

**KU LEUVEN**

GROUP T LEUVEN CAMPUS

**Can you make it as  
an engineer?**

**ENGINEERING  
TECHNOLOGY**

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### Engineering Technology, something for you?



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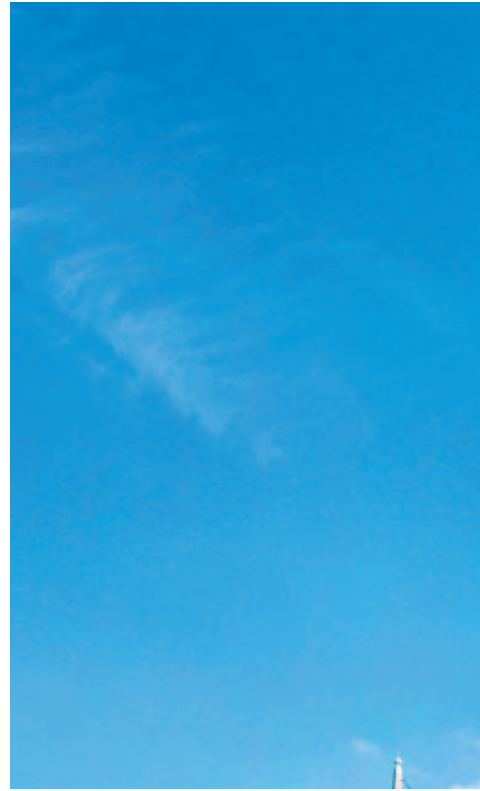
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A university ranked in the top 100  
in all global university rankings



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## Why KU Leuven

**F**ounded in 1425, KU Leuven is home to brilliant minds set free to wonder, following their curiosity and putting their ingenuity to the test. Our 15,000+ international students can choose from more than 100 programmes taught in English. Classroom material is based on the work of more than 7,000 world-class researchers carrying out cutting-edge work in thoroughly modern facilities.

The pull to study at KU Leuven is strong, as the University enjoys a world top-50 ranking and a global reputation as a premier academic destination. But that education is made available to just about everyone willing to accept the challenge.

Students at KU Leuven pay some of the world's lowest tuition fees for a university of its calibre, ensuring that deserving talents from all economic backgrounds have access to a superb education. As a result, students from more than 150 countries now constitute a full 20% of the student body, with no one country dominating the international representation. This inclusive excellence has transformed the University into a global institution well positioned for success in the next 600 years.





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# The programme in 3 minutes

Engineering is more than a profession, it is a way of thinking. Engineers don't just accept the world the way it is, they engage with it, see it from multiple perspectives, break it down to fundamental components and put it back together again in ways that make it better and more efficient.

**E**ngineers are true problem solvers. They feel at home in sciences such as mathematics, physics and chemistry. They get to work with data, materials, cells and energy. They are thinkers and doers, with a nose for innovation as well as an eye for efficiency and sustainability.

Now imagine that engineer equipped with the wide range of tools and skills made available by modern technology. Let them choose a specialty and gain mastery in their chosen field. Such an engineer can do almost anything.

This is Engineering Technology, combining the power of engineering and the transformational nature of technology. From the start of your bachelor's programme, you will experience an optimal mix of theory and practice. This approach equips you to tackle technological challenges in an evidence-based and result-oriented way.

**How can you contribute  
to sustainable  
food production?**

**How can we make  
cycling even safer?**

You will learn from our innovative research and the companies with which we collaborate. Whilst gaining specialised technological knowledge and skills, you will also develop critical thinking and problem-solving abilities. Additionally, the programme focuses on building social and communication skills, preparing you to confidently navigate the business world.

Teamwork plays a key role throughout your training, helping you refine your interpersonal skills and become adept at listening, collaborating and communicating. You'll learn to build bridges with colleagues, but also with professionals from other cultures and backgrounds. Where disciplines and cultures meet, innovation emerges.

Another crucial quality of our engineers is entrepreneurship. You will graduate as an engineer with a vision and mission, one who does not shy away from challenges.



Group T Leuven Campus up close:

2,040

students

727

international students

As an entrepreneurial engineer, you will learn to recognise opportunities and seize them with the aim of creating added value for yourself and others. You will not only learn to work with machines, but also with markets, money and people.

Graduates in Engineering Technology are high on the wish list of industry hires. From classic industrial sectors such as metals, chemicals, electronics and food, to unexpected opportunities in research centres, banks, educational institutions and in healthcare. You are in the cockpit of your own career.

Designing intelligent robots, advancing breast cancer research, recycling materials, setting up your own company ... you will be ready to thrive in any field. Are you up for the challenge?

**How can you store solar energy even when it's cloudy?**

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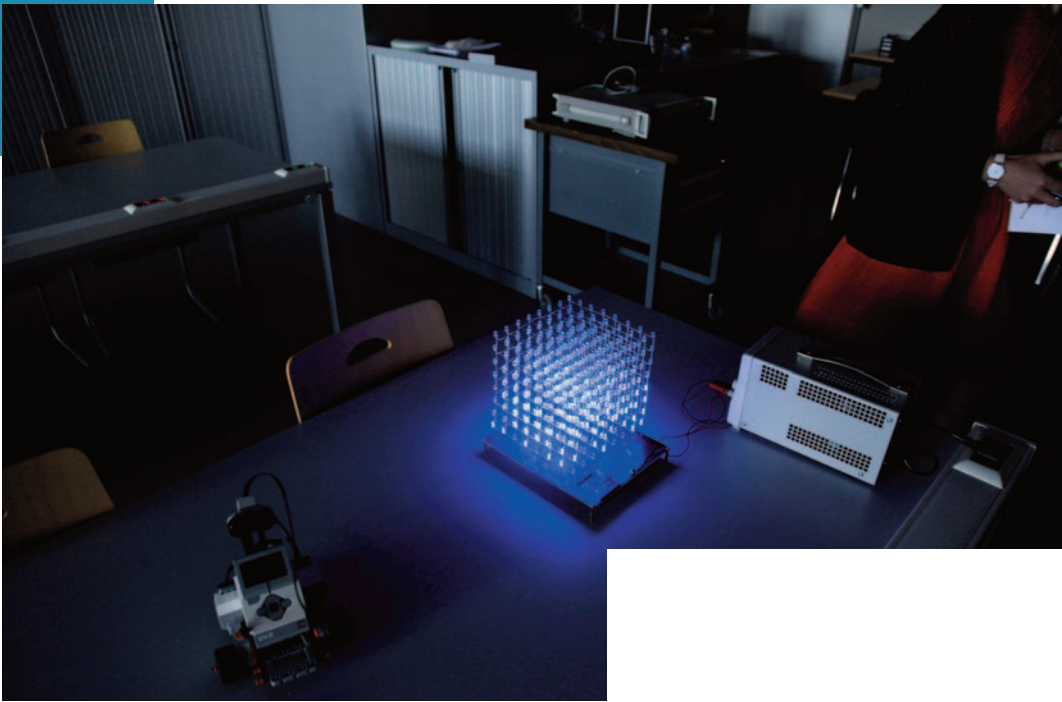
# Engineering Technology, something for you?

Everything you  
need to know





# 01



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## An evolving field

**T**he Engineering Technology programme cannot be summed up in just a few words. It is a melting pot of science and technology, combining a solid theoretical foundation with a great amount of practical experience. Could this be the perfect combination for you?

The common thread in our modern lives is technology. Technology can make the world a better, safer, healthier, faster and more interactive place. And it is omnipresent: from the smartphone in your pocket to the bridge you cycle on, scanners in hospitals, the cap on a water bottle, new medicines that save lives and the helping hand of a robot.

But today's society is also constantly evolving and changing. Every day, we encounter new problems and challenges that need swift solutions. As an engineer, you are the problem solver, always seeking the right solution for every issue. You take concepts from idea to creation, from scientific theories to real-world applications – all whilst considering ecological, human, and financial factors.

With a KU Leuven degree in Engineering Technology, you'll not only witness the evolution of the field firsthand, but also play an active role in shaping the changes that are transforming society.

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# What if there were no engineers?

- Without engineers, transportation would never improve, leaving only inefficient carbon-reliant options to get to our destinations.
- Without engineers, we could never dream of driving a solar-powered car.
- Without engineers, we wouldn't be able to enjoy an alcohol-free beer.
- Communication networks such as the internet, telecommunications, and broadcast systems would degrade, leaving people and industries isolated and underutilised.
- The next generation of power generation and distribution systems would never incorporate alternative and sustainable energy sources.
- And, of course, robots would never learn how to dance.



## Proud of our world champions

In 2005, a group of visionary engineering students from Group T Leuven Campus built Belgium's first solar car and took it to the World Solar Challenge in Australia. Since then, each generation has pushed the boundaries of innovation, using the latest technologies to build even better, faster solar cars.

In October 2023, the KU Leuven Solar Team claimed their second consecutive world title at the World Solar Challenge, adding the prestigious Innovation Award to their win.

In 2024, they kept the momentum going, securing victories at both the SASOL Solar Challenge and the iLumen European Solar Challenge, and solidifying their position as global leaders in solar racing innovation.





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## Are you a good fit for this programme?

**H**ow do things work and how can you improve them? How will you make daily life better for countless people? Do you enjoy turning your creative ideas into real applications? Technology gives you the tools to reshape the world around you and to address pressing global challenges.

Every technological advancement is grounded in fundamental sciences. You're drawn to scientific subjects such as mathematics,

physics and chemistry, as well as to technological subjects such as statics, biotechnology and electronics. You have an eye for the major global challenges: climate, environment, health, energy, poverty, hunger and more – and you are ready to take action. From the very start of your studies, you will roll up your sleeves and apply what you've learned in hands-on labs, practical sessions or in the challenging Engineering Experiences project work.

Of course, you will not become an engineer on your own. Nearly half of the programme involves teamwork. In your future career, you'll collaborate frequently, often in diverse teams with professionals from various disciplines and cultures. Studying on an international campus provides excellent preparation for your later job as an engineer.

As a graduate in Engineering Technology, you will be an expert in technology, but you will also be able to manage technology. Effective technology management and transfer requires efficient communication skills. The synergy between technology, management and communication forms the foundation for innovation. During your studies, you will collaborate closely with companies and acquire entrepreneurial skills. You will take control over your own education through a wide range of specialisations, options and elective courses.

## Diploma requirements

To be eligible for admission to the Bachelor of Engineering Technology, you must have access to academic higher education in the country where you completed your secondary education.

You can verify whether your secondary qualification meets the minimum eligibility criteria here:

[www.kuleuven.be/eligibility-bachelor](http://www.kuleuven.be/eligibility-bachelor).

## Language requirements

Depending on where you completed your secondary education, you either have to take one of the accepted language tests, or you are exempted from taking one.

## Mathematical requirements

Depending on the type of secondary school degree and where you have obtained it, you either have to take one of the accepted mathematics tests, or you have the option to participate in the positioning test that takes place at the beginning of July in Belgium.

For the most recent – and only official – information on admission requirements, check

[www.kuleuven.be/bachelor-engineering-technology](http://www.kuleuven.be/bachelor-engineering-technology)





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## What does the Engineering Technology programme look like?

The programme is based on four pillars that infuse the entire programme. The particular emphasis on each of these pillars will shift as you complete the bachelor's programme. In the first stage, the focus lies on the basic sciences in Engineering and Science. From the second stage, you will concentrate more on a domain-specific technology from your chosen specialisation. Throughout, you will experience the versatility of the engineering profession and discover what type of engineer you would like to be.

# 1



## Engineers and Science

For an engineer, technology and science are inseparable. In order to describe, develop, put into practice and optimise technology, a scientific basis is indispensable. However, scientific knowledge and skills are not a goal in itself, but you need them when bringing the technology into practice. With every technological assignment or challenge, you must be able to rely on your basic scientific education. Science is a tool that you use without having to invent or develop it yourself. The basic sciences covered in the programme include: mathematics, physics, chemistry and computational thinking.

# 2



## Engineers and Technology

Together with the basic sciences, your technological training starts from day one. A versatile, multi-disciplinary approach is crucial here. In the common part of the programme you will be familiarised with the different technological domains. As of the third semester, the emphasis will shift to the domain-specific technology of your chosen specialisation. In technological education too, theoretical knowledge and practical skills go hand in hand.

# 3



## Engineers and the World

An engineer works with science and technology as well as with people. They function in an enterprise and live in a society that becomes increasingly diverse. An engineer needs insight into their role in this larger whole. An entrepreneurial spirit, coupled with a critical attitude and attention to sustainability, are essential skills to be acquired. Finally, as an engineer, you work on individual development through personal training and lifelong learning.

# 4



## Engineering Experiences

In the Engineering Experiences you are challenged to bring together and apply all your knowledge, skills and points of view. This is done through individual or team assignments with uncertain or unpredictable outcomes. The specific task will demand a particular approach, and the open nature will require your own interpretations. Furthermore, the complexity and degree of professional practice increases as the programme proceeds. This learning-by-doing transforms your assignment into a real experience and a reflection of your future job as an engineer.

# The degree programme

# 1

## BACHELOR

ECTS

- Engineers and Science
- Engineers and Technology
- Engineers and the World
- Engineering Experiences

→ Fundamentals of Mathematics	6
→ Mathematical Modelling	3
→ Dynamics and Energy	3
→ Vibrations and Waves	3
→ Chemistry	6
→ Electricity	5
→ Computational Thinking	3
→ Biotechnology	3
→ Statics and Strength of Materials	6
→ Structure, Behaviour and Sustainability of Materials	6
→ Electronics	4
→ Enterprises and Ethics	3
→ Engineering Experience 1	9

Check the details  
of your study  
programme online

[www.kuleuven.be/bachelor-engineering-technology](http://www.kuleuven.be/bachelor-engineering-technology)



# 2

## BACHELOR

ECTS

→	Mathematical Systems	3
→	Object-oriented Software Development	3
→	Thermal-Fluid Sciences	6
→	Alternating Current Grids	3
→	Statistics and Data Management	6
→	Religions*	3
→	Engineering and Economics	3
→	Engineering Experience 2	6
Specialisation: Chemical Engineering Technology		27
Specialisation: Electromechanical Engineering Technology		30
Specialisation: Electronics and ICT Engineering Technology		27

# 3

## BACHELOR

ECTS

→	Religions*	3
→	Engineering and Sustainability: Philosophy and Global Challenges	6
Chemical		45
- Option Chemical Engineering		
- Option Biochemical Engineering		
Electromechanical		42
- Option Electromechanical Engineering: Design		
- Option Electromechanical Engineering: Automation		
Electronics and ICTS		45
- Option Smart Electronics and Software		

\* Depending on the specialisation in 2nd or 3rd bachelor.

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# What will your classes look like?

At KU Leuven, there are a variety of teaching methods, sometimes in large groups, sometimes in smaller ones. The basics of many courses are taught in lectures. Group work, seminars and flipped classrooms all challenge you to get to work yourself. These interactive working methods will help get to know your fellow classmates quickly, allow you to ask any questions you might have and find the necessary support.



## Lectures

Lectures are lessons in which you are introduced to theory in a structured way. During the explanation of the theory, you are challenged to think actively. You follow lectures in a larger group.

Besides classical lectures, there are also guest lectures, which are given by entrepreneurs, managers or scientists. These are fascinating stories from professional practice that feature a direct link to the subject matter.

The extent to which you master the content of the lectures will be evaluated during the examination periods.



## Exercise sessions

Most lectures are accompanied by exercise sessions. In these, you process and practice the material in a small group under the guidance of a lecturer or assistant. You learn to solve a scientific or technological problem using the theory covered in the lectures.

There are no tests or exams in exercise sessions; they are instead evaluated on the basis of your cooperation and results.



Combining studies with a student job is quite challenging and may affect your study results. When calculating your budget, we advise you not to count on income from a student job. The number of available jobs is limited, and most jobs require fluent knowledge of Dutch (or French), making it very difficult to find a student job.



## Lab sessions

Knowledge should not only be in your head but also in your fingers. That is why there are laboratory sessions or practicals. There, you use what you have learned and practised in tests and experiments. During the labs, you also work in small groups so that you can better learn to cooperate with others. The further you advance in the programme, the more laboratory experience you acquire.

Labs are evaluated on the basis of your efforts and the results obtained.



## Project work

In project work, you already start working as an engineer. You bring together knowledge and skills from different subjects or disciplines through challenging assignments. The Engineering Experiences consist mostly of project work. You work in small teams with an increasing degree of independence and creativity. Each team has one or two coaches for content and progress supervision, respectively.

Like practice sessions and labs, project work is evaluated on an ongoing basis.

# Courses in the first bachelor's stage

## Fundamentals of Mathematics

You are already familiar with algebra and analysis. After refreshing your knowledge of derivatives and integrals of functions, we take you a solid step further. You will be introduced to complex numbers, matrices, vectors and systems of linear equations. You will learn to see mathematics as a tool for practical applications but also as a tool to think logically and solve problems.



## Mathematical Modelling

Mathematical models are essential for tackling engineering problems. An example of such a model is multivariable calculus (partial derivatives and multiple integrals). You will also be introduced to vector analysis (line and surface integrals) and you will receive a broad introduction to differential equations and their applications in various disciplines.



## Dynamics and Energy

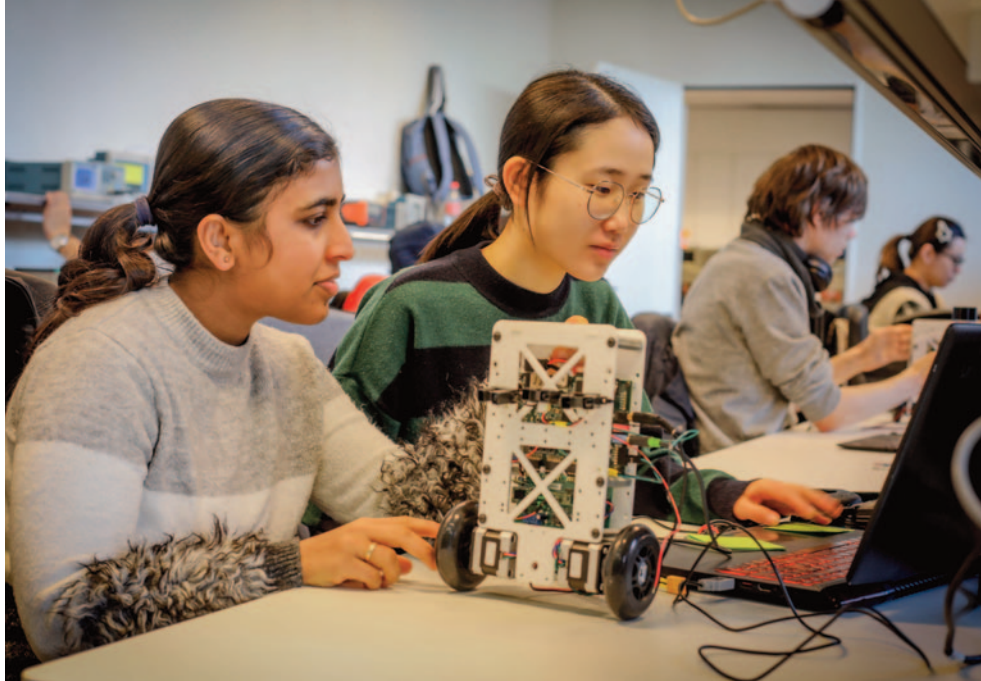
Why do satellites stay in the sky? Why do racing cars fly out of control? Is snooker an exact science? These questions and many more are answered in Dynamics and Energy. You will learn the basics of mechanics and thermodynamics, essential for any engineer. Other important questions: what is the relationship between speed, acceleration, force, energy and temperature? And how can you use this to creatively solve problems?



## Vibrations and Waves

Why do we mostly hear bass sounds at a festival? How can you generate energy from the waves of the sea? How does a laser work? It all has to do with vibrations and waves. We focus on important concepts such as resonance and wave interference. You will learn how to use this knowledge to solve many engineering problems.





## Chemistry

Chemistry is a fundamental science for an engineer. You will discover this through applications in various industrial sectors (petrochemicals, fine chemicals, plastics, pharmaceuticals, etc.) and in the life sciences (health, food, environment, etc.).



## Electricity

Remove electricity from everyday life and the world stops. In this course, you will discover the wonderful world of electrical engineering. Starting from the physical basis, you will discover the most important electrical phenomena and their technical applications. Topics covered include: electrostatics, analysis of direct current networks and electromagnetism.



## Computational Thinking

How can we solve real-life problems efficiently and thereby improve people's lives? This question concerns all types of engineers. Computer scientists have come to new insights, mainly related to how we can work more efficiently by solving problems as generally as possible. These insights make 'problem solving' a truly fundamental science for engineers. In this course, you will learn to think about problems and their solutions in a structured way. You will also develop practical programming skills to be more productive in your engineering career.



## Biotechnology

How do you use biological systems and living organisms to develop new products and technologies or improve existing ones? And how does this contribute to a more sustainable society and a bio-based economy? Topics covered in this course include biomolecules, the cell as a production unit and applications in the pharmaceutical and food industries.



## Statics and Strength of Materials

In this course, you will learn the basic techniques needed to design machine parts, bridges, vehicles, buildings and more. You will calculate the forces acting on complex structures. You will then check whether a structure is strong enough and predict its deformation under the influence of applied forces.



## Structure, Behaviour and Sustainability of Materials

Why are carbon bikes so light? How does electrochromic glass work? Why did the Ponte Morandi in Genoa collapse after 50 years? This all has to do with the behaviour of materials. In a mix of lectures, workshops and practical sessions, you will discover how the structure of materials determines their applications. The use of ecologically responsible materials receives special focus, as we look at what is possible in terms of recycling, raw material scarcity and energy intensity.



## Electronics

It is impossible to imagine a society without electronics. Almost every appliance or device contains electronics. Thanks to digitalisation, technologies are also becoming 'smarter' every year. Measuring systems, instrumentation, control technology, data communication with connection to the internet (or the Internet of Things) are only some examples. For these applications, intelligent sensors, processing units and actuators are essential functions.



## Enterprises and Ethics

Enterprise is the 'home' of the engineer. You will learn what types of companies exist and how they operate. Much attention is paid to financial management: interpreting annual accounts, calculating cost prices, estimating economic feasibility. You will learn about the roles and responsibilities of engineers in a company. You will also consider professional ethics because, as an engineer, your work affects the lives and well-being of others. 'Engineer for 1 day' is the practical component of this course. You follow an engineer around for a day and then share your experiences with your fellow students. This way, you immediately practise the presentation techniques needed to communicate your findings.



## Engineering Experience 1

At the heart of the engineering experience are assignments that you complete individually or as part of a team. This is where you bring together everything you know and can do. You complete your assignments in an integrated lab that covers a wide range of disciplines. In team projects, you work together on an assignment with elements from all kinds of course units. In Spatial Insight and CAD, you will learn to read, interpret and produce technical drawings using examples from a range of disciplines. In the professional skills seminars, you will gain insight into team dynamics, improve your information and communication skills and learn the basics of project management and technical reporting.



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# A spotlight on programme components

## Engineering Experience: designing an innovative embedded product

In the Engineering Experience, third-year bachelor's students are asked to design an innovative embedded product. To successfully complete this assignment, students have to bring together their technical knowledge, professional skills, talents and creativity as part of an internationally constituted team. Many of these embedded projects were proposed or initiated by a company. At the end of the semester, the teams present their final developments during a Demo Day.

### Putting the programme into practice

From the start of the programme, you will put your knowledge into practice in labs. The Group T Leuven Campus has an extensive and modern lab infrastructure with equipment on an industrial scale. You will also get to know the industry better through company visits and guest lectures from professionals in the field. The master's thesis in the last year is often linked to an (optional) company internship at home or abroad.





# — Planning to succeed

AGENDA

MO  
TU  
WE

This schedule represents a typical week for a student. As you can see, studying is considered a full time job.

## MONDAY

9.30 - 12.00	Integrated lab
14.00 - 16.00	Integrated lab: Report preparation
17.00 - 19.00	Prepare for chemistry lecture session

## TUESDAY

9.00 - 10.30	Basic Mathematics: exercise session
11.00 - 12.00	Review Mathematical Techniques
13.00 - 14.30	Chemistry: lecture
14.30 - 16.00	Basic Mathematical Techniques: lecture
16.00 - 17.30	Structure, Behaviour and Sustainability of Materials: lecture

## WEDNESDAY

9.30 - 11.00	Structure, Behaviour and Sustainability of Materials: lecture
11.00 - 13.00	Philosophy: Ethics
14.00 - 16.00	Review Structure, Behaviour and Sustainability of Materials
16.30 - 18.00	Follow up of Chemistry lecture session



TH

THURSDAY

8.00 - 9.30	Dynamics and Energy: lecture
9.30 - 11.00	Chemistry: lecture
11.00 - 13.00	Basic Mathematical Techniques: lecture and Q&A
14.00 - 16.00	Structure, Behaviour and Sustainability of Materials: Exercise Session
16.00 - 18.00	Chemistry: Exercise Session
19.00 - 20.30	Prepare Computational Thinking lecture: watch videos

FR

FRIDAY

8.00 - 11.00	Computational Thinking: lecture + lab session
11.00 - 12.30	Basic Mathematical Techniques: exercise session
13.00 - 14.00	Prepare Dynamics and Energy exercise session
14.00 - 16.00	Dynamics and Energy: exercise session

SA

SATURDAY

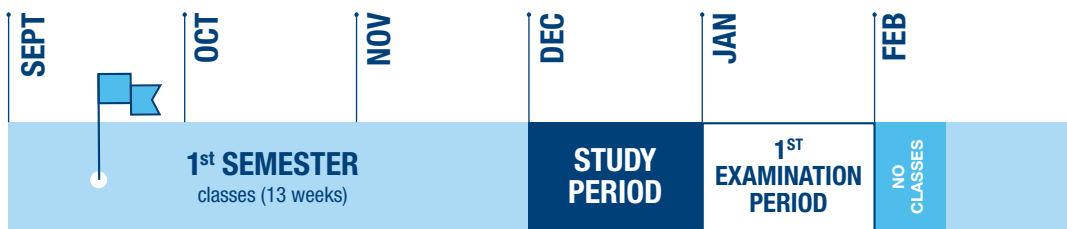
9.00 - 11.00	Follow-up of Dynamics and Energy lecture session
11.00 - 12.30	Study Basic Mathematical Techniques
13.30 - 15.00	Study Chemistry
15.00 - 16.30	Computational Thinking: exercises in Python

SU

SUNDAY

10.00 - 12.00	Prepare for Integrated lab
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# One academic year in profile



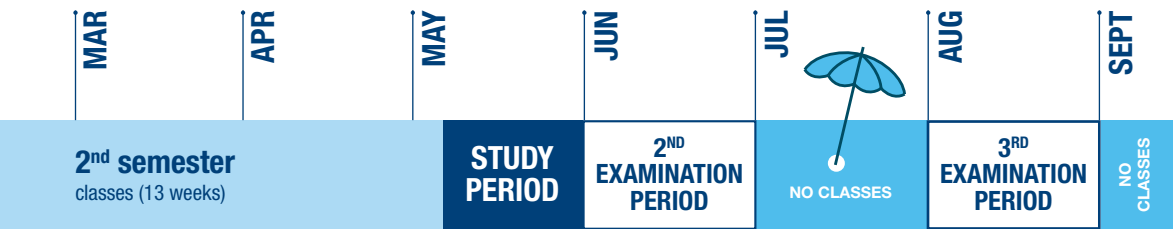
**Feedback  
from your  
study advisor**

## Structure of the academic year

One semester consists of 13 weeks of classes, followed by a study period in which you can prepare yourself for your examination period. There are two semesters in one academic year.

## Student guidance

Your first point of contact is the study advisor for your programme. If necessary, they will refer you to specialist services within KU Leuven. You will find that KU Leuven offers a great deal of personal autonomy, in that you will be responsible for initiating communications about well-being. But when you do reach out to us, you can count on personal guidance and care for all possible questions: study choice, study method and planning, subject-related questions, psycho-social well-being, your study path, etc.



Feedback from your study advisor

Feedback from your study advisor

## Exams

You will take an exam for each course at the end of the semester in January and June. These exams are quite difficult. You will get another chance to retake any failed exams during the third examination period in August-September. If you do pass all of your exams then you get to enjoy a long summer vacation!

## Studying together

One of the best ways to avoid distractions and gain valuable feedback is by studying in groups. Studying together has become increasingly popular. It inspires you and motivates you to study better, with your fellow students serving as a sounding board for challenges and helping you through difficult material. Group study locations are available in our libraries and Group T building.

# BA

180 ECTS

## Bachelor of Engineering Technology



Generic  
Engineering  
Training

### Specialisation

Chemical  
Engineering  
Technology

Electromechanical  
Engineering  
Technology

Electronics and  
ICT Engineering  
Technology

### Option

- Chemical  
Engineering  
- Biochemical  
Engineering

- Electromechanical  
Engineering:  
Design  
- Electromechanical  
Engineering:  
Automation

- Smart Electronics  
and Software

# MA

60 ECTS

## Master of Engineering Technology

MA

### Master (with focus)

Chemical Engineering Technology

Biochemical Engineering Technology<sup>1</sup>

Electromechanical Engineering Technology<sup>2</sup>

- Option: Mechatronics  
- Option: Management

Electronics and ICT Engineering Technology<sup>3</sup>

- Option: Smart Electronics and Software

- 1 Focus Genetic and Bioprocess Engineering, Biomedical Engineering
- 2 Focus Advanced Robotics, Clinical Engineering, Digital and Lightweight Manufacturing, Ecotechnologies, Vehicle Design
- 3 Focus Advanced Electronics, Software Systems

### Credits (ECTS)

Credits indicate the size of a course (e.g., 180 credits) or a course unit (e.g., 5 credits).

One credit corresponds to 25 to 30 hours of study time (the time an average student should spend on that course unit, including class attendance, preparation, studying and research).

A total of 60 credits corresponds to one year of full-time study.



## Bachelor's-master's progression

Bachelor's programmes at KU Leuven are three-year degrees of 180 ECTS credits. Programmes are divided into three stages, one for each year of the programme. Consequently, students are expected to reach each stage in good order and in good time. This means that the first bachelor's stage is reached in one year of study, the second in two years, and the third in three. Each stage allows the University the opportunity to verify a student's progress and see whether there are any issues in the smooth progression towards earning the degree. Your course and examination schedules will be set based on your progression through the three bachelor's stages.

Whilst the bachelor's degree is to be completed in three years, undergraduate education in Belgium is considered to include a master's degree, which is a programme of 60 ECTS to be completed in one year or 120 ECTS to be completed in two years. This differs from many countries around the world where a master's is considered a part of graduate education. The combination of a master's with the bachelor's degree ensures that students in Belgium reach a high degree of competency within their chosen academic field. The master's also allows students to complete a master's thesis, which will serve as a demonstration of skill and ability after graduation. It is not strictly required to pursue a master's after attaining a bachelor's degree in Belgium, but it is expected and highly encouraged.

# After your bachelor's degree

The specialisation and the option you choose during the bachelor's programme determine the master's programme to which you may proceed. Group T Leuven Campus offers 4 master's programmes of 60 ECTS (one year) each. Options, focuses and/or electives will allow you to put together a study programme that suits you best.

## Master of Chemical Engineering Technology

60 ECTS

In this master's programme, you learn to design, execute, test and improve industrial processes in a chemically and technologically responsible way. You will learn to research, develop and apply new materials such as polymers, composites, metals and ceramics while taking into account safety and quality requirements. Knowledge and understanding of fundamental unit operations such as reactors and separation devices (distillation, extraction, etc.) are key. Via computer simulations, you learn to control the entire life cycle of a chemical process. In electives, you can further your knowledge and skills in areas such as safety, renewable energy, bioplastics and many more.

[www.kuleuven.be/master-chemical-engineering-technology](http://www.kuleuven.be/master-chemical-engineering-technology)

	ECTS
<b>CORE PROGRAMME</b>	
Reactor and Process Technology (Chemical Engineering Technology)	6
Total Quality Management	3
Waste Treatment and Material Cycles	3
Applied Sustainability Assessment	4
Advanced Materials Technology	6
Hydrometallurgy and Sustainable Metal Production	3
Materials and Surface Characterisation	3
Engineer as a Professional	4
- Global Engineer	
- Customer Oriented Engineer	
- Interpersonal Competences	
Master's Thesis	20
<b>ELECTIVE COURSES</b>	
You choose for minimally 8 ECTS of elective courses from the list below, or from any course offered by KU Leuven, and present this to the programme coordinator for approval.	
Sustainable Energy Systems	5
Rheology and Polymer Processing	3
Sustainable Chemistry I	3
Hazardous Materials and Safety in the Process Industries	3
Internship Chemical Engineering	5
Technology Entrepreneurship and New Business Development	6
Operations Management	3



# Master of Biochemical Engineering Technology

60 ECTS

This programme focuses on the application of biochemical processes in a wide range of sectors, such as biotechnology, food, environment and pharmaceuticals. You become familiar with all kinds of techniques for monitoring biological processes: recombinant DNA-techniques, immunological, molecular and micro-biological detection and identification techniques, chemical analysis techniques, etc.

[www.kuleuven.be/master-biochemical-engineering-technology](http://www.kuleuven.be/master-biochemical-engineering-technology)

	ECTS
<b>CORE PROGRAMME</b>	
Reactor and Process Technology (Biochemical Engineering Technology)	4
Total Quality Management	3
Genetic Engineering	3
Bioinformatics and Biostatistics	4
Food Quality Control	5
Engineer as a Professional	4
- Global Engineer	
- Customer Oriented Engineer	
- Interpersonal Competences	
Master's Thesis	20

	ECTS
<b>FOCUS</b>	
You choose 1 focus (either Genetic and Bioprocess Engineering or Biomedical Engineering)	
<b>Genetic and Bioprocess Engineering Focus</b>	
- Bioprocess Engineering	4
- Sustainable Bioprocess Technology	5
- Integrated Lab Course on Bioprocess Engineering	3
<b>Biomedical Engineering Focus</b>	
- Physiological Systems	4
- Methods in Biomedical Research	4
- Biomedical Engineering	4
<b>ELECTIVE COURSES</b>	
You select for minimally 5 ECTS a multi-campus module (list below), an internship, or any course(s) offered by KU Leuven, and present this to the programme coordinator for approval. Multicampus modules may be organised at another campus.	
<b>Multicampus modules</b>	
- Malting and Brewing Technology (Ghent Campus)	5
- Trends and Innovations in the Biomedical Sector (Group T Leuven)	5
Operations Management	3
Internship	5
Technology Entrepreneurship and New Business Development	6

# Master of Electromechanical Engineering Technology

60 ECTS

Electromechanics sets the world in motion. In this programme, you will learn to realise and control movements in machines and devices. Lectures and labs will teach the state of the art in hydraulic drives and servomotors, how to devise a creative concept, and how to develop it into a usable design in accordance with current standards using powerful calculation software. You can specialise in one of the following options: Mechatronics or Management.

[www.kuleuven.be/master-electromechanical-engineering-technology](http://www.kuleuven.be/master-electromechanical-engineering-technology)

	ECTS
<b>CORE PROGRAMME</b>	
Engineer as a Professional	4
- Global Engineer	
- Customer Oriented Engineer	
- Interpersonal Competences	
Drive Systems	5
Dynamic Aspects of Machine Design	4
Machine Learning	3
Master's Thesis	20

	ECTS
<b>OPTIONS</b>	
You select one of the two below mentioned options	12
<b>Mechatronics Option</b>	
- Total Quality Management	3
- Robotics	6
- Industrial IT	3
<b>Management Option</b>	
- Total Quality Management	3
- Advanced Operations Management	3
- Technology Entrepreneurship and New Business Development	6
<b>FOCUS</b>	
You select one of the below listed focuses	12
<b>Clinical Engineering Focus</b>	
- Biomechanics and Modelling	6
- Medical Devices	6
<b>Advanced Robotics Focus</b>	
- Modelling of Dynamic Systems	3
- Control Systems and Applications	6
- Mobile Robotics	3
<b>Ecotechnologies Focus</b>	
- Life Cycle Engineering	7
- Sustainable Energy Systems	5
<b>Vehicle Design Focus</b>	
- Vehicle Design and Technology	6
- Automotive Bodies of the Future	6
<b>Digital and Lightweight Manufacturing Focus</b>	
- Computer-Aided Manufacturing	3
- 3D Printing	6
- Manufacturing Metrology	3
- Welding and Joining Techniques	6
- Lightweight Materials and Design	6

# Master of Electronics and ICT Engineering Technology

60 ECTS

In this programme, you will learn to analyse existing analogue and digital electronic systems as well as design and implement new systems. You will be prepared to become a key figure in a world where digitalisation, high-tech systems, intelligent devices, autonomous machines and more are playing an increasingly important role. To structure your programme, you will choose between three focuses: Advanced Electronics, Software Systems or Management. The first focus emphasises the hardware of analogue and digital systems. The second focus deals with computer systems, application software and communication networks and the third focus deals with management. Furthermore, you select an R&D Experience and an elective course.

[www.kuleuven.be/master-electronics-ict-engineering-technology](http://www.kuleuven.be/master-electronics-ict-engineering-technology)

	ECTS
<b>CORE PROGRAMME</b>	
R&D Experience	9
Machine Learning (EA)	5
Extended Reality	6
Engineer as a Professional - Global Engineer - Customer Oriented Engineer - Interpersonal Competences	4
Master's Thesis	20
<b>FOCUS</b>	
Students choose one of the three focus packages	10
Advanced Electronics Focus - Power Electronics - Hardware Design	5 5
Software Systems Focus - Advanced Programming Techniques - Distributed Systems	5 5
Management Focus - Technology Entrepreneurship and New Business Development - Advanced Operations Management	6 4
<b>ELECTIVE COURSES</b>	
Students choose either an internship, OR the course Total Quality Management and another elective course (minimum 6 ECTS).	
Total Quality Management	3
Elective course 1	3
Internship	6



## Other masters

After obtaining the Bachelor of Engineering Technology degree, students can also be directly admitted to selection of programmes which are not taught at Group T Leuven Campus.

## Master of Energy Engineering Technology

Diepenbeek Campus - 60 ECTS

The development of sustainable and innovative energy systems is important for the prosperity of our society. The master's in Energy builds on the bachelor's with specialisation in Electromechanical Engineering Technology, option Automation. As an Energy Engineer, you design, develop and manage energy systems. You will study energy planning and control, sustainable energy production, intelligent and optimal energy distribution and efficient energy conversion, use and storage. This master's programme is practice-oriented, with a focus on technology and entrepreneurship. A wide range of electives allows you to put together a tailor-made programme.

[www.kuleuven.be/master-of-energy-engineering-technology](http://www.kuleuven.be/master-of-energy-engineering-technology)

	ECTS
<b>ENGINEERING SKILLS</b>	
Master Thesis	20
Business Management	4
Machine Learning	4
<b>AUTOMATION</b>	
Energy Management Systems	4
Power Electronics	4
<b>APPLIED THERMODYNAMICS</b>	
Novel Technologies for the Energy Transition	4
HVAC in Buildings	4
<b>ELECTIVE COURSES (3X4 ECTS)</b>	
Electric Drives	4
Materials and Production Technology for Energy	4
International Module EM and Energy	4
Electric Vehicles	4
Fundamentals of Battery Engineering	4
Advanced Photovoltaics	4
Innovation in Materials Technology	5

# Master of Management Engineering

(Faculty of Economics And Business)  
2 years, 120 ECTS

The Master of Management Engineering is positioned to attract academic bachelor's graduates with a strong quantitative and technical/scientific background. The programme offers an advanced quantitative and science-based training in business economics and the various management subfields, with the aim of providing in-depth and interdisciplinary insight into how businesses operate.

The programme challenges its students to become multideployable game changers and the next generation of business leaders in a complex international world.

Students should take:

- The core modules: Economics and Management (24 ECTS), Quantitative Methods for Decision Making (12 ECTS) and Industrial Management and Strategy (30 ECTS)
- A Major (24 ECTS) and the related Master's Thesis (24 ECTS)
- An elective course or an internship (6 ECTS)

[www.kuleuven.be/master-management-engineering](http://www.kuleuven.be/master-management-engineering)

	ECTS
<b>CORE MODULES</b>	
Economics and Management	
- Economic Principles for Business	9
- Money, Banking and Finance	6
- Marketing Analytics	3
- Accounting and Control	6
- Change Management and Leadership	3
Quantitative Methods for Decision Making	
- Applications of Statistics	6
- Fundamentals of Operations Research	3
- Applications of Operations Research	3
Industrial Management and Strategy	
- Strategic Innovation Management	6
- Operations and Supply Chain Management	6
- Digital Transformation of Industry	6
- Sustainable Management	6
- Strategic Management	6
<b>MAJORS</b>	
Each major consists of:	
- Courses	24
- Master's Thesis	24
Production and Logistics	
Quantitative Methods for Decision Making	
Industry, Technology and Globalisation	
Technology and Entrepreneurship	
Risk and Finance	
Sustainable Management	
<b>ELECTIVE COURSE OR INTERNSHIP</b>	<b>6</b>



## Double Degree options at University of Applied Sciences and Arts – Dortmund (Germany)

- Master of Embedded Systems
- Master of Digital Transformation

Both master's are double degree programmes that can be combined with the Master of Electromechanical Engineering Technology or the Master of Electronics and ICT Engineering Technology. Students take the first year at KU Leuven and then study for 2 semesters at FHDO-Dortmund. Upon completion of both programmes, they receive a master's degree from both institutions.

[www.fet.kuleuven.be/double-degree](http://www.fet.kuleuven.be/double-degree)

## Advanced Master of Innovative Health Technology

Innovative health technologies enable medical doctors, therapists and other care providers to identify symptoms, perform diagnoses, carry out surgeries, cure diseases, programme therapy and follow up patients' progress. In this one-year advanced master's programme (60 ECTS), you will learn to design, develop and implement practical and pragmatic technological solutions for the healthcare sector.

The programme consists of eight course units: six units focusing on engineering technology, entrepreneurship and additional topics related to the human body, one unit for a team-based project and finally a master's thesis and internship. The master is taught at Group T Leuven Campus and is available to students who have completed a master's programme in Engineering Technology, Biosciences or equivalent.

[www.kuleuven.be/master-innovative-health-technology](http://www.kuleuven.be/master-innovative-health-technology)

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# Do you want to push your limits?

As a truly international programme, there are many ways to expand your horizons whilst studying at KU Leuven. One of the most transformative experiences is to study abroad, with several possibilities depending on where you want to go and how long you want to stay abroad. Opportunities are subject to existing agreements with partner institutions.

Another eye-opening option is to join one of our student trips to China or India. These short-term group trips to partner institutions are a great opportunity to get to know your fellow students in a new environment and gain a new perspective on what you are learning at KU Leuven.

And to truly push yourself, be sure to invest some hands-on time in one of our student teams or the student organisation, Industria. Our world-champion solar car team won its laurels in a multi-day race across the Outback in Australia. Where will your engineering skills take you?



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# What would your professional future look like?

All opportunities  
with your degree

02







**Rochelle Aubry, international student from Mexico**

Rochelle first studied Biochemical Engineering at the Politécnico Nacional in Mexico City for two years. She then crossed the ocean to continue her studies at KU Leuven-Group T Campus. Ambition to get a degree from a ranked foreign university was her main motivation. In Leuven, she soon managed to work her way up to Chair Woman of NeuroTech, an interdisciplinary team of 15 master's students and researchers that aims to excite both students and the general public about the unprecedented possibilities of neurotechnology.

**Sudarshan Ragavan Iyengar, student from India**

KU Leuven-Group T Campus is a melting pot of more than 80 nationalities. In such an environment, you not only become an engineer but also a true world citizen. Even outside classes, labs and practicals, you spontaneously continue to learn and develop yourself. The campus building invites you to push your boundaries: everything exudes openness. Moreover, there is something different to experience every day.

**Hannah Gunsch, student from USA**

"Studying at Group T Campus brings out the best in you," says Hannah. During her studies, she emerged as a passionate engineer-entrepreneur. When a Makerspace opened in Leuven, she volunteered to build out the High Tech Lab. As Community Manager, Hannah turned the lab into an open learning centre around circular economy and sustainable technologies.

**Esmael Kedir, PhD student from Ethiopia**

Esmael developed an affordable and user-friendly tool at Group T Campus' e-Media Research Lab to easily detect glaucoma, which is a chronic eye disease that causes irreversible damage and blindness to 60 million people annually if not treated in time. Esmael's tool consists of a virtual-reality headset, a smarthone and a gaming joystick that allows for the timely testing of people even in the most poor and remote areas.





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# Your diploma is the starting point ... you shape your career

Graduates in Engineering Technology focus on practical implementation of technological knowledge, either in a management trajectory or as an expert. With the large and growing need for engineers and experts around the world, your degree will put you in high demand and open the door to countless exciting futures.

During your education you will discover where your interests and strengths lie. Companies are looking for versatile, entrepreneurially minded engineers who can work not only with machines, but also with people, markets and money. Of course, there is much to be said for pursuing a doctorate, which you will be ready for after obtaining a master's at KU Leuven.

Once in the business world, engineers can be found in all sectors (electronics, chemistry, construction, education and research) and in all functions: from research and development, to production, marketing and sales. Specific jobs range from brewers to machine constructors, software architects to R&D engineers, consultants of all stripes ... the number and nature of specific career outcomes is only limited by your imagination.

Almost every engineer who graduates today has international contacts, with one in four working abroad, a number that will increase as the economy and technology become more globalised and connected. By earning your degree at KU Leuven, you will have demonstrated your readiness for the challenges and opportunities of living and working abroad.

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# Ready to get started?

An answer to your practical questions



03

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# Get prepared for a smooth start

## Mathematics proficiency: positioning test

Depending on the admission requirements, the positioning test is mandatory for some applicants. The results of this mathematics proficiency test give you a good sense of where you stand and what you will need to work on during your Engineering Technology study. You should come to Leuven to attend this test. As a future KU Leuven student, you can combine it with a visit to our campus.

[www.fet.kuleuven.be/positioning-test](http://www.fet.kuleuven.be/positioning-test)

## Optional self-tests and study modules

In order to start the Bachelor of Engineering Technology, you need a certain amount of prior knowledge in mathematics and chemistry. You can prepare yourself and check whether you have sufficient knowledge of these subjects by taking some of our optional self-tests.

These self-tests are not intended to assess whether you are suited to study at Group T Leuven Campus, they only indicate whether it is recommended to update your knowledge of maths and chemistry. You can also follow our free self-study modules.

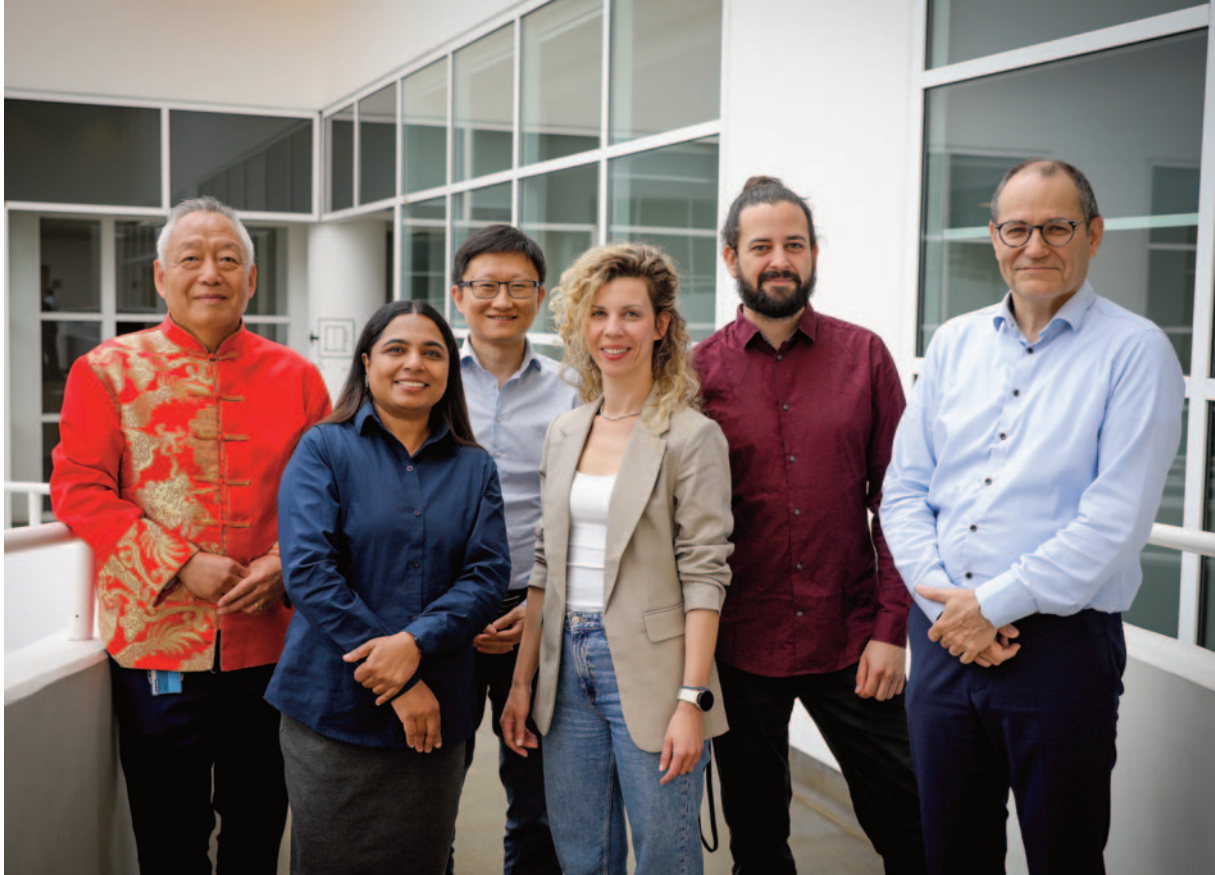
[www.fet.kuleuven.be/start-prepared](http://www.fet.kuleuven.be/start-prepared)

## Additional care

Everyone should be able to study, even if this seems less obvious due to a disability, learning disorder, medical problem, etc. You can make use of support facilities both during the academic year and during exam periods. Be sure to apply to have your status recognised in a timely manner so you can work with our disability officer to find solutions tailored to your needs.

[www.kuleuven.be/studentwithadisability](http://www.kuleuven.be/studentwithadisability)





## Campus International Officers: at your service

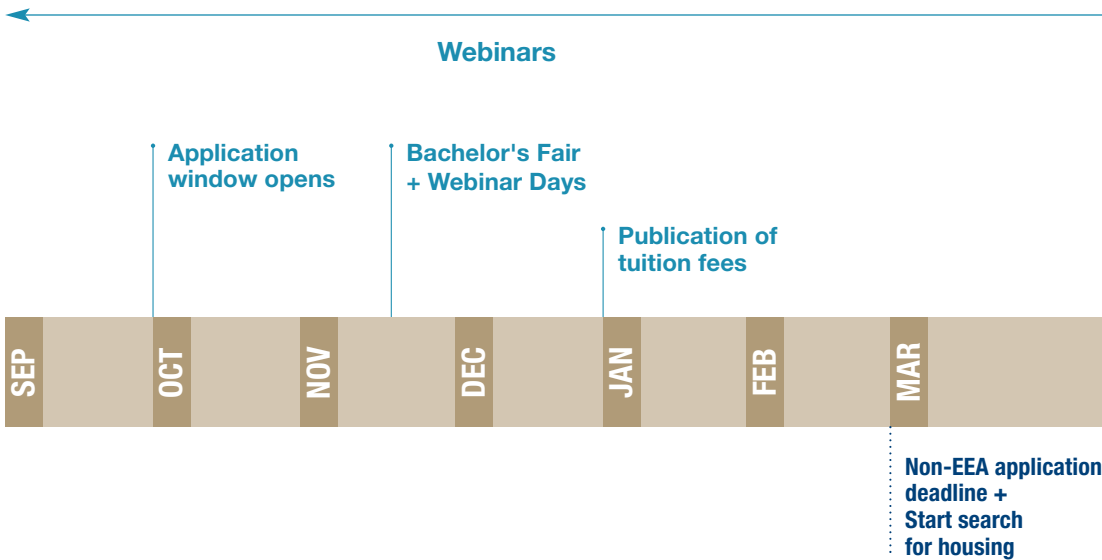
The CIOs are your first-line supervisors and points of contact on campus. They are responsible for welcoming, advising and assisting all international students. You can contact them with all questions and problems related to admission, accommodations, administrative formalities and practical matters. They will also listen to your personal concerns and refer you to other specialised services if necessary. Furthermore, there is also a team of International Counsellors on campus who will help you with study-related problems.

And because being international is more than just collaboration on educational projects, you can also participate in many socio-cultural activities for a fun international experience. Be sure to join in on some of the sport, cultural and food-related activities that we host every year.

Tel +32 16 30 10 04  
[cio.groupt@kuleuven.be](mailto:cio.groupt@kuleuven.be)



# The year preceding enrolment



## Application deadlines

The deadline for this programme for non-EEA applicants is 1 March. EEA applicants and non-EEA applicants holding a Belgian residence permit can apply until 1 June. Late submission of applications will not be considered.

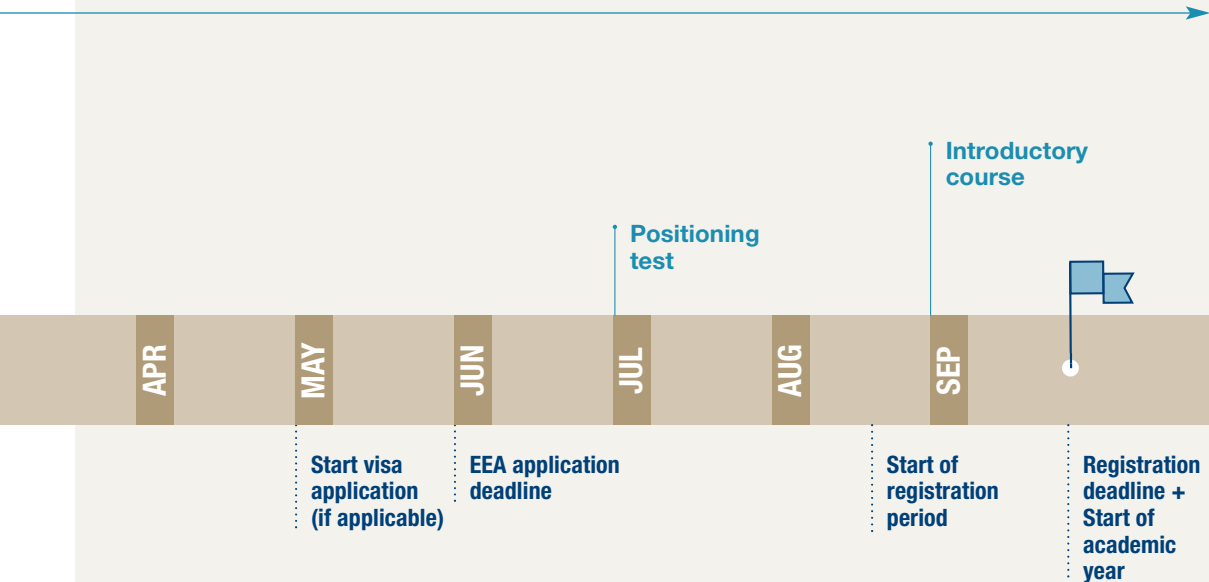
For the most recent - and only official - information on application deadlines check

[www.kuleuven.be/application-windows](http://www.kuleuven.be/application-windows)

## Bachelor's Fair

At this live info fair, you can ask all your questions about our international bachelor's programmes. Our staff will answer all your questions about studying in Belgium and KU Leuven, and you can also ask questions about your application or admissions.

[www.kuleuven.be/open-days](http://www.kuleuven.be/open-days)



## Webinars

KU Leuven offers webinars on a range of topics to aid you in the process of choosing a university, applying for a programme, searching for housing, obtaining a student visa and preparing your arrival. In November, we have a special two-day event called 'Webinar Days' where you have the unique opportunity to follow a webinar about your desired field of study. There is always room for your questions during the Q&A part of the webinar.

[www.kuleuven.be/webinars](http://www.kuleuven.be/webinars)

## Introductory course

In the first weeks of September, a mandatory two-week introductory programme is held for all first-year students. This programme consists of an introductory course and a number of social activities. The introductory course is designed to refresh your knowledge of mathematics and chemistry and includes all the basic knowledge you need to start the programme. During the social activities, you will get to know your fellow students outside the classroom and we also show you around Leuven.

[www.kuleuven.be/grouptcampus/introductory-programme](http://www.kuleuven.be/grouptcampus/introductory-programme)

## Tuition fees

It is worth noting that our tuition fees are more affordable than in many other European countries thanks to generous government financing of the higher education system. Although all of our programmes are very affordable compared to equivalent universities around the world, the fees for any individual student are contingent upon their choice of academic programme and the nationality of the student. Check out our tuition fees for your particular programme:

[www.kuleuven.be/tuitionfees](http://www.kuleuven.be/tuitionfees)

## Application procedure

KU Leuven uses an online application system. You will make a personal admissions account and upload the required documents. At this stage, questions about application procedures are best directed to the Admissions Office. You can then submit your application once you are ready.

[www.kuleuven.be/application](http://www.kuleuven.be/application)

Students with a Flemish degree can consult:

[www.kuleuven.be/register-flemish-degree](http://www.kuleuven.be/register-flemish-degree)

## Visa application

As an internationally oriented university, it is our aim to support our international students the best we can. When coming to Belgium, you may need a visa or entry document.

The specific documents you will need, and the manner in which you request and submit them, will depend on your situation. Once you are admitted to study at KU Leuven, you will receive specific information and guidance for your situation from our international expert services.

[www.kuleuven.be/immigration](http://www.kuleuven.be/immigration)

## Housing

Leuven offers a variety of different housing opportunities. The most important consideration is to start looking for housing as soon as possible. Planning to start in September? Then the early part of the year is great time to get a sense of what will be available in the autumn, even if you have not yet received your acceptance letter.

Most students choose to rent a student room (known as a 'kot' in Dutch) in a privately-owned house with shared common spaces and facilities. Look for student accommodations that have earned the 'Kotlabel', which ensures that the landlord and the building comply with norms regarding the quality of living, fire safety, contract and student friendliness. If you need any help with this, you can contact Stuvo, the KU Leuven Housing Service, for assistance.

The University also owns and manages a number of student residences. A limited number of rooms in these residences are reserved for international students.

[www.kuleuven.be/housing](http://www.kuleuven.be/housing)



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# Studying in Belgium?

Everything you need  
to know about living and  
studying in Belgium



# 04







## Study in Leuven

Leuven is a true university city where student life stands central. As the oldest, largest and most academically diverse of our campuses, Leuven attracts an eclectic set of international students following a wide array of academic pursuits. There is no defined campus in Leuven; instead, University buildings and student residences are spread throughout the compact city. This setup is facilitated by Leuven's reputation as a safe place to live and socialise, ensuring that students feel free to enjoy an academic experience rich in possibility, from the quiet and calm of the University Libraries to the lively comradery of our student clubs. The large international student community in Leuven revolves around the Pangaea intercultural meeting centre but extends to every corner of this historic campus. In all these ways and more, Leuven can justifiably be said to deliver the true student experience.

## Living in Belgium

Belgium is a safe and peaceful country steeped in history and fully engaged in our modern world. Featuring an advanced economy with special emphasis on medicine and medical technology, Belgium is one of the world's leaders in education, design and shipping. Belgium straddles the line between French and Germanic cultures, but Belgian people generally speak English quite well, so there is no need to learn another language. Belgium is the gateway to Europe. There are fast train connections to major European cities like London, Paris or Amsterdam. The nearby Brussels region is home to many of the world's most dynamic companies in addition to many governmental and international organisations. Thousands of students in Leuven look for internships and jobs in Belgium's intellectual economy that includes some of the most innovative companies in Europe, many of them spin-offs from KU Leuven itself.

## Chat with our student ambassadors

Ever wonder what the real KU Leuven student experience is like? Ask those who know! Our student ambassadors are current KU Leuven students who are happy to share their personal experiences studying at our University. There are ambassadors from all over the world, making it likely that you can find one from your own country and culture. Whatever your situation, you can use our handy ambassador webpage to find a student whose experiences might match your own.

[www.kuleuven.be/studentambassadors](http://www.kuleuven.be/studentambassadors)

## Your home away from home

There are many ways for us to help you feel at home:

- We offer an **online community** that allows you to connect with future fellow students before arriving in Belgium. Head here to get to know others, find out more information about the University and get excited about what's to come!
- The **Buddy Programme** gets you connected with a student who knows the University and the town well. A buddy is a local student volunteer with whom you can share your international experience during your time in Leuven (and long after). They can help you from the start with practical matters and introduce you to student life in Belgium.
- Every year, the KU Leuven **Welcome Desk** at Brussels Airport offers a friendly face to arriving international students. The desk is set up two weeks before the start of the academic year in September and is open from early morning until late evening. Staff members and volunteers help incoming students get to campuses, make sure they know their way around and assist them with any other urgent questions.
- The **Orientation Days and Freshers' Days** help you get settled in and invite you to learn more about the University and the city. Activities include tips and tricks on studying and living in Belgium, guided city tours, cultural visits and lots of other opportunities to meet fellow students. You will also learn more about the structure and content of your study programme, how to use online tools to plan your lessons and exams, etc.







# Bachelor of Engineering Technology

Modern engineering uses bits and bytes as much as concrete and steel. Evolving techniques demand engineers who are not just familiar with technology but adept technologists, able to wield the latest advances to benefit humanity. The engineering technology programme puts you amongst engineers who harness the tools of technology to shape the world around them.

KU Leuven. Inspiring the outstanding.

**KU LEUVEN**



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