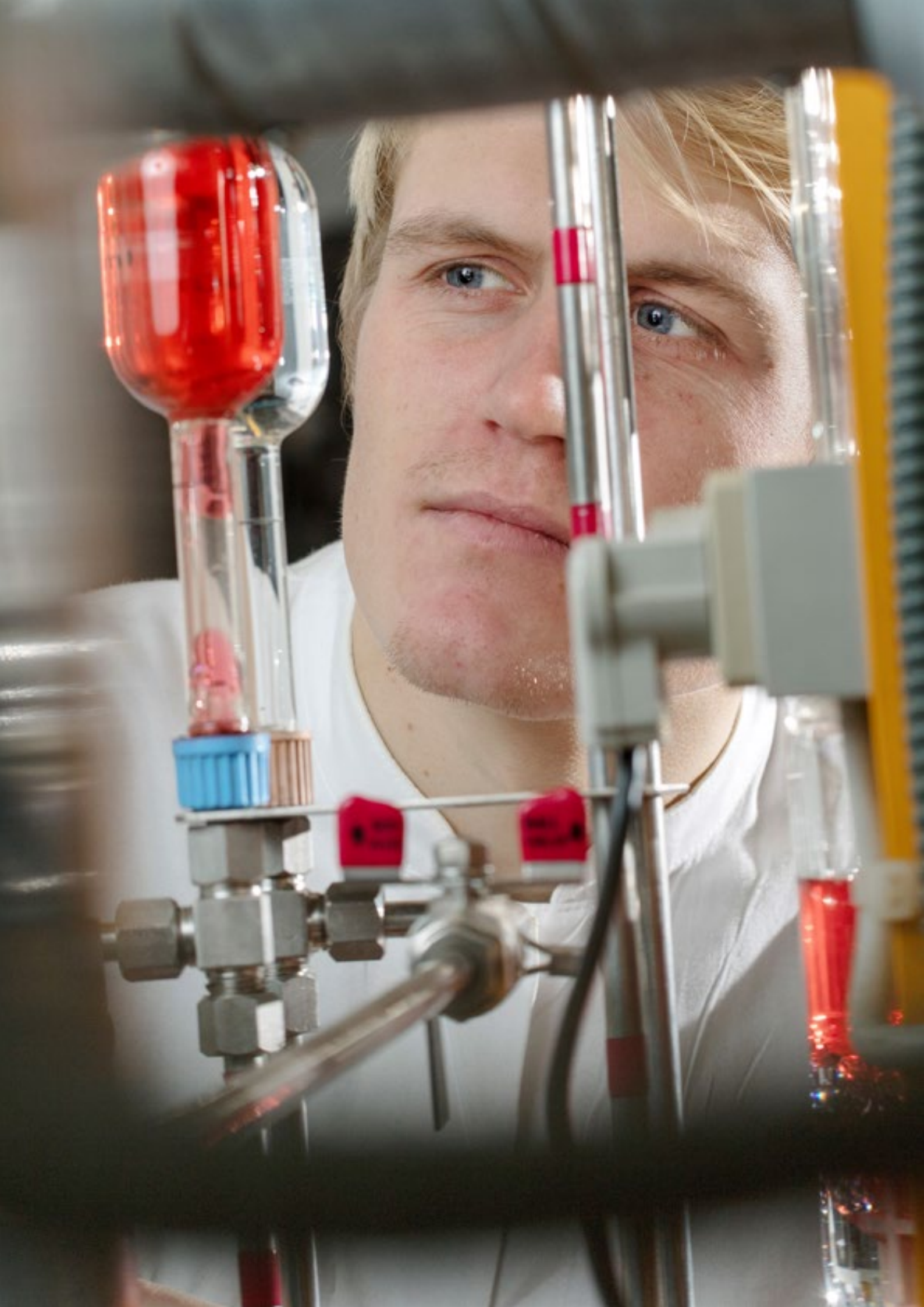


Engineer your Future

2018 / 19 STUDY GUIDE





Contents

Welcome	4
About DTU	6
Rankings	7
Location	8
Studying at DTU	10
Choosing DTU	12
BSc Eng programme	14
BSc Eng programme structure	15
BSc in General Engineering	16
Admission and tuition	17
MSc Eng programmes	18
MSc Eng programme structure	20
An international environment	23
Overview of MSc Eng programmes	24
Admission and tuition	44
PhD programme	45
Graduate satisfaction and employability	46

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Welcome from the President

4



Graduates leave DTU with academic skills that they can use professionally. They also take away personal and social competences that are equally valuable.

Dear Student,

DTU is one of the highest ranked technical universities in Europe, recognized internationally for its excellence in research within the technical and the natural sciences; for its success in the transfer of knowledge and technology from the laboratory to the marketplace; for its extensive scientific advice to authorities and industries; and for its research-based education.

Led by a dedicated faculty, DTU students are allowed hands-on access to world-class facilities as a matter of course. You are also encouraged to work in interdisciplinary programmes and to create your own academic programme that will prepare you for a successful and rewarding career.

At DTU, we want to be welcoming to everyone who works and studies at the University. Our goal is for our students to find their experience outside the classroom as rewarding and fulfilling as their academic life. Consequently, numerous cultural, educational, athletic, and social activities are freely available to students and staff alike.

Please join us to experience first-hand what DTU can do for you and your future.



Anders O. Bjarklev
President

About DTU

6

Founded in 1829, DTU is one of Denmark's foremost institutions of higher learning. Through our collaboration with private and public stakeholders, DTU serves as a driving force for welfare and sustainable value creation by generating new discoveries and inventions that benefit society, protect the environment, and improve people's lives.

Recognized internationally as an elite technical university, we take our role as a leading force within the technical, natural, and life sciences seriously by providing education, research, innovation, scientific advice, and knowledge dissemination at the highest level.

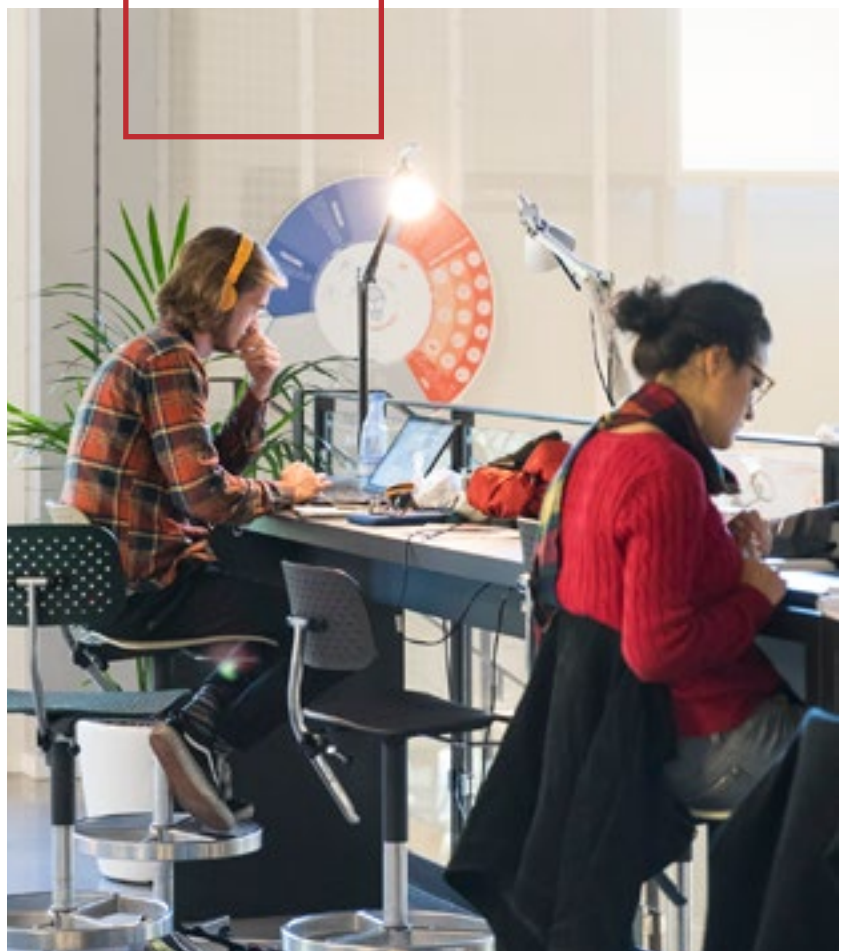
The University attracts leading academics and gifted students from around the world. More than 100 nationalities are currently represented at DTU, making student life at DTU a truly international experience.

In 2017, DTU enrolled a total of 4,673 new students: 1,231 BEng students, 1,170 BSc Eng students, 1,853 MSc Eng students, and 419 PhD fellows.



Coming back to India with a degree from a leading university like DTU will give me an advantage in the competitive job market.

Raj Kumar Kalvala, India, MSc in Civil Engineering



Rankings*

	Nordic region**	Europe	World
Leiden Ranking Citation impact indicator (top 10% publications) <i>All sciences</i>	1	41	109
Leiden Ranking Collaborative publications indicator (<i>with industry</i>)	5	9	16
Reuters Top 100 World's Most Innovative Universities	1	14	65
Global University Employability Ranking	3	30	73
QS World University Ranking <i>Engineering and Technology</i>	5	39	112

* as of 12 June 2018.

** The Nordic region consists of Denmark, Sweden, Norway, Finland, and Iceland.

Location

8

Denmark is one of the safest countries in the world and the least corrupt, which may be part of the reason why Danes rate themselves as being amongst the happiest people on earth year after year. Language proficiency is excellent and 86 per cent of the population speak English.

DTU has research and test facilities throughout the country and three campuses. The main campus is located in Lyngby just north of Copenhagen—one of Europe's most popular and progressive capitals.

DTU Lyngby Campus

DTU's main campus consists of more than 100 buildings on a 106-hectare plain, which is divided into four quadrants—just like points in a coordinate system. The campus is safe and secure, and a site of great natural beauty with wooded areas, sports fields, inner courtyards, and gardens.



More information on dtu.dk/studentguide



Copenhagen—clean, safe, and vibrant

Copenhagen is famed for being one of the world's most livable cities.

With a population of just 1.3 million, the metropolis boasts one of the lowest crime rates in the world, is built on a human scale, and is engineered for pedestrians, pedal power, and urban living.





Lyngby—small-town vibe in an urban setting

DTU's main campus is located in Lyngby, a mere 15 km north of Copenhagen.

Lyngby-Taarbæk municipality is a lively centre of knowledge and commerce. It is home to around 55,000 people and renowned for its cultural life, excellent shopping, and beautiful countryside.



Studying at DTU

10

Student facilities on DTU Lyngby Campus include all-campus wireless Internet access, student data bars, canteens, a bookshop, and an ultramodern library. Students meet up in the student cafés and the Student House (S-Huset) in building 101, or join one or more of the wide selection of student sports associations and clubs—ranging from sailing and rugby to dancing, pottery, poker, and gliding.

Student projects

DTU's study programmes are cross-disciplinary, you get hands-on access to world-class facilities, and you engage in project-based assignments where you can apply your theoretical knowledge to solve real-life problems. You also have the opportunity to participate in a range of projects such as the annual and world-famous Roskilde Festival (roskilde.dtu.dk), the annual student conference Green Challenge (groendyst.dtu.dk), or one of the five Blue Dot projects:

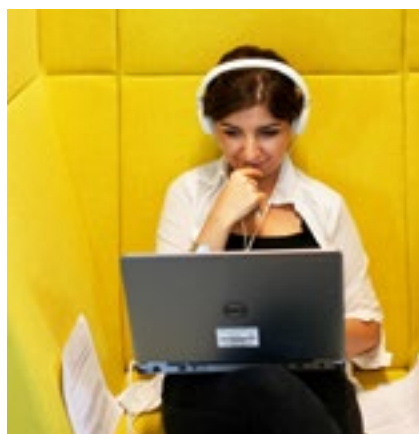
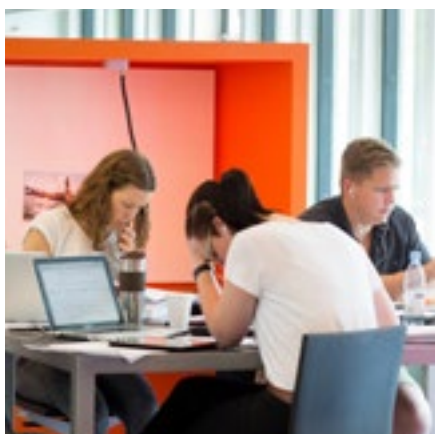
- DTU Roadrunners ecocar.dk
- DTU Ecotrophelia bryghus.dtu.dk
- DTU RoboCup robocup.dtu.dk
- DTU Biobuilders biobuilders.dtu.dk
- DTU SensUs sensus.org

Entrepreneurial spirit

Sustainability, innovation, and the entrepreneurial spirit is part of all programmes at DTU.

In 2017, students were responsible for 50 of 60 new start-ups that were launched by DTU students and staff.

Besides university networks and facilities, students at DTU have access to DTU Skylab, a unique innovation lab where they can test their ideas and turn theory into practice. skylab.dtu.dk





DTU provides you with all the facilities to set up your own company. This entrepreneurship opportunity is my favourite aspect of DTU.

Hugo Amor, Spain, MSc in Petroleum Engineering



Student services and buddies

DTU provides a range of services to help you succeed in your studies and adapt to life in Denmark. If you have any questions, please write to international@adm.dtu.dk.

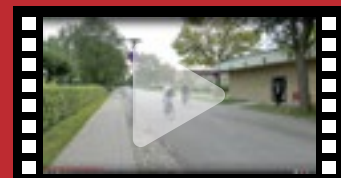
During the 'Introduction Week', just before the start of each semester, you will be introduced to your new buddy. Buddies are DTU students

(Danish and international) who will help and assist you throughout the first semester at the University.

Come visit DTU

Prospective students and their families are invited to book a free guided tour of DTU Lyngby Campus. Please contact Mscadmissions@adm.dtu.dk

 facebook.com/dtudk  dtudk



Watch videos

Study at DTU:
dtu.dk/study
Become an engineer at DTU:
dtu.dk/engineer

Choosing DTU

12

Ten reasons for choosing DTU

1.

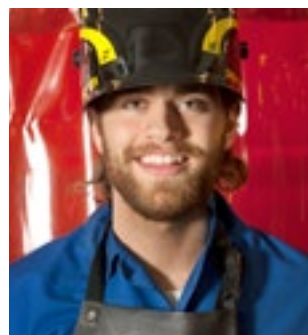
DTU is one of the highest ranked technical universities in Europe.

2.

DTU graduates are highly employable and more than 40 per cent find jobs before they even graduate.¹

3.

92 per cent of all international students at DTU are 'very satisfied' with all aspects of their experience and would encourage others to apply to the University.²



4.

The academic life is challenging and you get hands-on access to world-class research facilities.

5.

More than 100 nationalities are represented, making your life at DTU a truly international experience.

6.

Academic activities are based on the latest scientific knowledge as all teaching, supervision, and course development is carried out by educators who are themselves actively involved in research or innovation.

7.

All professors and lecturers go by their first names and are easily accessible to students due to the low student to staff ratio.

8.

The campuses are safe and secure and there is never a dull moment. Join one or more of the many clubs, or sign up for one of the cross-disciplinary student projects.

9.

DTU focuses on supporting student innovation and entrepreneurship. At DTU, you can turn your ideas into reality.



10.

DTU collaborates closely with industry, benefitting both research and learning activities.

Source:

1) Graduate survey carried out by DAMVAD Analytics in Oct.-Nov. 2015.

2) International Student Barometer carried out by i-graduate in autumn 2017

Why I chose DTU

13

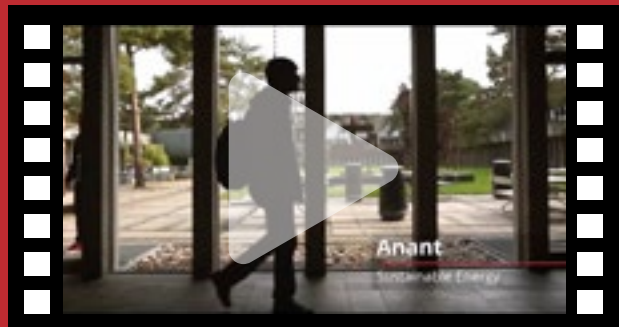
Anant

Sustainable Energy

“Electricity has become a basic necessity to us. Our lives are all around it. But most people don’t know how electricity gets to us”



Watch video: dtu.dk/anant



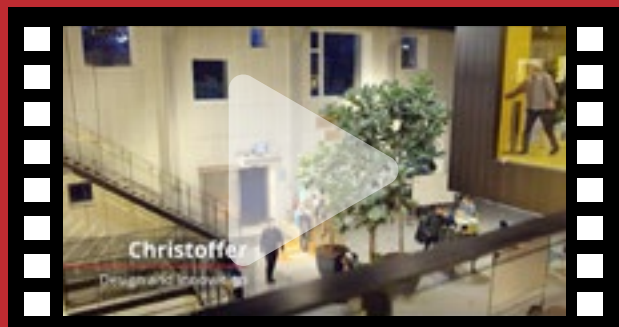
Christoffer

Design and Innovation

“The point is to understand the whole picture to make sure you develop the right product, before you develop the product right”



Watch video: dtu.dk/christoffer



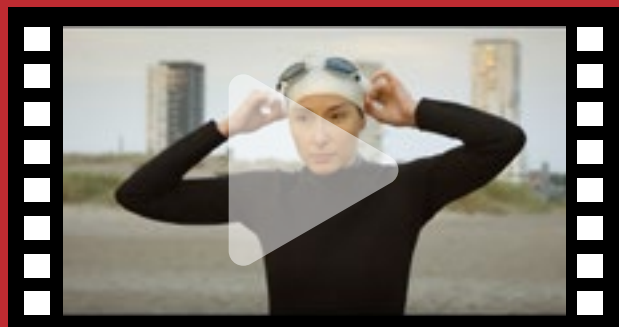
Laura

Aquatic Science and Technology

“I specialize in ways to treat ballast water in cargo ships in order to protect the marine ecosystem. While many see just water, I see life”



Watch video: dtu.dk/laura



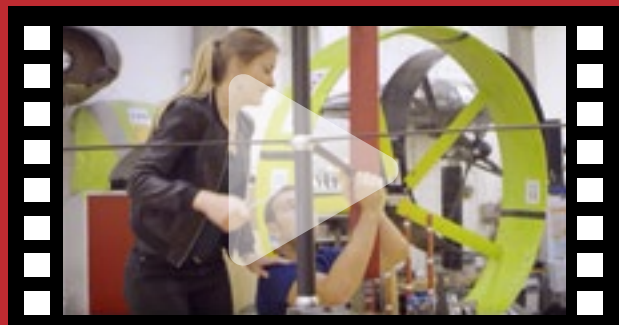
Mareen

Wind Energy

“I’m fascinated by the wind. It’s just there and it appears in so many different forms”



Watch video: dtu.dk/mareen



BSc Eng programme

14

Since 2016, DTU has offered an international BSc programme in General Engineering, taught exclusively in English.

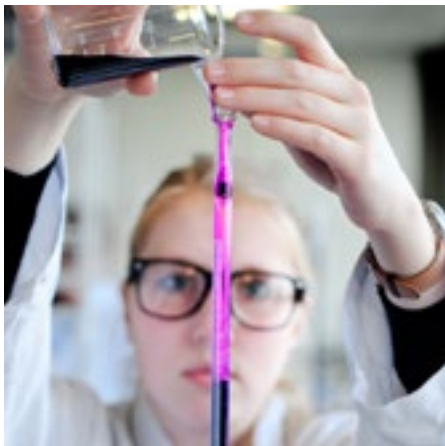
You will be part of a very diverse and international learning environment where approximately half of the students come from Denmark and the other half from all over the world.

Academic learning

Students work on design/build projects—which are practice-oriented, interdisciplinary group projects where you work together on proposing an engineering solution to specific problems from the real world. In short: you will learn to think and work like an engineer.

Taught by leading researchers

You will be taught by professors and lecturers who are themselves active researchers, and you will soon find that the relationship between professor and student is quite informal. At DTU, all professors go by their first name and are easily accessible to students.





BSc Eng programme structure

The BSc Eng is a three-year programme with a workload of 180 ETCS points. Graduates obtain the title Bachelor of Science in Engineering.

The programme comprises four categories of courses, which each corresponds to 45 ETCS points: basic natural science, technological specialization, electives, and bachelor's thesis.

Basic Natural Science Courses 45 ETCS points

You cannot solve complex technological problems without knowing about the basic natural science disciplines mathematics, physics and chemistry. This course block provides an insight into these disciplines.

Technological Specialization 45 ETCS points

On the BSc in General Engineering you specialize in one of the four focus areas: 'Living Systems', 'Cyber Systems', 'Cyber Materials', or 'Future Energy'.

Electives 45 ETCS points

You have every opportunity to shape your own unique academic profile at DTU. In the block of electives, you choose between several hundred different courses from DTU's entire course catalogue, allowing you to steer your BSc Eng degree in exactly the direction you want, and in so doing increase the number of options open to you when choosing an MSc Eng programme.

Projects and Professional Skill Courses 45 ETCS points

You will experience the engineering spirit through design/build projects and also learn to use a range of relevant IT tools. Half-way through, you will undertake your first big project, the specialist project, which is an exercise in how to prepare a project and engage in teamwork. You will also take a course in science theory, before the BSc concludes with a bachelor's thesis.



I wanted to see more of Europe, and I thought a lot about where I wanted to go. Then suddenly DTU and General Engineering came up, and it looked brilliant! So I applied and got in. DTU has a great international environment, and I don't feel like an outsider even though I don't speak Danish.

Ben Crowley, USA, BSc in General Engineering

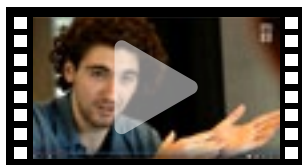
BSc in General Engineering

DTU currently offers one BSc programme in General Engineering for international students, where you have the opportunity to choose between four different focus areas.



For more information,
please visit dtu.dk/geneng

Watch video of
the study programme:
dtu.dk/general-eng



General Engineering

In the first semesters, you are required to take a number of mandatory courses such as mathematics, physics, and chemistry and you will experience the engineering spirit through design/build projects. Then, in the second and third semesters, you select introductory courses to two of the four focus areas that you are most interested in: Living Systems, Cyber Systems, Cyber Materials, and Future Energy—and in the following semesters, you will specialize in one of these areas. In the fifth semester, you have the opportunity to spend a semester at a university abroad, work on a project in collaboration with a company, or specialize further at DTU. In the sixth semester, the programme is concluded with a bachelor's thesis.

Career prospects

Depending on your choice of specialization, you can apply for admission to a wide range of MSc Eng programmes at DTU or at another university.

Admission and tuition

The academic level of the BSc Eng programme is advanced. In each individual case, admission will be based on the following criteria:

General admission criteria

Degree

In addition to having an upper secondary education leaving exam, you must have specific levels in English, mathematics, physics, and chemistry equivalent to the Danish exams:

English B
Mathematics A
Physics B and Chemistry B or
Physics B and Biotechnology A or
Geoscience A and Chemistry B

If your upper secondary education is not an IB, EB or from one of the Nordic countries, you have to prove your English proficiency by taking one of the following English tests:

English language proficiency

Minimum entry levels:

Cambridge Advanced English/Cambridge Proficiency in English 180
TOEFL Computer-based 230
TOEFL Internet-based 88
IELTS 6.5
Pearson 59

Please note that the language test must not be older than two years on 5 July.

Application deadlines

15 March at 12 noon if you hold an international qualifying exam

Application fee

Please note that unless you have a residence permit in Denmark all non-EU/EEA citizens are required to pay EUR 100 before your application is processed.

Tuition fees

Higher education in Denmark is provided free of charge for EU/EEA citizens and for students participating in an exchange programme. All other students have to pay tuition.



More information on dtu.dk/geneng

MSc Eng programmes

18

All MSc Eng programmes at DTU have a uniquely flexible course structure, offer honours tracks, and are taught exclusively in English. Choose from 30 MSc Eng programmes and a range of international joint master's programmes with partner universities.

Academic learning

All our master's degree programmes are research-based and train students in advanced research methods, teach them to adopt a constructive and critical approach to research findings, and to translate new knowledge into technical solutions.

We encourage all students to take responsibility for planning and executing projects, and to participate actively in discussions in order to develop their critical and analytical skills.

You will soon discover—and learn to appreciate—that every opinion is valued.

Taught by leading researchers

To ensure that academic activities are based on the latest scientific knowledge, all teaching, supervision, and course development at DTU is carried out by professors and lecturers who are themselves active researchers.

Accessible professors

The relationship between professor and student is quite informal. At DTU, all professors go by their first name and are easily accessible to students.



Student satisfaction

In 2017, DTU welcomed a total of 980 new international MSc Eng and PhD students.

97 per cent of DTU graduates would recommend the University to others (according to the latest graduates and employer survey. Please see more on p. 46).





The facilities and environment at DTU are far superior to what I was used to and here it is very easy and straightforward to get what you need of equipment and data. An additional benefit is the very short distance to your supervisor, both physically and in terms of accessibility.

Nicola Rigoni, Italy, MSc Eng in Transport and Logistics



MSc Eng programme structure

20

The MSc Eng is a two-year programme with a workload of 120 ECTS points. Graduates obtain the title Master of Science in Engineering.

The programme comprises four categories of courses, which each corresponds to 30 ECTS points: general competences, technological specialization, electives, and master's thesis.

General competences

30 ECTS points

Courses fall into the following three categories:

General engineering competences

You learn to combine technology application and development with financial management, management, and organization. Most importantly, you learn how to use your qualifications and technological know-how in a professional and social context.

Synthesis competences

You learn how to define and provide solutions to an open problem. You may be part of a cross-disciplinary team, and will be trained in communication and collaboration.

Normative competences

You learn a set of essential disciplines common to all technical aspects of engineering within a specific field.

Technological specialization

30 ECTS points

These courses give you the in-depth academic and technological knowledge necessary for obtaining state-of-the-art competences within a specific field of engineering. The course profile depends on your selected study line/focus area.

Electives

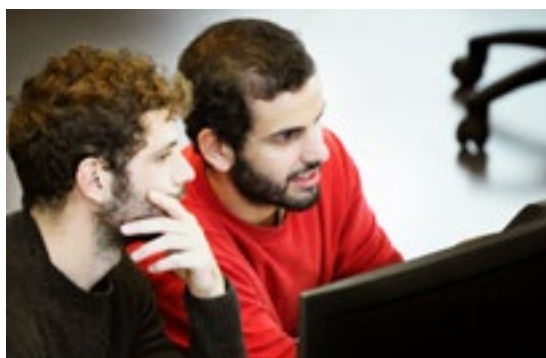
30 ECTS points

An important aspect of our MSc Eng programmes is the significant number of elective courses. You can pursue your own scientific and professional interests and choose from a variety of different DTU courses.

Master's thesis

30 ECTS points

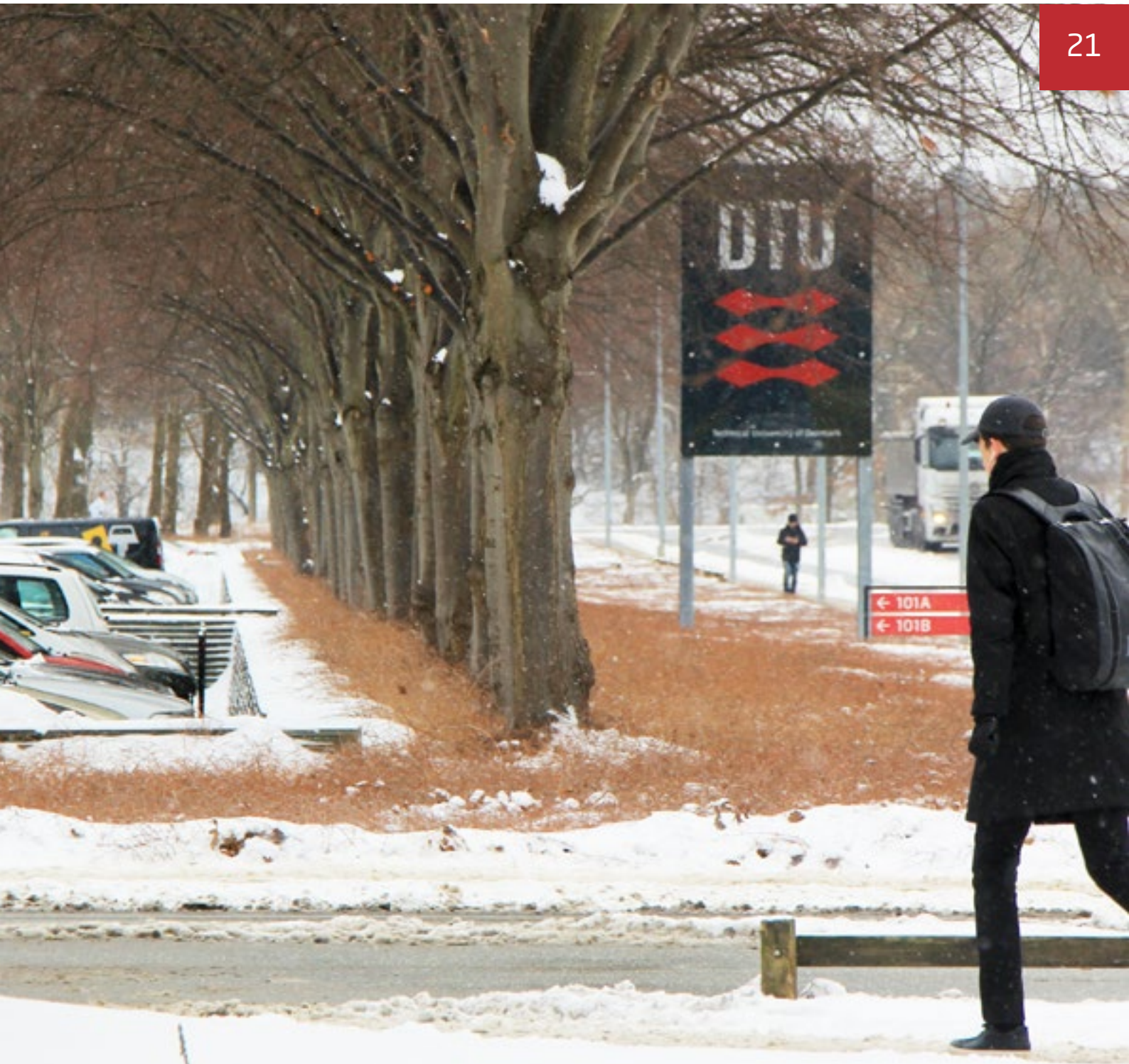
The thesis marks the completion of the MSc Eng programme. The research project is usually carried out at DTU and in many cases in collaboration with one of our many industrial partners. All projects include elements of fundamental research, innovation, and application.





DTU gives you such a high quality of education that you can basically do anything afterwards. The sky is no longer the limit!

Rolf Erlend Kjellevoid Sleire, Norway,
MSc in Earth and Space Physics and Engineering



Exchange students

874 international exchange students came to DTU in 2017, and 787 DTU students went abroad.

Our current top ten global education and mobility partners (in terms of volume):

1. Nanyang Technological University, Singapore
2. University of British Columbia, Canada
3. Technische Universität München, Germany
4. Norwegian University of Science and Technology, Norway
5. Monash University, Australia
6. Korea Advanced Institute of Science and Technology, South Korea
7. Delft University of Technology, the Netherlands
8. University of Illinois at Urbana-Champaign, USA
9. University of Wisconsin-Madison, USA
10. Rensselaer Polytechnic Institute, USA
and Hong Kong University of Science and Technology, Hong Kong



An international environment

Combining study and travel broadens your academic and personal horizons. The experience equips you with outstanding qualifications and career prospects, and allows you to establish a worldwide network of friends and future colleagues.

23

At DTU, we encourage all our students to spend a semester or two abroad, and we invite students from all over the world to study at our University. DTU has 200 exchange partners around the globe and offers a substantial number of international master's programmes—the majority of which include joint international programmes offered in collaboration with chosen alliance partners in academic areas where both universities excel.

Alliance partners

DTU has a number of close alliances with some of the highest ranking universities in the Nordic countries, Europe, and Asia—some of those partnerships provide you with the opportunity to complete a unique international joint master's programme.

The EuroTech Universities Alliance

Strategic alliance between leading technical universities in Europe: École Polytechnique Fédérale de Lausanne (EPFL in Switzerland), Technische Universiteit Eindhoven (TU/e in the Netherlands), Technische Universität München (TUM in Germany), École Polytechnique (L'X in France) and DTU (Denmark). The programmes are called 1:1 joint master's programmes because the students spend one year at each of the two relevant universities. You will be awarded a single degree.

Korea Advanced Institute of Science and Technology (KAIST)

Strategic partnership with the leading technical university in Korea: Korea Advanced Institute of Science and Technology (KAIST). The two universities collaborate on eleven joint programmes and you receive a double degree—one from DTU and one from KAIST.

Nordic Master and Nordic Five Tech (N5T)

The Nordic master's programmes are offered by a group of selected partners among the finest universities in the Nordic countries. Five of the leading technical universities have joined to form the strategic alliance Nordic Five Tech (N5T): Aalto University (Aalto in Finland), Norwegian University of Science and Technology (NTNU in Norway), Chalmers University of Technology (Chalmers in Sweden), Royal Institute of Technology (KTH in Sweden), and DTU (in Denmark). You are awarded a double degree—one from DTU and one from the Nordic partner university.

Erasmus+

Within the EU Erasmus programme, DTU collaborates on student exchange with approximately 180 European universities. DTU is also involved in one Erasmus Mundus elite master's programme, where students will receive a double degree.

Sino Danish Center (SDC)

A partnership between the eight Danish universities, the Graduate University of the Chinese Academy of Sciences (UCAS) and the Chinese Academy of Sciences (CAS). You will spend two years in China and be awarded a double degree.



NORDIC FIVE TECH



SDC

MSc Eng programmes at DTU in Denmark

24

Two years at DTU

DTU offers master's programmes in all research areas at the University, giving students the widest possible choice. The structure and content of the various programmes reflect DTU's status as a high-ranking elite university in engineering.

Through recommended study lines/focus areas and honours tracks, DTU's master's programmes offer a broad range of curricula—from the highly specialized to a broader educational profile.

- Advanced and Applied Chemistry
- Aquatic Science and Technology
- Architectural Engineering
- Bioinformatics and Systems Biology
- Biomedical Engineering
- Biotechnology
- Business Analytics
- Chemical and Biochemical Engineering
- Civil Engineering
- Computer Science and Engineering
- Design and Innovation
- Digital Media Engineering
- Earth and Space Physics and Engineering
- Electrical Engineering
- Engineering Acoustics
- Engineering Design and Applied Mechanics
- Environmental Engineering
- Food Technology
- Industrial Engineering and Management
- Materials and Manufacturing Engineering
- Mathematical Modelling and Computation
- Petroleum Engineering
- Pharmaceutical Design and Engineering
- Photonics Engineering
- Physics and Nanotechnology
- Quantitative Biology and Disease Modelling
- Sustainable Energy
- Telecommunication
- Transport and Logistics
- Wind Energy



The coolest University in the coolest country with the coolest people in the coolest study programmes. What more can you want?"

Rolf Erlend Kjellevoid Sleire,
Norway, MSc in Earth and
Space Physics and Engineering





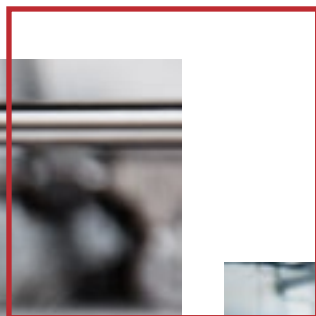
Joint international programmes with partner universities

One year at DTU and one year abroad

International students have the opportunity to enrol in one of DTU's joint international master's programmes that we offer in collaboration with a number of acknowledged elite universities from around the globe.

You gain access to elite programmes and unique specializations, follow an integrated study programme, and get an even stronger international profile by spending part of your master's programme at one of our partner universities.

- Aquatic Food Production (Nordic Master)
- Chemical and Biochemical Engineering (KAIST)
- Chemical and Biochemical Engineering (SDC)
- Cold Climate Engineering (N5T)
- Computational Mechanics (TUM)
- Computer Science and Engineering (KAIST)
- Data Interaction Cyber Programme (KAIST)
- Electrical Engineering (KAIST)
- Electrical and Mechanical Engineering (KAIST)
- Engineering Acoustics (KAIST)
- Engineering Design and Applied Mechanics (KAIST)
- Environmental Engineering (EPFL)
- Environmental Engineering (N5T)
- Environmental Engineering (TUM)
- European Wind Energy Master
- Innovative Sustainable Energy Engineering (N5T)
- Life Science Engineering and Informatics (SDC)
- Management (TUM)
- Maritime Engineering (N5T)
- Mathematical Modelling and Computation (KAIST)
- Offshore Wind Energy (KAIST)
- Photonics (KAIST)
- Physics and Nanotechnology (TUM)
- Polymer Technology (N5T)
- Security and Cloud Computing (Erasmus Mundus)
- Telecommunications (KAIST)



The globe indicates that you have the option of applying to an international specialization within the MSc Eng programme at DTU.



MSc Eng programmes

Within the majority of DTU's MSc Eng programmes, students have the opportunity to choose between different study lines/focus areas.



For more information,
please visit msc.dtu.dk



Watch videos of study programmes:
dtu.dk/mscs



Advanced and Applied Chemistry

Focusing on chemical and biological systems at both molecular and nanoscale level, this programme covers advanced courses and projects within the key disciplines of chemistry. Through courses in chemistry, synthesis, and physical chemistry you acquire comprehensive knowledge of the design and production of advanced materials.

Career prospects

This programme has a wide focus and offers a wide variety of courses that provide excellent scope for employment in private and public companies, and qualifies you for jobs in the chemical (including catalysts and polymers) and the pharmaceutical industry. dtu.dk/aac



Polymer Technology

Joint Nordic Five Tech (NST) programme within the Advanced and Applied Chemistry MSc

This double degree programme covers innovative polymer technology engineering topics from different perspectives and teaches students the latest technology of plastics, rubbers, and composites—including aspects of nanotechnology. It will provide you with an understanding of properties and

use of polymeric materials, including knowledge and understanding of related environmental aspects, and give you in-depth knowledge on how polymeric materials are built-up from molecular to macroscopic level and the relationship between structure and material properties.

Career prospects

Opportunities in manufacturing or research on chemicals, resins, synthetic rubber, artificial fibres, paints, coatings, plastics, etc. dtu.dk/polymer

Advanced Materials and Health Care Engineering

This programme has the focus on the design and fabrication of advanced materials for applications within the healthcare sector. This includes engineered solutions for better drug delivery, molecular diagnostics and materials for healthcare products. These are a highly cross disciplinary fields where the medicinal product is a fusion between advances in chemistry, immunology, molecular biology and material science.

Career prospects

Because the education has a focus on product development, candidates will be very attractive for the healthcare and medical industry sector. This sector is one of the largest and fastest growing sectors in Denmark. Typical job functions will be within research, development, quality control and approvals. dtu.dk/amhceng

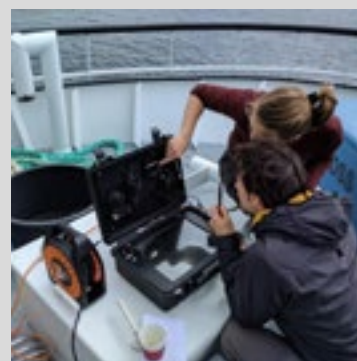


Aquatic Science and Technology

This programme focuses on the sustainable utilization of the aquatic environment and its resources, and the development of sustainable aquaculture production. It centres on fisheries, oceanography, and the management of aquatic resources—and addresses the challenges associated with sustainable fisheries and aquaculture as well as maintenance of healthy ecosystems under changing environments.

Career prospects

The MSc Eng programme provides you with unique interdisciplinary competences for working with environmental and sustainability issues. These qualifications are in high demand among companies and organizations involved in aquatic resource research, consultancy, and management. dtu.dk/ast



The globe indicates that you have the option of applying to an international specialization within the MSc Eng programme at DTU

Architectural Engineering

This MSc Eng programme enables you to influence the design of future buildings. Depending on your area of specialization, you can use your extensive knowledge of architecture and other engineering disciplines to integrate the various sub-solutions of a building project into well-functioning units—e.g. components, buildings, technical facilities, or entire districts. Courses are offered in areas such as energy, load-bearing structures,

installations, indoor climate, fire safety, acoustics, lighting, urban planning, consumer behaviour, project management, and building information modelling.

Career prospects

As a Master in Architectural Engineering, you will be involved in the early project stages of construction, contributing to innovative and optimized building projects. dtu.dk/aen



Bioinformatics and Systems Biology

This MSc Eng programme focuses on the use of computer-based methods and mathematical models to analyse the vast amounts of biological data produced using high-throughput methods. Examples of biological data include DNA and protein sequences, mRNA levels, lists of post-translational modifications, protein-protein interaction data, and metabolic pathway information. Although computational analysis accounts for a

large part of the programme, students also gain a deep understanding of the underlying molecular biology and the experimental methods used to generate the large volumes of data.

Career prospects

Future career opportunities include management positions or biomedical research at universities or in the biotech and pharmaceutical industries. dtu.dk/bsb



Life Science Engineering and Informatics

Joint programme with SDC within the Bioinformatics and Systems Biology MSc

The programme focuses on large-scale biochemistry, e.g. the study of proteins (proteomics), DNA (genomics), RNA (transcriptomics) and biochemical processes (metabolomics) in living organisms. A large-scale and data driven approach to these things are becoming increasingly important for biochemistry research and production, for example in the pharmaceutical and food industries.

The programme leads to an MSc degree in Life Science Engineering and Informatics and a Master of Biochemistry and Molecular Biology/Bioinformatics/Genomics from the University of the Chinese Academy of Sciences.

Career prospects

Graduates are qualified for work in data-driven enterprises of any size,

particularly within the pharmaceutical industry, Biotech, and IT sector. Typical work tasks include analysis of large-scale data, clinical chemistry analysis, large-scale DNA/RNA sequencing, analytical biochemistry incl. mass spectrometry, quality control, product development and research and development. dtu.dk/lifesci

Biomedical Engineering

Focusing on the design of future diagnostic and treatment methods at hospitals and in the field, this is an interdisciplinary programme offered by DTU in collaboration with the University of Copenhagen. The programme provides you with in-depth knowledge of the clinical problems facing the modern healthcare sector—enabling you to develop new technological solutions—and covers both engineering and human physiology courses, ranging from

the functions of the organs at cell level to modelling physiological processes in the locomotive apparatus.

Career prospects

These include development of measuring methods and equipment, clinical research, testing and maintenance of complex technical installations; product development, test planning, sales, marketing, and service; teaching and research. dtu.dk/biomed



Biotechnology

New pharmaceuticals, enzymes for washing powder and beer brewing, or dyes and other ingredients used in food production are based on years of interdisciplinary research in biotechnology. This programme gives you fundamental knowledge of biochemistry, microbiology, molecular biology, and process technology. You will learn to apply this knowledge to biotechnological problems—ranging from basic research issues to the development of new cell

factories and the study of their behaviour in bioreactors—and acquire the relevant competences for collecting and analysing wide-ranging data.

Career prospects

Job opportunities in consultancy firms, the public sector, and the biotech industry within research and production of new medicines, enzymes, and ingredients as well as in the environmental area. dtu.dk/biotech



Business Analytics

The MSc Eng in Business Analytics prepares you to work with advanced methods from data science and optimization to solving critical business challenges. You will not only be able to work and manipulate data but, most importantly, you will learn how to transform data to actionable decisions that meet value creation goals. During the course of study, you will work with quantitative methods, such as descriptive statistics, forecasting,

clustering, simulation, and optimization as well as qualitative methods for analysing, managing, and implementing data-driven projects in business and society.

Career prospects

MSc Eng graduates from Business Analytics will likely find jobs in banks, large production and service companies, in the transport industry, or in research institutions. dtu.dk/buan

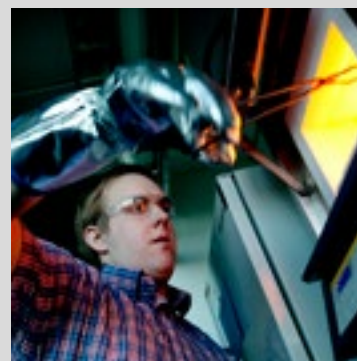


Chemical and Biochemical Engineering

This MSc Eng programme focuses on chemical and biochemical industrial technology and on the commercial and sustainable chemical or biochemical conversion of any kind of raw materials into substances and products required by modern society. Students learn to solve technological problems using chemistry, mathematics, physics, and thermodynamics.

Career prospects

Graduates have the scientific and technological competences to translate concepts of new chemical and biochemical products and processes into a safe and economically viable production. You may also play a useful role in the practical efforts to remedy environmental problems and reduce the energy consumption of current production activities. dtu.dk/cbe



Chemical and Biochemical Engineering

Joint programme with KAIST within the Chemical and Biochemical Engineering MSc

This double degree programme covers chemical engineering broadly. The programme combines the strength of two leading universities and, through the expanded subject offerings, allows a deeper specialization in various chemical and biochemical engineering fields.

The programme gives you the ability to use mathematical, natural, and applied sciences to develop new products and production processes and to address environmental issues about existing technology.

Career prospects

Graduates will typically find employment in a variety of research and development intensive, internationally oriented companies that work with chemical and biochemical production. dtu.dk/chemeng



The globe indicates that you have the option of applying to an international specialization within the MSc Eng programme at DTU

Chemical and Biochemical Engineering

Joint programme with SDC within the Chemical and Biochemical Engineering MSc

The programme is a research based Master of Science programme. It focuses on theoretical, experimental and practical aspects of chemical and biochemical process engineering that are of relevance for the use of biomass and waste as feedstocks and energy sources, replacing fossil resources and fuels. Engineers with an MSc in Chemical and

Biochemical Engineering are key figures in research and development of methods and equipment aimed at commercial and sustainable transformation of biomass based raw materials into fuels and energy.

Career prospects

The master's programme gives you a solid starting point for contributing to

the development of your society, bringing chemical and biochemical innovation from laboratories to useful production. Graduates are qualified to work in innovation driven enterprises of any size, particularly in the field of bio-based energy. dtu.dk/chembio

Civil Engineering

In order to make future construction projects more exciting, secure and sustainable, this programme focuses on the development, planning, design, construction, and maintenance of buildings and infrastructure. This requires profound knowledge and understanding of a number of different areas, which is why the MSc in Civil Engineering offers a wide range of courses in mechanics, material science, energy technology, heat and mass transfer, fire safety,

hydraulics, acoustics, risk assessment, computer modelling and simulation, 3D visualization, communication, and management.

Career prospects

Civil engineers typically find employment in consulting engineering companies, as contractors or manufacturers. Others work for local authorities, public agencies, or educational and research institutions. dtu.dk/civeng



Cold Climate Engineering

Joint Nordic Five Tech (NST) programme within the Civil Engineering and the Earth and Space Physics and Engineering MScs

The Nordic double degree master's programme in Cold Climate Engineering is the first comprehensive master's programme in cold climate engineering in Europe, and gives the students a unique possibility to do field work and projects in Greenland or Svalbard. The main focus of the joint programme is to give you

a profound understanding of how the obtained specializations can be applied in jobs as researchers, consulting or practising engineers in the Arctic.

Career prospects

Graduates are typically employed at consulting, design, surveying and

construction companies, mining industry, oil companies, governmental bodies, or at research institutes and universities that have activities related to the Arctic. Your role may be that of chief executive, development manager, team manager, consultant, specialist, or researcher. dtu.dk/cold

Computer Science and Engineering

Concentrating on the design and use of computing components—both software and hardware—students learn to solve technical problems efficiently and competitively.

Pivotal to the programme is the understanding and application of the right abstractions for advanced IT solutions that typically include both existing and future components. Choose from a wide range of courses in software development, safe and

secure IT systems, algorithms and logic, knowledge-based systems, and distributed and embedded systems.

Career prospects

Our highly qualified graduates find rewarding careers in a wide range of Danish and international companies involved in IT, electronics, and communication. dtu.dk/cse



Computer Science and Engineering

Joint programme with KAIST within the Computer Science and Engineering MSc

The double degree programme in Computer Science and Engineering covers safe and secure systems, system integration, distributed and embedded systems, networks, software

engineering, algorithms and logic, system-on-chip, and digital systems. The programme gives you the ability to use, develop, and produce IT systems at a high technical level.

Career prospects

Graduates will typically find employment in a wide variety of companies and organizations that work with IT, electronics, and communication. dtu.dk/comen

Security and Cloud Computing

Erasmus Mundus programme

Digitalization is taking over most aspects of business and life. While computation relies on distributed data processing and storage, pervasive digitalization goes much further, raising questions regarding security and privacy of data and reliability of computations on this data. Starting September 2018, six

European universities will be working together to offer this programme which gives you a broad understanding of technologies for mobile and cloud computing, and provides you with the skills to design, build, and evaluate secure computing systems as a computer science professional.

Career prospects

Graduates will be able to design and develop the next generations of products and services for the ICT industry as well as financial companies within the fields of information security and systems. dtu.dk/seccllo

Design and Innovation

This programme focuses on equipping students with the competences required for carrying out engineering tasks with emphasis on design, which is why courses span both technical-scientific and social science disciplines. The programme aims to develop your creative skills and abilities to analyse the interaction between the user, technology, and company. You will gain knowledge of one or more technical domains and learn to develop concepts

and implement innovation processes that are more far-reaching than product and system development.

Career prospects

Career opportunities in fields of innovation as well as design and product development. You can also work as a designer, constructor, system developer, or as a product or development engineer in an industrial company. dtu.dk/design



The globe indicates that you have the option of applying to an international specialization within the MSc Eng programme at DTU



Good sound

For many festival-goers, good sound means turning up the amplifiers. But high sound pressure produces hearing damage; at the same time, better acoustics actually improve how the audience experiences the music. DTU students' projects at Roskilde Festival help improve the acoustics and protect guests and volunteers from damaged eardrums. roskilde.dtu.dk

Making it matter!

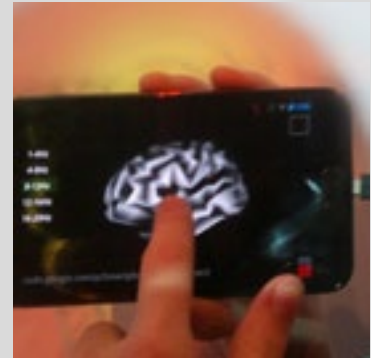
Digital Media Engineering

In an area characterized by constant change, there is a need for engineers who will not be constrained by new technologies, but rather gain strong technical competences to develop new types of interaction between people and software—which is reflected in connection with game design, personalization of media content, or smartphone apps using sensors to model how we perceive the surrounding

environment. This programme provides you with a deep understanding of the underlying digital media technologies and related business aspects.

Career prospects

Career opportunities in a wide range of highly specialized areas—including user experience design, app development, data science, and computer graphics. dtu.dk/dme



Data Interaction Cyber Programme

Joint e-learning programme with KAIST within the Digital Media Engineering MSc

The Data Interaction Cyber programme lets you obtain a deep understanding of the digital media technology area. This is an area characterized by continuous change with a need for engineers who will not be constrained by shifting technologies, but who have attained

strong technical competences for developing novel types of interaction between people and software.

Career prospects

Graduates from the Computer Science and Engineering programme, who wish

to qualify for management positions in research and development—be it in industry or academia—will need additional intensive and solid research education. dtu.dk/cyber

Earth and Space Physics and Engineering

This programme provides you with competences within research and development of satellite, space-, aircraft-, and ground-based measuring methods as well as mathematical and physical models for monitoring, mapping, and exploring large-scale physical structures and processes on Earth and in the universe. The focus is on developing, designing, and applying innovative and advanced technological solutions with a view

to developing sustainable, advanced solutions for use in, e.g. climate and environmental monitoring, the search for new resources, space exploration, or mapping and navigation on Earth.

Career prospects

Graduates are eligible for positions in areas such as environmental and climate monitoring, mapping, and navigation as well as Earth and space exploration. dtu.dk/earth



Cold Climate Engineering

Joint Nordic Five Tech (N5T) programme within the Civil Engineering and the Earth and Space Physics and Engineering MScs

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understanding of how the obtained specializations can be applied in jobs as researchers, consulting or practising engineers in the Arctic.

Career prospects

Graduates are typically employed at consulting, design, surveying and

construction companies, mining industry, oil companies, governmental bodies, or at research institutes and universities that have activities related to the Arctic. Your role may be that of chief executive, development manager, team manager, consultant, specialist, or researcher. dtu.dk/cold

Electrical Engineering

The MSc programme in Electrical Engineering allows you to engage in work at all levels—including advanced theories, methods, and components for practical systems and applications in, e.g. satellites, robots, and wind turbines. You will learn to understand the theory and apply mathematical methods for designing or analysing problems within a given area.

Career prospects

With an MSc in Electrical Engineering, you can pursue a career in various production companies, for instance in a development department, in areas such as electric power, audiology, medical electronics, mobile communication, radar technology, or satellite communication. dtu.dk/een



Electrical Engineering

Joint programme with KAIST within the Electrical Engineering MSc

This double degree programme has three study lines: Electrical energy systems qualifies you to analyze, design, and operate electric energy systems. Space technology covers several fields such as spacecraft instrumentation,

electromagnetic systems, and remote sensing data from satellites and aircrafts. And wireless engineering focuses on advanced electromagnetic systems for wireless communication technologies.

Career prospects You will be qualified to work within a wide range of areas ranging from power electronics to space technology and electric energy systems. dtu.dk/eleng

Electrical and Mechanical Engineering

Joint programme with KAIST within the Electrical Engineering MSc

This double degree programme focuses on acoustics as well as automation and robot technology. Acoustics covers a wide range of topics, including the fundamentals of sound propagation, advanced measurement techniques,

and understanding and modelling of the normal and impaired human hearing system. Automation and robot technology covers topics such as control theory, automation and mobile robotics, including walking robots.

Career prospects

You will be able to work within a wide range of areas engaged in acoustics, automation and robot technology. dtu.dk/elmech

Engineering Acoustics

This programme offers an exciting research area focusing on multi-disciplinary studies of sound and vibration phenomena. The programme covers a wide range of topics within acoustics—including the fundamentals of sound propagation, advanced measurement techniques, and understanding and modelling of the normal and impaired human hearing system. The choice of courses ranges from human hearing and reaction to

sound, acoustic measurement methods, electroacoustic systems, architectural acoustics, environmental acoustics, and noise and vibration control.

Career prospects

The MSc in Engineering Acoustics provides a good basis for global employment with electrical, audio, and audiology companies, universities and research centres, or consultancy firms specializing in acoustics. dtu.dk/ena



Engineering Acoustics

Joint programme with KAIST within the Engineering Acoustics MSc

The double degree programme in Engineering Acoustics spans over many topics—such as human hearing and reaction to sound, acoustic measurement methods, electroacoustic systems, architectural acoustics,

environmental acoustics, and noise and vibration control.

Career prospects

This double degree programme provides a good basis for employment opportunities

within fields such as the hearing aid industry, measuring equipment manufacturers, and with firms of engineering consultants. dtu.dk/engac

Engineering Design and Applied Mechanics

Aimed at students who want to participate in the development of new and better solutions based on the laws of mechanics, this programme covers systematic engineering design methods within engineering design and product development as well as analysis, numerical simulation, and optimization with focus on the strength of structures, fluid flows, and energy conversion.

Career prospects

Engineers with competences in construction and mechanical engineering are employed in development and research departments, and are involved in the development of new and better solutions for products, mechanical components, production equipment, and industrial installations. The focus of the solutions may range from microstructures—such as parts for hearing aids or mobile phones—to engines, turbines, wind turbines, ships, and offshore structures. dtu.dk/edam



Computational Mechanics

Joint EuroTech programme with TUM within the Engineering Design and Applied Mechanics MSc

The programme in Computational Mechanics covers systematic engineering design methods within engineering design and product development as well as analysis, numerical simulation, and optimization with focus on the strength of structures, fluid flows, and energy conversion. Applied mechanics is used

in many contexts requiring extensive knowledge of physical principles, strength of structures, fluid flows, and energy conversion.

Career prospects

Most Engineering Design and Applied Mechanics graduates are employed in

development and research departments of industrial companies manufacturing high-tech products, in firms of consulting engineers, or in research institutions. dtu.dk/comech

Engineering Design and Applied Mechanics

Joint programme with KAIST within the Engineering Design and Applied Mechanics MSc

This double degree programme covers systematic engineering design methods within engineering design and product development as well as analysis, numerical simulation, and optimization with focus on the strength of structures, fluid flows, and energy conversion. Applied mechanics is used in many

contexts requiring extensive knowledge of physical principles, strength of structures, fluid flows, and energy conversion.

Career prospects

Most Engineering Design and Applied Mechanics graduates are employed in

development and research departments of industrial companies manufacturing high-tech products, in firms of consulting engineers, or in research institutions. dtu.dk/desmech

Maritime Engineering

Joint Nordic Five Tech (N5T) programme within the Engineering Design and Applied Mechanics MSc

The main focus of this double degree programme is design, construction, and technical operation of ships and offshore structures—including hydrostatics and stability, hydrodynamics, wave and wind loads, propulsion, and structural analyses.

Career prospects

As a Maritime Engineering graduate you will typically be employed as a naval architect or offshore engineer by consultancies, design offices, ship owners, ship model basins, maritime

administrations, offshore companies, classification societies, or suppliers of special equipment. Your role may be that of chief executive, development manager, team manager, consultant, specialist, or researcher. dtu.dk/mari



The globe indicates that you have the option of applying to an international specialization within the MSc Eng programme at DTU

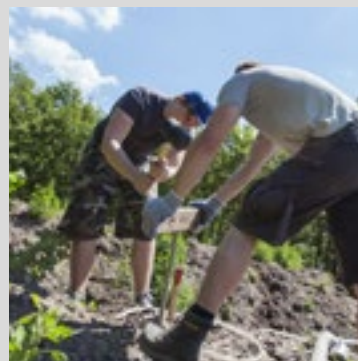
Environmental Engineering

Focusing on the technical and environmental sciences, this programme aims to provide students with the competences to develop sustainable solutions to complex environmental issues, while also taking into account legal, societal, financial, and resource aspects. You will gain in-depth knowledge of the physical, chemical, and biological processes causing local and global environmental challenges, be involved in experimental projects,

and learn about the processes through mathematical models and statistical analysis of data and measurements.

Career prospects

An MSc in Environmental Engineering provides you with many future career options in public administrations, companies, or organizations offering environmental and construction consultancy. dtu.dk/enviro



Environmental Engineering

Joint EuroTech programme with EPFL within the Environmental Engineering MSc

This 1:1 master's programme provides students with the competences to develop sustainable solutions to complex environmental issues, while also taking into account legal, societal, financial, and resource aspects.

Career prospects

As a graduate in Environmental Engineering you will be able to design, conduct, and interpret laboratory and field experiments, and quantify the hazards, risks, and uncertainties of environmental problems. Thus, you will be qualified to

work within areas such as consulting, planning, construction, project leadership and analysis, research, teaching, and management. Some of the most typical sectors are within water supply, wastewater and resources, and soil and ground water remediation. dtu.dk/env

Environmental Engineering

Joint Nordic Five Tech (NST) programme within the Environmental Engineering MSc

The focus of this double degree programme is on some of the most pressing current political issues such as climate change, sustainable generation of energy, management and renewal of aging urban infrastructure, provision of safe drinking water, and contaminated land and waste management. These

issues are approached through interdisciplinary studies, bridging all the sciences and placing them in a social, economic, and legal context.

Career prospects

A major aim of the programme is to prepare the student for a professional

career through the integration of professional experience with the double degree programme. This will ultimately increase quality and competitiveness, study motivation and employability. dtu.dk/envo

Environmental Engineering

Joint EuroTech programme with TUM within the Environmental Engineering MSc

This 1:1 master's programme provides students with the competences to develop sustainable solutions to complex environmental issues, while also taking into account legal, societal, financial, and resource aspects.

Career prospects

As an Environmental Engineering graduate you will be able to design, conduct, and interpret laboratory and field experiments, and quantify the hazards, risks, and uncertainties of environmental problems. Thus, you are qualified to

work in job functions such as consulting, planning, construction, project leadership and analysis, research, teaching, and management. Some of the most typical sectors are within water supply, wastewater and resources and soil and ground water remediation. dtu.dk/viro



The globe indicates that you have the option of applying to an international specialization within the MSc Eng programme at DTU



Garbage + barbeque = brick

DTU student Lise Fuglsang Vestergaard turns plastic waste into bricks with a solar-powered barbecue. This results in both a better environment and sturdier homes in a rural area of India.

Making it matter!



Food Technology

This MSc Eng programme gives you an understanding of modern food production and extensive knowledge of technologies associated with the production of healthy and safe food. Meeting the challenges related to global market requirements, changing consumer demands, sustainability, social responsibility, and competitiveness requires knowledge in a wide range of areas. The programme provides you with the profound analytical, design, and development skills required to meet these challenges.

Career prospects

The Food Technology programme qualifies you for employment in food companies and related industries involved in food production, quality, and safety, as well as equipment manufacturing. You may also have the opportunity to engage in public or private research, development, and consultancy in the field of food, private research, development, and consultancy in the field of food. dtu.dk/foodtech



Aquatic Food Production

Joint Nordic master's programme within the Food Technology MSc

The double degree programme focuses on addressing the entire value chain and the production of aquatic food throughout the entire production and food supply chain—linking primary production, including aquaculture and wild catch, with processing and

distribution to the consumers in terms of quality and safety.

Career prospects

The AQFood programme allows you to pursue a career in the aquatic food production—either as a professional in

aquaculture production, industrial food production, natural resource management or related to research, teaching, and consulting activities. dtu.dk/aqfood

Industrial Engineering and Management

This MSc Eng programme combines the field of engineering with planning, innovation, and management competences. The courses offered will provide you with both quantitative and qualitative management competences. You will work with mathematical optimization (operations research), simulation, and other quantitative tools together with a number of process tools that are crucial in the context of project management and change management.

Additional focus areas include operations management, supply chain management, innovation management, and problem structuring.

Career prospects

Industrial Engineering and Management graduates typically find jobs in private or public sector companies or organizations within project management, consultancy, or development positions in a wide range of areas. dtu.dk/engman



Management

Joint EuroTech programme with TUM within the Engineering Management MSc

This 1:1 master's programme focuses on the interesting interplay between management and engineering by combining strategy and innovation, management science and management disciplines.

Career prospects

As a graduate from this master's programme you will be qualified to work within consulting, planning, project management, analysis, optimization, analytics, research, teaching, and

management to name but a few. Some of the most typical areas are consulting, manufacturing management, logistics, and supply chain in a vast range of sectors. dtu.dk/mgm

Materials and Manufacturing Engineering

The focus in this MSc Eng programme is on the application of materials as well as process and production technologies in high-tech products within various fields—including energy production, the automotive and aeronautical industries, medical devices, and communication. The programme enables you to predict, control, and optimize material properties, and to analyse and optimize the industrial process technologies that are relevant

for advanced products at both micro and macro scale.

Career prospects

Graduates have career opportunities in various industrial areas, including energy production and storage, transport, building and construction, (micro)electronics, food production, medical devices, automation and robotics. dtu.dk/mme



Mathematical Modelling and Computation

This MSc Eng programmes will provide you with extensive knowledge of applied mathematics and mathematical modelling as well as modern computer equipment and analysis of large data volumes. Mathematics is an integrated part of our everyday lives, and its use will become even more prevalent in the future. There is an ever-increasing demand for mathematical models and methods in, e.g. industrial applications, information technology, financial institutions, energy,

government issues, drug development, DNA mapping, and environmental research.

Career prospects

Graduates are qualified for jobs in industry and academia: the IT sector, consulting engineers and other consultancy firms, the pharmaceutical industry, logistics and development departments, and private and public research institutions. dtu.dk/mmc



Mathematical Modelling and Computation

Joint programme with KAIST within the Mathematical Modelling and Computation MSc

The main focus of this double degree programme depends on your chosen specialization. The key topics are harmonic analysis and functional analysis, PDEs and inverse problems, graph theory, algebra, and coding theory

as well as cryptography and scientific computing.

Career prospects

The double degree programme in Mathematics offers a unique opportunity

for students who want to specialize in mathematics and pursue an international career. dtu.dk/matmoc

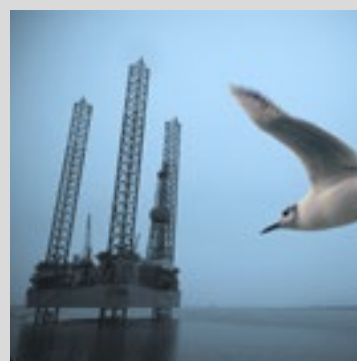
Petroleum Engineering

This MSc Eng programme focuses on the safe, innovative, environmentally sound, and economically viable extraction of oil and natural gas. The programme offers high-level courses in geophysics and rock mechanics, thermodynamic and chemical properties of oil and gases and their flow—in rocks and pipelines.

Career prospects

The Petroleum Engineering programme enables you to contribute to solving the

global challenge of meeting the increased demand for oil and gas. Petroleum engineers are typically engaged in the projecting of oil or gas production from reservoirs and you will be able to head the development and implementation of new technologies for efficient and sustainable production, or engage in international high-level research in the field. dtu.dk/petro



The globe indicates that you have the option of applying to an international specialization within the MSc Eng programme at DTU

Pharmaceutical Design and Engineering

Focusing on how to design, develop, and test drugs in line with the methods applied by the pharmaceutical industry, you will acquire a broad range of competences in all areas of pharma, e.g. diagnostics and nanotechnological treatment methods. Aspects relating to documentation, approval, and distribution of drugs—as well as the legal aspects relating to documentation, approval, and distribution of drugs—are also included in the programme.

Career prospects

Graduates from Pharmaceutical Design and Engineering are highly attractive to the pharmaceutical industry, which has been heavily involved in defining the knowledge profile of the MSc Eng programme and thereby the competences of a Pharmaceutical design and Engineering graduate. dtu.dk/pharma



Photonics Engineering

Focusing on fundamental physics of light and optical components as well as a wide range of applications which are essential to our high-tech society, this programme include courses in basic physics, optical materials and structures. The programme places great emphasis on innovation and future applications of optics and photonics to develop technological solutions to societal challenges—including quantifying carbon dioxide consumption, improving combustion

processes, securing communication against acts of terrorism, measuring food quality, performing better medical procedures, and understanding and controlling diseases.

Career prospects

The MSc in Photonics Engineering qualifies you for employment within high-tech companies, research centres, universities, and the public healthcare sector. dtu.dk/photon



Photonics

Joint programme with KAIST within the Photonics Engineering MSc

The main focus of this double degree programme is the understanding of the underlying physical principles used to describe optics and optical phenomena. The master's programme in photonics also includes a significant element of

innovation and entrepreneurship that provides a foundation for creating start-up companies, or working in companies.

Career prospects

Upon graduation, you will have obtained

engineering skills such as analytical and systematic approaches to problems and be qualified to work within a wide range of areas. dtu.dk/photo

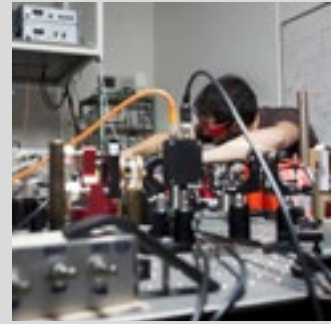
Physics and Nanotechnology

This MSc Eng programme centres around physics as the basis of modern technology. The programme covers a wide range of technological, theoretical, and experimental techniques and includes topics such as the development of nanostructured materials with tailor-made electrical, magnetic, optical, mechanical and chemical properties; manufacturing and integration of nano- and micro components in systems design; modelling of complex biological systems;

optical data processing and transfer; and the development of technologies for sourcing, storing, and converting sustainable energy— e.g. fuel cells and hydrogen technology.

Career prospects

Advanced physics skills are applicable in a broad spectrum of areas, but graduates work primarily in the field of research and development in private and public companies. dtu.dk/nano



Physics and Nanotechnology

Joint EuroTech programme with TUM within the Physics and Nanotechnology MSc

This 1:1 master's programme focuses on physics as the basis of modern technology. The joint programme is based on the interplay between scientific research and technological breakthroughs, covering topics such as nanostructured materials, nano- and micro components in systems design,

modelling of complex biological systems, optical data, and the development of sustainable energy technologies.

Career prospects

The programme covers a wide range of technological, theoretical, and experimental techniques in modern

physics. These advanced skills and competences are applicable in many areas, often related to research and development, but graduates also find jobs in the software and consultancy industries. dtu.dk/phynan

Quantitative Biology and Disease Modelling

This brand new programme, offered in collaboration with the University of Copenhagen, aims to use engineering skills to obtain a better understanding of complex disease biology and prediction of biological responses to various interventions. The programme combines mathematical modelling of healthy and diseased biological systems with pathology, immunology, and pharmacology. Graduates will be able to approach healthy or diseased biological processes with a quantitative and

modelling mindset. With the mandatory courses in the programme you will need to have basic training in biology and computer programming to gain access.

Career prospects

Quantitative Biology and Disease Modelling provides you with many future career options in biotechnology, health care, drug development including PK/PD modelling, and research within the life sciences and bioengineering. dtu.dk/qubi



The globe indicates that you have the option of applying to an international specialization within the MSc Eng programme at DTU

Sustainable Energy

DTU is at the cutting edge in Europe when it comes to research in sustainable energy. The MSc Eng programme in Sustainable Energy provides you with qualifications in energy systems with a specialization in one of the sustainable energy technologies. In the coming decades, global energy systems will undergo major changes, and their sustainability will prove to be of the utmost importance—environmentally,

economically, and socially. During the course of study, you will acquire extensive expertise in various energy technologies and systems with focus on sustainability.

Career prospects

A degree in Sustainable Energy paves the way for a wide range of career opportunities in the business sector, with public authorities, and in research. dtu.dk/energy



Innovative Sustainable Energy Engineering

Joint Nordic Five Tech (NST) programme within the Sustainable Energy MSc

Focus is on conventional and renewable energy sources like power generation, solar energy, biomass energy, wind power, geothermal power, and energy utilization. You will learn to apply advanced methods to identify, describe, quantify, and find environmentally sustainable solutions to a diverse

range of energy engineering problems. Emphasis is also placed on the innovative and entrepreneurial aspects of the energy society, related to how existing and new efficiency improvement innovations can be brought to market in different countries.

Career prospects

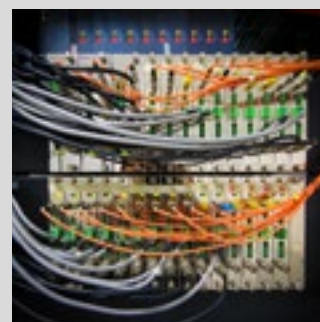
Upon graduation you will be able to make key decisions which can contribute to solving climate problems. This double degree programme gives you the necessary knowledge to pursue an international career in the ever-growing energy industry. dtu.dk/innosus

Telecommunication

Telecommunication engineers contribute to the development of the technology on which modern society relies. The MSc Eng programme covers areas ranging from advanced component and system design through complex network structures to the development of services and ICT solutions that meet user expectations. Courses include three central, traditional disciplines that—to some extent—share a common technical-scientific basis: component and software design, system development and methods, and applications.

Career prospects

Telecommunication graduates are qualified to conduct research, development, planning, and analysis tasks in a number of areas related to telecommunication. The programmes facilitates career opportunities in, e.g. the electronics industry, the telecom sector, or in the emerging 'convergence industry'. dtu.dk/tele



Telecommunications

Joint programme with KAIST within the Telecommunication MSc

The main focus of this double degree programme is on the understanding of the underlying technologies that enable modern communication systems. Telecommunication systems consist of hardware, software, and protocols plus the system level perspective that makes

it all interesting. This programme enables you to understand how it all fits together and how to exploit this knowledge to build the communication systems of the future.

Career prospects

Telecommunications graduates are

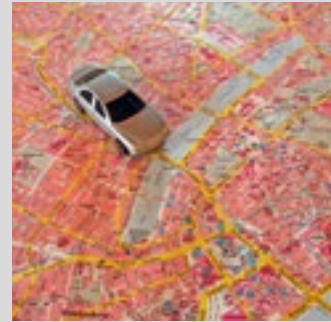
employed in companies designing and developing software and hardware components for communication systems, such as mobile and optical communication, or carrying out analyses of new information technologies and economic issues. dtu.dk/telecom

Transport and Logistics

DTU is one of the few European universities to offer an MSc Eng programme exclusively designed to give you the necessary qualifications to design and manage the advanced transport networks of tomorrow. The programme's engineering approach to infrastructure includes modelling and computer-based solutions for optimizing transport and logistics. At the same time, you will also obtain knowledge of software technology, data analysis, geo-informatics, statistics, operations research, planning, and management.

Career prospects

Graduates have career opportunities in private and public sectors, and strong competences in mathematical modelling and computer-based solutions as well as extensive knowledge of traffic, transport, and logistics combined with software technology, data analysis, planning, assessment, and management skills. dtu.dk/transport



Wind Energy

DTU is one of the few universities in the world to offer a complete two-year MSc Eng programme in wind energy. This study programme is designed to provide you with the competences to analyse, design, develop, and operate future wind energy systems. You will have access to state-of-the-art research and technology as well as extensive knowledge of aerodynamics, aeroelasticity, mechanics, grid connection, and electrical engineering. You can choose

to specialize in electrical or mechanical engineering within one of five study lines.

Career prospects

As a graduate in Wind Energy, you are qualified for employment in a rapidly expanding international industry and you can contribute to the development of wind turbines as well as design and control of the mechanical and electrical components and systems. dtu.dk/wind



European Wind Energy Master

Joint programme with TU Delft, NTNU, and Oldenburg University within the Wind Energy MSc

Receive a double master's degree from two of four leading European universities in the field of wind energy. Students acquire knowledge in both theoretical and applied sciences underlying wind

energy systems in general and the chosen specialization track. The four specialization tracks are: Wind Physics, Rotor Design, Electric Power Systems, and Offshore Engineering.

Career prospects

This MSc prepares graduates for a career in research—in both industry as well as in academia. dtu.dk/euwind

Offshore Wind Energy

Joint programme with KAIST within the Wind Energy MSc

This double degree programme offers cross-disciplinary knowledge of a wide range of offshore wind power technologies, and provides you with in-depth knowledge of aerodynamics, aero-elasticity, mechanics, grid connection, power systems, hydrodynamics, offshore structure design,

and wind farm planning, which will qualify you to analyse, design, develop, and operate offshore wind energy systems.

Career prospects

Graduates are qualified to work within a wide range of areas related to the offshore wind energy

industry—such as wind turbine system design and manufacturing, component design of blades and towers, wind turbine operators, or certification bodies such as the DNV GL. dtu.dk/offsho



The globe indicates that you have the option of applying to an international specialization within the MSc Eng programme at DTU

Admission and tuition

44

The academic level of the MSc Eng programmes is highly advanced. A thorough, basic knowledge of one engineering or science discipline related to the master's programme is therefore required for admission. In each individual case, admission will be based on the following criteria:

General admission criteria

Degree

Bachelor's degree in Engineering, in Science, or in Natural Science, less than 10 years old, that is obtained at an internationally recognized university.

Grade point average

Approximately 75 per cent of the maximum obtainable grade. Can vary depending on the grading system of the university awarding the bachelor's degree. Solid skills in mathematics plus basic computer and programming skills.

English language proficiency*

Minimum entry levels:
Cambridge Advanced English/Cambridge English Proficiency 180
TOEFL Computer-based 230
TOEFL Internet-based 88
IELTS 6.5
Pearson 59

** Please note that applicants to Nordic5Tech programmes must fulfil the language requirements as specified under each programme here: <http://www.nordicfivetechnology.org/studies>.*

Application deadlines

15 January

Non-EU/EEA applicants and all applicants for our Nordic Five Tech programmes. Please note that all non-EU/EEA applicants are required to pay an application fee.

1 March

EU/EEA applicants.

Tuition fees

Higher education in Denmark is provided free of charge for all EU/EEA citizens and for students participating in an exchange programme. All other students have to pay tuition.

DTU has a very limited number of tuition fee waivers to award to foreign, new non-EU/EEA master's students at DTU. The tuition fee waivers are allocated to a few students with excellent academic performances.



More information on dtu.dk/admission



Pursue a PhD at DTU

Every year, DTU enrolls more than 400 new PhD students in its research degree programmes within science and technology.

Each PhD student follows an individual programme designed to provide insight and skill in conducting a scientific project according to the highest international standards—including course participation, presentation of research results, teaching, paper writing, and contribution to national and international research collaborations.

Career opportunities

A PhD degree from DTU opens the door to a wide variety of attractive career opportunities. When doing a PhD, you will learn to understand complex research problems and to solve research challenges. These skills are not just required in your academic work, but also to a great extent in industrial R&D laboratories and start-up companies. PhDs are usually hired for positions such as analysts and consultants because of their superior analytical capabilities.

Admission

To be admitted as a PhD student at DTU, applicants must present evidence of having completed an academically rigorous master's degree programme with honours. Academic approval is granted by the relevant PhD committee which is responsible for assessing the applicant's qualifications in relation to the proposed project.

You can do either a regular PhD or an industrial PhD at DTU.



Learn more about your options on dtu.dk/phd_uk

45



The PhD programme consists of

- an independent scientific project
- a study programme corresponding to 30 ECTS
- teaching and dissemination activities corresponding to approx. 3 months
- an external research stay
- a PhD thesis
- a public thesis defence



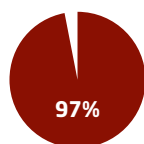
Watch videos
dtu.dk/phds

Graduate satisfaction and employability

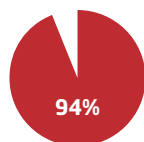
46

Student satisfaction

In spring 2016, DTU published a graduate and employer survey. The graduates and employers generally give a very positive assessment of the MSc Eng programme and show, e.g., that:



97 per cent of the graduates considered the programme to be of a high quality.



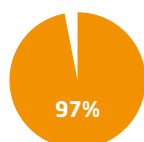
94 per cent of the graduates considered the programme to meet their expectations.



87 per cent of the graduates considered the programme to have a good study environment.



86 per cent of the graduates considered the programme to match the demands made by the labour market.



97 per cent of the graduates would recommend DTU to others.

Source: Graduate survey carried out by DAMVAD Analytics in Oct.-Nov. 2015.

Employment

DTU graduates find employment quickly, and their jobs are in direct continuation of their MSc Eng programme.

The questionnaire showed that 42 per cent of the graduates landed a job before they even graduated, and 85 per cent found employment a mere six months after graduation.

Relation between MSc Eng programme and first job

The students were also asked how their master's programme and their first job were related.

24%

In direct continuation of my master's thesis.

60%

Within the typical area of employment of my MSc Eng programme

16%

Outside the typical area of employment of my MSc Eng programme

Graduates stay in Denmark

According to another analysis published by DTU almost 60 per cent of the international students are still in Denmark one year after graduation, and 72 per cent of them are in full-time employment.

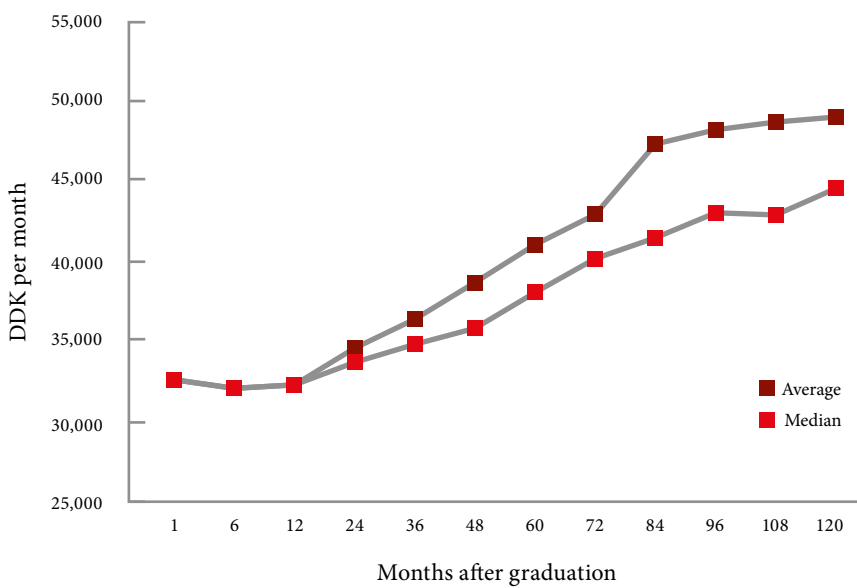
Source: Socio-economic accounts carried out by DAMVAD Analytics in Oct. 2017

Salary expectations

Based on data from national registers the average salary for DTU graduates one year after graduation is DKK 32,810. Projected salary increase is more than DKK 16,000 the following 10 years to DKK 49,029 per month.

Source: Graduate survey carried out by
DAMVAD Analytics in Oct.-Nov. 2015 (N=1,412)

Salary growth over a period of 10 years after graduation (2014 figures)



Source: DAMVAD Analytics 2015. The following registers have been used: KOTO, BFL, consumer price index from Statistics Denmark (PRIS61) (current N)



To read more about the survey, please follow this link: dtu.dk/gradsurvey15

For more
information

BSc Eng

Please direct any questions about our BSc programme in General Engineering and admission to studvej@adm.dtu.dk or phone +45 4525 1199

MSc Eng

Please direct any questions about our MSc Eng programmes and admission to Mscadmissions@adm.dtu.dk or phone +45 4525 1023

PhD

Please direct any questions about our PhD programme to phd@dtu.dk

Postal address:

Office for Study Programmes
and Student Affairs
Technical University of Denmark
Anker Engelunds Vej 1,
Building 101A
2800 Kgs. Lyngby
Denmark

Find the answer to many of your questions in the International Student Guide on our website dtu.dk/studentguide

dtu.dk/english