



# **INTERNATIONAL BACHELOR'S AND MASTER'S PROGRAMMES IN ENGINEERING TECHNOLOGY**

Group T Leuven Campus, Belgium

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# WELCOME TO THE FACULTY OF ENGINEERING TECHNOLOGY GROUP T LEUVEN CAMPUS

Belgium. No other country offers a more authentic European experience. It is the beating heart of the continent and home to Brussels, the capital of Europe. Only a stone's throw away lies the beautiful city of Leuven, where you will find the KU Leuven Faculty of Engineering Technology.

Group T Leuven Campus is the faculty's only campus offering English-language bachelor's and master's programmes in Engineering Technology in the fields of electromechanics, electronics & ICT, chemistry and biochemistry.

'Beyond Engineering' is our motto. In our programmes, you gain expertise in engineering technology, but you also learn and experience how to be creative, both in your thinking and in your endeavours. You develop distinct enterprising skills, as well as insights into the systems that influence nature, culture, and society.

Beyond Engineering is the art of no longer seeing things separately, but rather as parts of an interconnected system. It is the art of managing the paradoxes of nature and culture.

You will quickly feel at home on our campus, which boasts a truly international community of outstanding engineering students from Europe, China, India, Ethiopia, Southeast Asia, and beyond.

A degree in Engineering Technology from KU Leuven opens the door to a broad range of study and/or work opportunities across Europe and the world.



**Bert Lauwers**

*Dean  
Faculty of Engineering Technology*



**Wim Dewulf**

*Campus Chair  
Group T Leuven Campus*



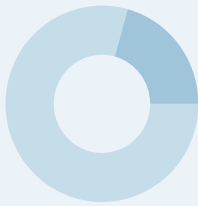
# KU LEUVEN: A GLOBAL UNIVERSITY

## KU LEUVEN UP CLOSE



### Truly international

60,292  
students



of which

12,577

international students,  
over 140 countries

48 BACHELOR'S PROGRAMMES  
(5 IN ENGLISH)

138 MASTER'S PROGRAMMES  
(69 IN ENGLISH)

42 ADVANCED MASTER'S  
PROGRAMMES (23 IN ENGLISH)

°1425

six centuries of  
academic excellence



Located in the heart  
of Europe

10

locations throughout  
Belgium

140+

nationalities of students  
and researchers

**Founded in 1425, KU Leuven has been a centre of learning for almost six centuries. Today, it is Belgium's highest-ranked university as well as one of the oldest and most renowned universities in Europe.**

The university offers a wide variety of internationally oriented programmes. These programmes are supported by high-quality interdisciplinary research conducted at both the university and its internationally acclaimed hospitals. Boasting an outstanding central location in the heart of Europe, KU Leuven offers a truly international experience, high-quality education, world-class research and cutting-edge innovation.

KU Leuven is home to a vibrant community of international students and staff members spread across its various campuses. Eighteen percent of the university's 60,292 students come from abroad, representing more than 140 countries. KU Leuven is a founding member of the League of European Research Universities (LERU), a select group of distinguished research-intensive universities that sets the standard for research in Europe. The university also works with a select number of top-level partner institutions worldwide and stimulates purposeful international mobility and intensive research cooperation. It continuously strives to integrate the local and international student and research communities on all its campuses through a variety of programmes and activities. Internationalisation is the key in the university's policy.



**Most innovative  
university of Europe  
(Reuters ranking)**

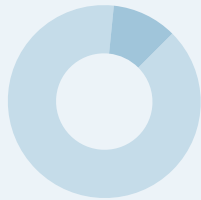
**45** in Times Higher  
Education World  
University Rankings

# FACULTY OF ENGINEERING TECHNOLOGY



## THE FACULTY UP CLOSE

6,189  
students



of which

893

international students,  
over 81 countries

3 BACHELOR'S PROGRAMMES  
(1 IN ENGLISH)

19 MASTER'S PROGRAMMES  
(8 IN ENGLISH)

3 ADVANCED MASTER'S  
PROGRAMMES (3 IN ENGLISH)

3<sup>RD</sup> largest faculty at KU Leuven

7

locations throughout  
Belgium



Intensive cooperation  
with industry



160 academic partners  
worldwide



Interdisciplinary research  
in 38 research groups

The Faculty of Engineering Technology is home to all programmes in engineering and bio-engineering technology offered at KU Leuven.

The faculty's degree programmes have a long tradition of excellence in engineering technology. The faculty is part of KU Leuven's Science, Engineering and Technology Group.

The Faculty of Engineering Technology offers application-oriented academic engineering programmes that stimulate initiative, creativity and entrepreneurship. To this end, we wish to contribute to an innovative sustainable society, based on our regional presence on various campuses in Flanders and our international commitment.

### Seven campuses

The Faculty of Engineering Technology organises its programmes in a unique way: you can choose from a variety of bachelor's and master's programmes organised at seven campuses across Flanders. This multi-campus model not only ensures strong regional ties and an extended network of organisations and companies, but also guarantees easy exchanges of students, staff, researchers and expertise. All of this makes the faculty a dynamic and future-oriented platform for education and research.

### International collaboration

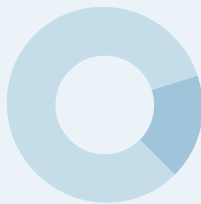
The Faculty of Engineering Technology has an extensive network of about 120 academic partners in the EU and about 40 worldwide partners. The faculty participates in all major international educational and research programmes, with student and staff exchanges, international educational and research projects.

All our campuses are active in the field of (Erasmus) exchange programmes, international curriculum development projects and cooperation initiatives in developing countries, offering their students ample opportunities to integrate an international experience into their study programme.

# GROUP T LEUVEN CAMPUS: AN INTERNATIONAL CAMPUS

## GROUP T LEUVEN CAMPUS UP CLOSE

2327  
students



of which

537

international students,  
over 81 countries

2 BACHELOR'S PROGRAMMES  
(1 IN ENGLISH)

8 MASTER'S PROGRAMMES  
(4 IN ENGLISH)

1 ADVANCED MASTER'S  
PROGRAMME (IN ENGLISH)



Group T Leuven Campus is a campus of the Faculty of Engineering Technology that truly carries internationalisation at heart. Almost 20% of its engineering students come from abroad, representing 81 different nationalities from all over the world. This international network not only covers Europe, but also China, Southeast Asia, India, Ethiopia and beyond.

## Europe

As an Erasmus student with an EU scholarship, you have the opportunity to carry out part of your training (one semester to a full academic year) at Group T Leuven Campus. To that end, the faculty has negotiated collaboration and exchange agreements with universities in almost all countries in the European Economic Area. Not only Erasmus exchanges are possible, many European students also follow a full bachelor's or master's degree programme at Group T Leuven Campus.

## China

Over the past 20 years, collaboration agreements have been established with 10 top-level universities in China. These intensive cooperations have led to **double undergraduate degrees** in engineering technology. The international double degree programmes enable Chinese students from the partner universities, who have already studied

engineering for two years in China, to continue their studies in English at Group T Leuven Campus and obtain a double bachelor's degree. Afterwards, they can also obtain a master's degree at Group T Leuven Campus.

## Southeast Asia

The greater Mekong region boasts collaboration agreements with universities in countries such as Thailand, Vietnam, Laos, Cambodia and Myanmar.

## India

In India, Group T Leuven Campus collaborates with partner universities to facilitate the exchange of students, professors, and knowledge under the framework of the International cooperative educational programmes / 2+2 programmes in Engineering Technology.

## Ethiopia

Group T Leuven Campus has strengthened its international network in Ethiopia. The collaboration comprises not only an exchange of lecturers, but also the further development of infrastructure and greater professionalisation of the teaching staff.



### BEIJING ALUMNI CHAPTER: GROUP T CAMPUS PROVIDES THE KICK-OFF

On August 24th 2019, the KU Leuven Alumni Chapter Beijing was officially installed in the Chinese capital. The first important event was immediately held the following day: the 20th anniversary of the Double Degree Programme in Engineering Technology offered by KU Leuven and Beijing Jiaotong University. Both ceremonies were the crowning glory of a quarter-century of collaboration between the two universities.

# ENGINEERING TECHNOLOGY AT GROUP T LEUVEN CAMPUS

## OUR PROFILE

### Research-based education

At KU Leuven, research and education are inextricably linked. The university's study programmes are research-based, which ensures that you acquire academic skills while simultaneously developing a critical and research-oriented attitude. Flexibility and state-of-the-art technology are key to this study programme. A KU Leuven degree offers you a significant competitive advantage and is highly valued around the world.

### New programme

Since 2020-2021, the Faculty of Engineering Technology has been gradually introducing a new curriculum at its campuses. The new curriculum is built around four pillars: Engineers and Science, Engineers and Technology, Engineers and the World and Engineering Experiences.

### High-tech, entrepreneurial and innovative engineers

As a graduate in engineering technology, you will be an expert in technology, but you will also be able to manage technology. Technology transfer and management require efficient communication. The interaction of technology, management and communication lays the foundation for innovation. During your education, you will collaborate with companies and, in doing so, acquire entrepreneurship skills. You will also take control of your own education, thanks to the wide range of specialisations, options and campuses. Thousands of Group T Leuven Campus' graduates proudly bear the name of 'alumni' of their campus.

### Polyvalent programme

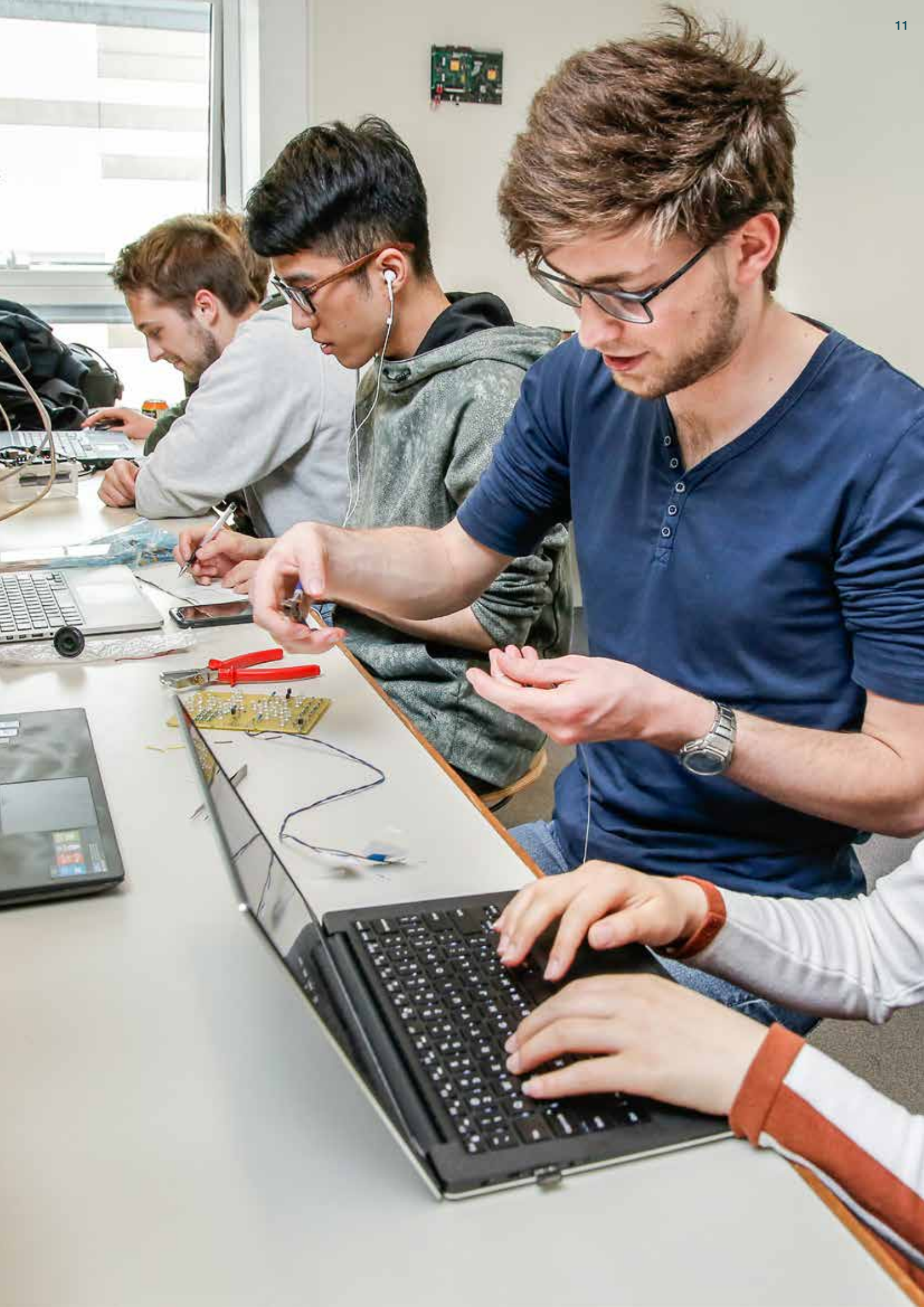
Through the generic engineering training offered in the bachelor's programme, you will develop into a versatile engineer with a broad perspective. In addition, throughout your education, you can choose from different specialisations and options which will prepare you for your master's programme. In this way, you are able to develop your own specialty that serves as a springboard for numerous career opportunities.

### Engineer without limits

Technology and economy have no boundaries. During your education, you will grow into an engineer who feels at home in an open, globalised society. You will become a committed engineer with an eye and ear for the major global challenges: climate, environment, poverty, healthcare, famine... As an engineer, you will demonstrate great potential in these areas.

### Student guidance

KU Leuven pays a lot of attention to solid student guidance. You can count on personal coaches during your entire education. There is close contact between professors and students at all the faculty's campuses. Group T Leuven Campus has its own Campus International Officers for the reception and coaching of international students.



# BACHELOR OF SCIENCE IN ENGINEERING TECHNOLOGY

## What is Engineering Technology?

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

An engineer is a problem solver par excellence. You develop technological applications that are used in daily practice. However, you also solve very specific problems in a company, for example how to recycle waste. With every new project, whether it is an innovative project or the improvement of existing processes, an engineer takes into account preconditions such as sustainability, price, quality and regulations.

## New programme

Since the 2020-2021 academic year, the Faculty of Engineering Technology has been gradually introducing a renewed curriculum. The polyvalent, generic engineering training offers all students the same basic education. In addition, there is some room for choice, as students will choose a specialisation in the second bachelor phase.

From the start of the bachelor's programme, you will receive an optimal mix of theory and practice, the only way to learn how to tackle technological challenges methodically.

You will be in contact with companies and the innovative research departments within the faculty. You are trained to be not just a specialist in specific technologies, but also an expert in foreseeing the future, critical thinking and taking the necessary consequent actions. To enable you to fully participate in the business world during your professional career, you will acquire many non-technical skills.

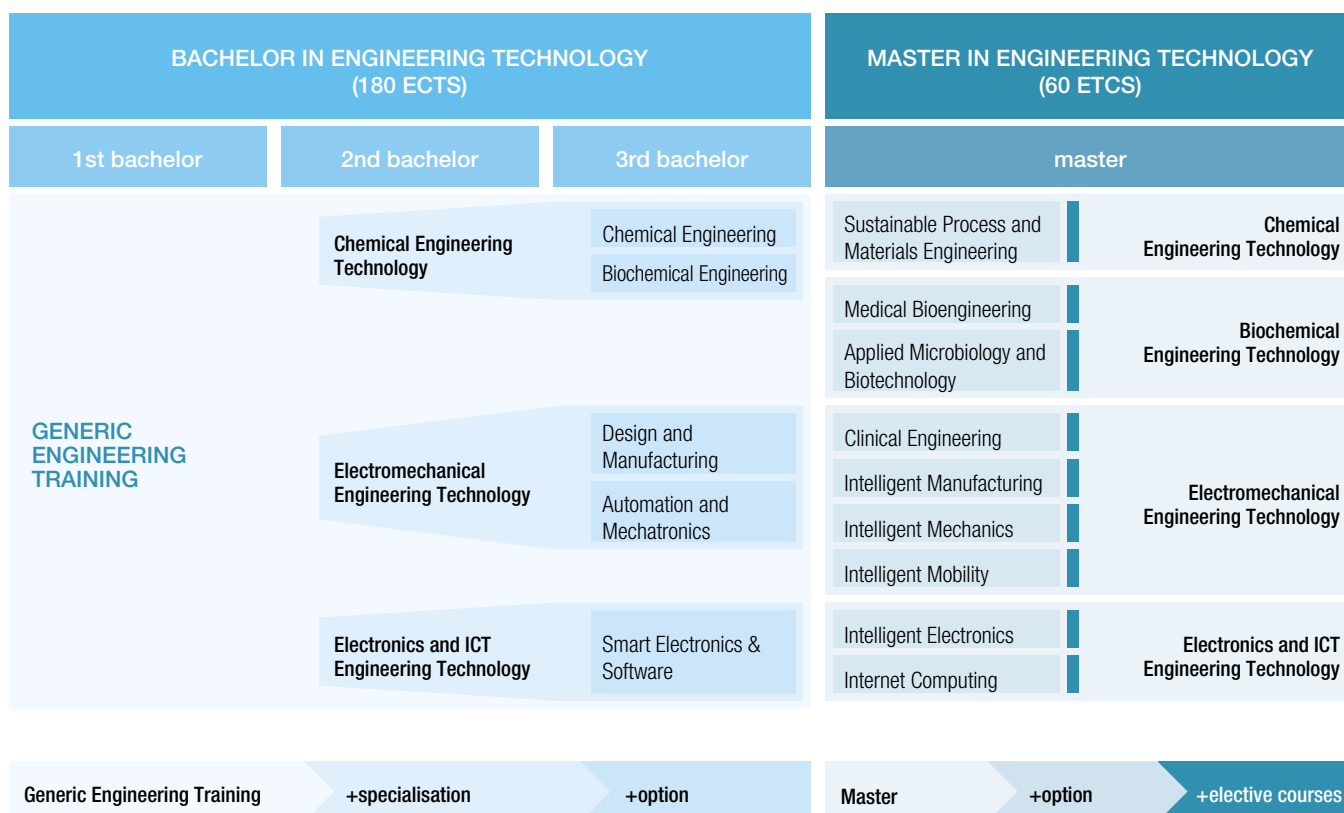
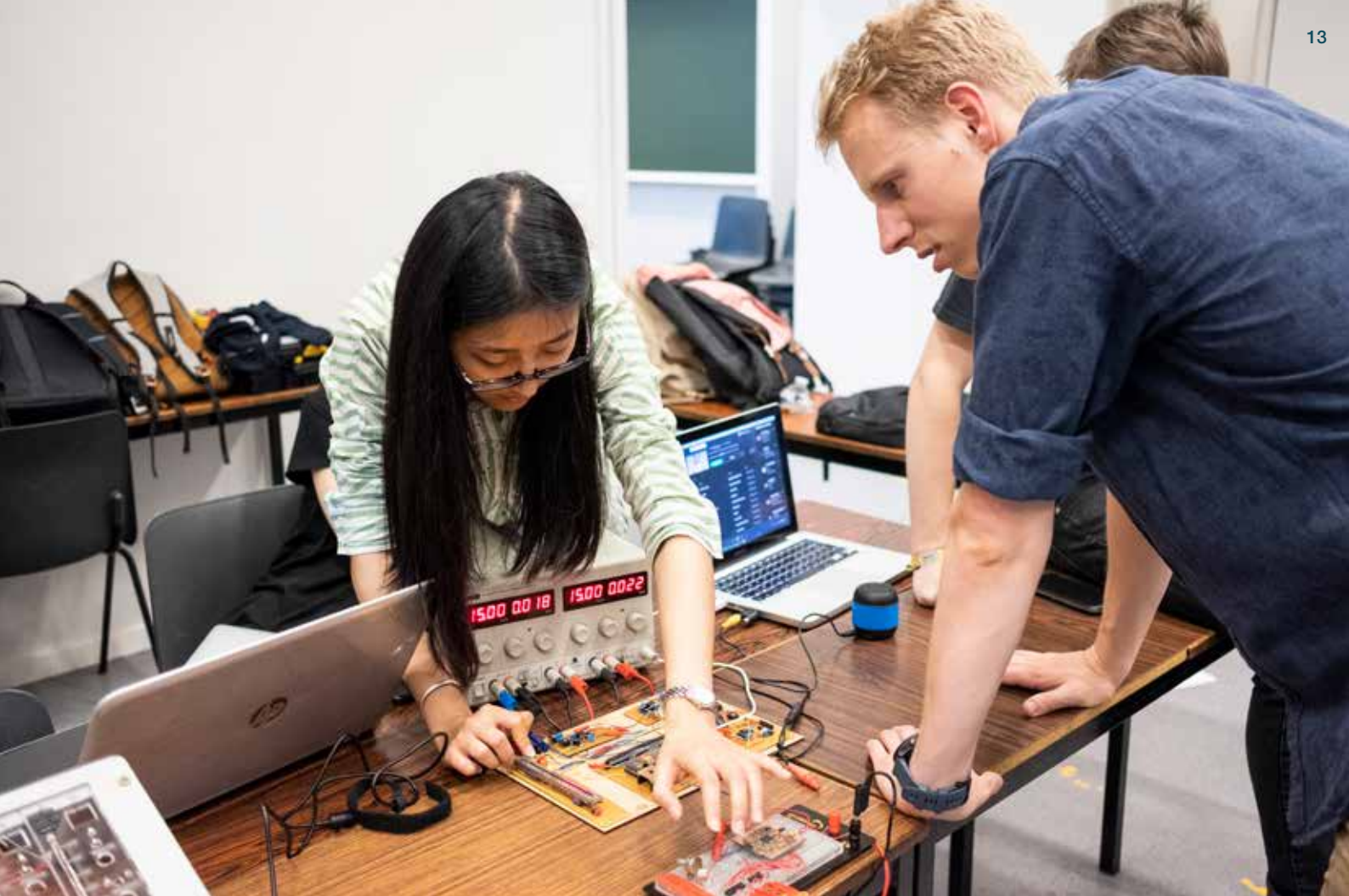
## What can you study?

From a starting bachelor to a graduated master you will make various choices throughout the study trajectory at Group T Leuven Campus. You will make the first of these choices only after the completion of your first bachelor's stage.

## Differentiation from other science and engineering programmes

The bachelor's degree programme in Engineering Technology distinguishes itself from other science and engineering programmes by a more thorough integration of applications in both scientific and technological basic education. Theoretical insights are translated not only faster, but also more extensively and more deeply into practical applications.

The specialisations in the bachelor's programmes are the stepping stone to the master's programmes in which a specific technology domain is central. The master's programmes are distinguished from other science and engineering programmes by their emphasis on the implementation of engineering practice and intensive cooperation with companies and industries.



## Programme

From the start of your bachelor's programme, you will get an optimal mix of theory and practice. It is the only way to learn how to tackle technological problems in a methodical way. You will learn from our innovative research and the companies with which we collaborate.

The programme provides you with specific technology knowledge and skills. You will also be trained to think and act critically. In order to work smoothly in the business world, you will acquire various social and communication skills.

## STRUCTURE

The programme is based on four pillars. They run like a thread throughout the whole programme.

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

The emphasis on 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. Thanks to the close attention that is paid to your professional training, you will experience the versatility of the engineering profession and discover what type of engineer you would like to be.

### 1st bachelor



### 2nd bachelor



### 3rd bachelor



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

## 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.

## ENGINEERS AND TECHNOLOGY

Together with the basic sciences, your technological training starts from day one. The 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.

## ENGINEERS AND THE WORLD

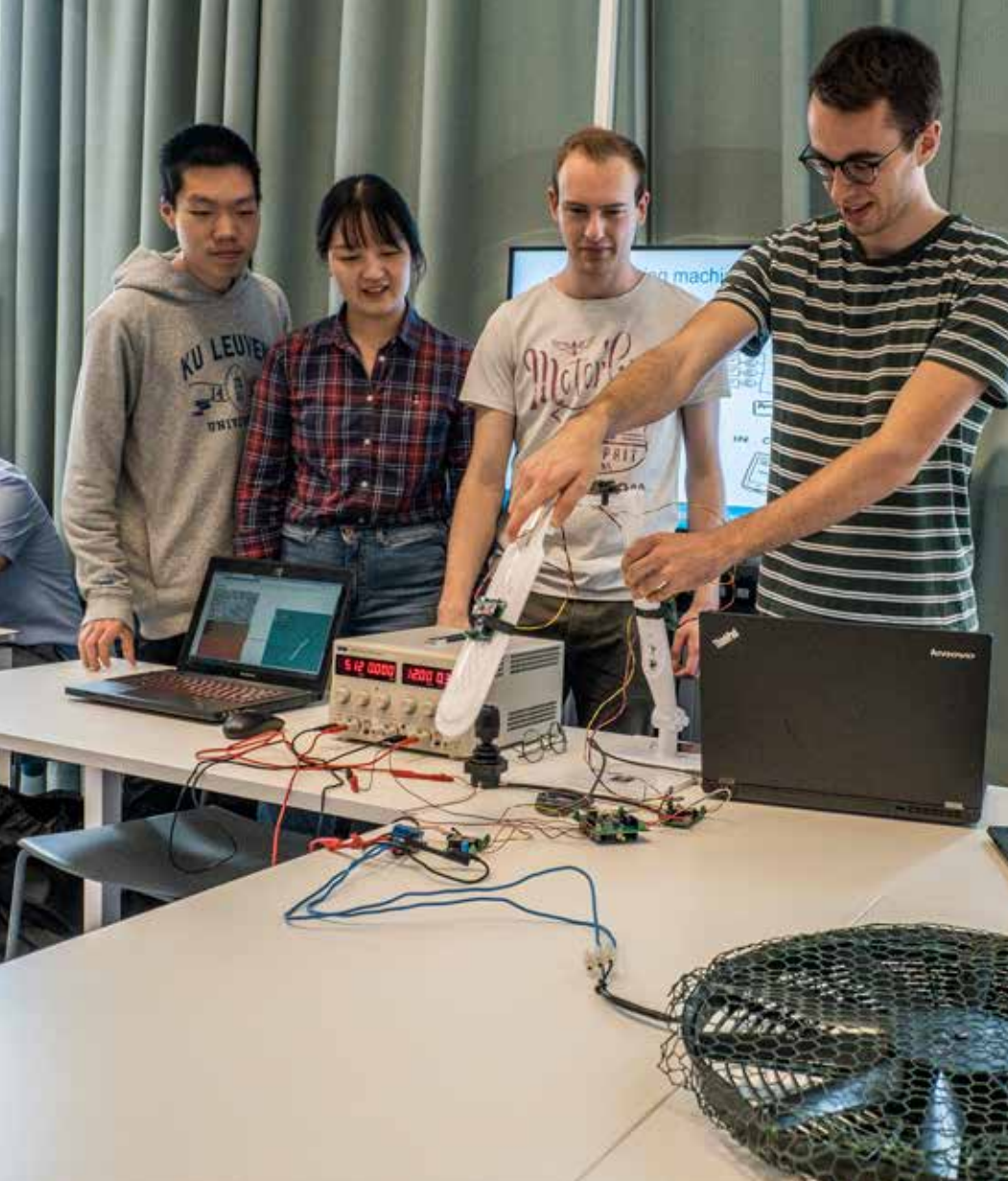
An engineer works with science and technology as well as with people. They function in an enterprise and live in a society that becomes increasingly diverse. An engineer needs insight into their role in this larger whole. An entrepreneurial spirit, coupled with a critical attitude and attention to sustainability,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

## ENGINEERING EXPERIENCES

In the Engineering Experiences you will fully enjoy yourself. You are challenged to bring together and apply all your knowledge, skills and points of view. This is done through assignments that are of such a nature that the outcome or the result is not always fixed in advance. The more open the assignment, the more you can give it a substantial interpretation.

Not only the degree of openness varies, so does the approach, as you will work on both individual and team assignments. Furthermore, the complexity as well as the authenticity (i.e. the degree of commitment to professional practice) increase as the programme proceeds.

It is important to note that a tangible result is expected from you and your team. This learning by doing transforms your assignment into a real experience and a reflection of your future job as an engineer.



### **ENGINEERING EXPERIENCE: DESIGNING AN INNOVATIVE EMBEDDED PRODUCT**

In the Engineering Experience, the third-year bachelor's students in Electronics and ICT Engineering Technology 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 composed 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.

### **FROM MULTI-DISCIPLINARY APPROACH TO FREEDOM OF CHOICE**

The bachelor's programme offers some freedom of choice:

- The entire bachelor's programme covers 180 ECTS.
- The first bachelor's stage covers a generic engineering training for all students. It consists of basic sciences, introductions to the various technologies, a number of broadening courses and the Engineering Experience projects. The generic engineering training partly continues in the second and the third bachelor's stage.
- In the second bachelor's stage, you select a specialisation: Chemical, Electromechanical or Electronics and ICT Engineering Technology.
- In the third bachelor's stage, you will choose a specific option within your specialisation.
- Each specialisation gives direct access to the subsequent master's programme. The specialisation and the option you choose during the bachelor's programme determine the master's programmes to which you may proceed.

[www.kuleuven.be/ba/baet](http://www.kuleuven.be/ba/baet)

This programme is gradually being introduced and is applicable to students starting the bachelor's programme as of the 2020-2021 academic year. Changes to this programme may still be made.

## STUDY PROGRAMME OF THE BACHELOR OF SCIENCE IN ENGINEERING TECHNOLOGY

1st bachelor		2nd bachelor		3rd bachelor	
GENERIC ENGINEERING TRAINING		GENERIC ENGINEERING TRAINING		GENERIC ENGINEERING TRAINING	
60		33		18	
Course	ECTS	Course	ECTS	Course	ECTS
<b>ENGINEERS AND SCIENCE</b>		<b>ENGINEERS AND SCIENCE</b>		<b>ENGINEERS AND THE WORLD</b>	
Fundamentals of Mathematics	6	Mathematical Systems	3	Religions*	3
Mathematical Modelling	3	Object-oriented Software Development	3	Engineering and Sustainability	6
Dynamics and Energy	3	<b>ENGINEERS AND TECHNOLOGY</b>		<b>ENGINEERING EXPERIENCES</b>	
Vibrations and Waves	3	Thermal-Fluid Sciences	6	Engineering Experience 3	9
Chemistry	6	Alternating Current Grids	3	<b>SPECIALISATION</b>	
Electricity	5	Statistics and Data Management	6	Chemical Engineering Technology	45
Computational Thinking	3	<b>ENGINEERS AND THE WORLD</b>		Chemical Engineering	
<b>ENGINEERS AND TECHNOLOGY</b>		Perspectives on Religion and Meaning*	3	Biochemical Engineering	
Biotechnology	3	Engineering and Economics	3	Electromechanical Engineering Technology	45
Statics and Strength of Materials	6	<b>ENGINEERING EXPERIENCES</b>		Design and Manufacturing	
Structure, Behaviour and Sustainability of Materials	6	Engineering Experience 2	6	Automation and Mechatronics	
Electronics	4	<b>SPECIALISATION</b>		Electronics and ICT Engineering Technology	45
<b>ENGINEERS AND THE WORLD</b>		Chemical Engineering Technology	27	Smart Electronics & Software	
Enterprises and Ethics	3	Electromechanical Engineering Technology	27		
<b>ENGINEERING EXPERIENCES</b>		Electronics and ICT Engineering Technology	27		
Engineering Experience 1	9				

\* Depending on the specialisation, this course is taught in the 2nd or 3rd bachelor.



## SPECIALISATION CHEMICAL ENGINEERING TECHNOLOGY

In this specialisation, the emphasis shifts from the general scientific-technological courses that you received in the generic engineering training to specific (bio)chemically oriented courses. The programme is an introduction to the basic aspects of (bio) chemical technology. In the third stage, you opt for an advanced specialised training through the options of Chemical Engineering and Biochemical Engineering. This option determines your subsequent master's programme.

You will receive a comprehensive, practice-oriented training in engineering technology. This is crucial given the multidisciplinary nature of the (bio)chemical industry and the associated technological research.

- In the **Chemical Engineering option**, you become acquainted with various industrial processes. You learn the 'why' of different process stages. This option also deals with aspects of polymer and material technology and environmental technology.
- In the **Biochemical Engineering option** you will acquire in-depth knowledge and understanding in fields such as molecular biology, microbiology, food technology and biochemical analysis techniques.

## SPECIALISATION ELECTROMECHANICAL ENGINEERING TECHNOLOGY

Electromechanics is indispensable for the design and management of machines and devices. In this programme, you learn how to convert materials for the production of reliable components. You learn how to make these components work together in ingenious machines. You learn how to power these machines energy-efficiently. In addition, you learn how you can control them in fully automated smart systems.

The **Design & Manufacturing** option covers the entire design of a realisation cycle, material selection, machine construction and forming techniques. You learn how to develop and manage innovative products and processes in various sectors.

The **Automation & Mechatronics** option elaborates on control theory, applied electronics, programming, data communication and artificial intelligence. This option prepares you to manage the automation of electromechanical and thermodynamic products and machines in the smart factories of Industry 4.0.

You complete your bachelor's programme with a multidisciplinary project, the subject of which comes from or at least closely matches the professional practice of an engineer.

## SPECIALISATION ELECTRONICS & ICT ENGINEERING TECHNOLOGY

Electronics and ICT have infiltrated all business sectors. Almost every device contains electronics and/or ICT. With the fourth Industrial Revolution (Industry 4.0), mechatronic systems will predominate through the extensive use of technological mechanisms such as sensors, data communication, cloud computing and many more.

In this specialisation, you will receive a broad grounding of analogue and digital electronics and of information and communication technology. You will study system and algorithmic thinking, learn to work in a structured and modular way and adapt flexibly to new technologies and situations. You apply all this knowledge in practical sessions and in a design project.

The option **Smart Electronics & Software** focuses on reliable interactions between hardware and software. You learn to design electronic circuits for specific applications and to miniaturise them into chips. Both low and high-level programming techniques as well as artificial intelligence are discussed. You build systems that can act smartly based on information from all kinds of sectors and that communicate with various other systems.

The programme not only thoroughly prepares you for all technical aspects of your future career, but also teaches you to function productively in an interdisciplinary team.

You complete the programme with a bachelor's project in which you deal with a technical or scientific problem that is directly related to a real case in the industry.

### ENGINEERING STUDENTS BUILD THE FASTEST ACCELERATING ELECTRIC RACE CAR

The race car at the heart of the Formula Electric Belgium Team is a strong example of innovative technology. It accelerates from 0 to 100 km/hour in just 2.6 seconds, faster than the latest generation of Formula E cars. From the chassis to the battery package, the students design and build the 4,000 parts of their racing car themselves.

Every summer, a team participates with a new car in the Formula Student Competitions in the Czech Republic, Germany, the Netherlands and Italy where they compete against the best student teams in the world.



# MASTER OF SCIENCE IN ENGINEERING TECHNOLOGY

## Objectives

The master's programmes provide you with:

- A general academic training;
- Advanced knowledge and skills in the selected programme;
- Required research competencies and training, i.e. knowledge and skills on the autonomous practice of science and technology, and the ability to apply this knowledge in the engineering profession and a mind-set to continue with lifelong learning and self-development.

## Preparatory programmes

A preparatory programme is an individualised learning path created for students whose academic degree does not guarantee direct admission to the master's programme they want to follow.

The curriculum of the preparatory programme is designed to strengthen your academic knowledge and skills and encompasses the prerequisite courses needed to start the master's programme.

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

## Master's programmes

At Group T Leuven Campus, you can choose from four different master's programmes in Engineering Technology. In each programme, you select an innovative technological option, which is preferably in line with the topic of your master's thesis.

### CHEMICAL ENGINEERING TECHNOLOGY

- Sustainable Process & Materials Engineering

### ELECTROMECHANICAL ENGINEERING TECHNOLOGY

- Clinical Engineering
- Intelligent Manufacturing
- Intelligent Mechanics
- Intelligent Mobility

### INTERNATIONAL STUDENTS WIN THE PRIZE FOR THE BEST MASTER'S THESIS

Zhang Xiaohang and Arsene Kury, masters in Electromechanical Engineering Technology at Group T Leuven Campus, won the first prize from the Flemish Engineering Association (ie-net) with their master's thesis.

They developed an innovative device that allows doctors to examine the larynx of throat patients without surgery. Their prototype can also be a viable alternative for other treatments where it is required to observe a part of the body that cannot be seen by conventional techniques.



### BIOCHEMICAL ENGINEERING TECHNOLOGY

- Medical Bioengineering
- Applied Microbiology & Biotechnology

### ELECTRONICS AND ICT ENGINEERING TECHNOLOGY

- Intelligent Electronics
- Internet Computing

These options are applicable to students **starting their master's programme in the 2021-2022 academic year**. Due to an ongoing curriculum reform, the master's programme may look different in the following academic years.

## Master of Science in Chemical Engineering Technology

### 60 ECTS

COURSE	ECTS	SEM
<b>COMMON PROGRAMME</b>	<b>41</b>	
Applied Sustainability Assessment	3	1
Materials and Surfaces Characterization	3	1
Separation Process Principles II	5	1
Management and Communication	4	1
Electrical Engineering	3	2
Pathways to Sustainability: Core Issues and Challenges	3	1+2
Master's Thesis	20	1+2

### OPTION SUSTAINABLE PROCESS

#### AND MATERIALS ENGINEERING

10

Advanced Materials Technology	6	1
Reactor and Process Technology	4	2

### ELECTIVE COURSES

3

*Students choose one of the elective courses from the list below.*

Rheology and Polymer Processing	3	1
Chemical Engineering Computing II	3	1
Sustainable Chemistry II	3	2

### MULTICAMPUS MODULES

6

*Students choose either one of the multicampus modules below, or courses for a minimum of 6 ECTS from the list of elective courses or from any course offered by KU Leuven, and present this to the programme coordinator for approval.*

Sustainable Energy Production	6	2
The Use of Molecular Biology and Ecology in Industrial Processes	6	2
Trends and Innovations in the Biomedical Sector	6	2



You learn to design, execute, test and improve industrial processes in a chemically and technologically responsible way. You learn to research, develop and apply new materials such as polymers, composites, metals and ceramics. The curriculum includes courses in the fields of socio-economics (company management, economics) as well as chemical technology (engineering, separation techniques, chemical process technology, industrial process technology, surface chemistry, environmental technology etc.).

### OPTION SUSTAINABLE PROCESS AND MATERIALS ENGINEERING

Central to this option are the responsible technologies that meet today's needs without compromising the needs of future generations. You study the efficient use of materials and energy, taking into account the impact on the environment. Therefore, on the one hand, this option is focused on the sustainable design, development and production of products and systems and, on the other, on the development, properties, characterisation, production and processing of (new) materials.

[www.kuleuven.be/ma/miscel](http://www.kuleuven.be/ma/miscel)

## Master of Science in Biochemical Engineering Technology

### 60 ECTS

COURSE	ECTS	SEM
<b>COMMON PROGRAMME</b>		
	<b>32</b>	
Biochemical Analytical Methods	3	1
Separation Process Principles II	5	1
Management and Communication	4	1
Pathways to Sustainability: Core Issues and Challenges	3	1+2
Master's Thesis	20	1+2
<b>OPTION BIOMEDICAL ENGINEERING</b>		
	<b>12</b>	
Methods in Biomedical Research	3	1
Molecular Biology Techniques	5	1
Physiological Systems and Anatomy	4	1
Biomedical Engineering	3	2
<b>ELECTIVE COURSE</b>		
	<b>5</b>	
<i>Students choose either the optional course below, or a course from 'Multicampus Modules' of the Master in Biochemical Engineering Technology. They can also choose any other course for a minimum of 5 ECTS offered by the KU Leuven if they present it to the programme coordinator for approval first.</i>		
Trends and Innovations in the Biomedical Sector	5	2
<b>OPTION APPLIED MICROBIOLOGY AND BIOTECHNOLOGY</b>		
	<b>14</b>	
Bioinformatics	3	1
Engineering and Monitoring of Bioprocesses	8	1
Integrated lab course on Ecology and Molecular Biology in Bioprocesses	3	2
<b>ADDITIONAL COURSES</b>		
	<b>8</b>	
Fermentation and Bioconversion	5	1
Quality Control and Assurance	5	1
<b>MULTICAMPUS MODULES</b>		
	<b>6</b>	
<i>Students choose either one of the multicampus modules below, or courses for a minimum of 6 ECTS offered by the KU Leuven and present it to the programme coordinator for approval.</i>		
Sustainable Energy Production	6	2
The Use of Molecular Biology and Ecology in Industrial Processes <sup>1</sup>	6	2
Trends and Innovations in the Biomedical Sector <sup>2</sup>	6	2
Malting and Brewing Technology <sup>3</sup>	6	2

This programme focuses on the application of biomedical 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. Throughout your education, you will acquire the scientific and technical knowledge necessary to handle and to manage these processes in a business environment.

[www.kuleuven.be/ma/misbel](http://www.kuleuven.be/ma/misbel)

### OPTION BIOMEDICAL ENGINEERING

In this option, you study bio-technological developments in the medical sector. Knowledge of the human physiological system (the cardiovascular system, neurophysiology, etc.) and medical engineering techniques constitute the basis of developments in the field of artificial organs, tissue engineering, biomaterials, bioelectronics and new diagnostic techniques.

### OPTION APPLIED MICROBIOLOGY AND BIOTECHNOLOGY

This option focuses on the use of microbiological and molecular (DNA-based) techniques to monitor and control desired and undesired microorganisms in various industrial processes. Examples include bio-ethanol production, malt production, food production and processing, water treatment and the use of biocontrol to beat plant diseases.

- 1 Students following the option Applied Microbiology and Biotechnology are not allowed to take the multicampus module 'The Use of Molecular Biology and Ecology in Industrial Processes'.
- 2 Students following the option Biomedical Engineering cannot take the multicampus module 'Trends and Innovations in the Biomedical Sector'. They can, however, take the variant of 5 ECTS, which is an elective course under the option Biomedical Engineering.
- 3 This module is lectured at Ghent Technology Campus.

## Master of Science in Electromechanical Engineering Technology

Mechanical design and energy conversion are the cornerstones of this programme. Mechanical design begins with an idea, which is then shaped into a graphical design and developed into a finished product through a choice of materials, simulations, and production techniques. Energy conversion comprises all aspects of energy efficiency in this process and ranges from electrical controls and automation to thermal power plants, combustion engines, etc. Depending on your interest, your engineering profile can range from technological expert to company manager.

[www.kuleuven.be/ma/misemel](http://www.kuleuven.be/ma/misemel)

### OPTION CLINICAL ENGINEERING

This option focuses on the inspiring domain of medical technology. After being introduced to the world of biomechanics, you rely on your strong background in mechanics and electricity to explore the technology of medical devices. Examples of topics that are discussed are surgical robotics and medical equipment in general.

### OPTION INTELLIGENT MANUFACTURING

This option introduces you to the latest production techniques, looks at the way production systems operate, and discusses the intrinsic relationship between production and other business processes, especially in the design process. Special attention is paid to the potential of computer-based systems in this context. Moreover, you learn to operate in the area of tension between technology, economics, the environment, and ergonomics.

### OPTION INTELLIGENT MECHANICS

This option relates to designing, developing, and optimising automated mechanical machines. Supported by a strong background in electricity and mechanics, you dive more deeply into aspects such as advanced design methods, electronic operations, controls, measures and drives, data communication, and visualisation methods.

## 60 ECTS

COURSE	ECTS	SEM
<b>COMMON PROGRAMME</b>	<b>44</b>	
Finite Element-Based Design	4	1
Advanced Automation	5	1
Management and Communication	4	1
Drive Systems	4	2
Dynamic Aspects of Machine Construction	4	2
Pathways to Sustainability: Core Issues and Challenges	3	1+2
Master's Thesis	20	1+2
<b>OPTION CLINICAL ENGINEERING</b>	<b>16</b>	
Dynamics and Biomechanics	5	1
Robotics and Advanced Instrumentation	5	1
Medical Equipment & Regulatory Affairs	6	2
<b>OPTION INTELLIGENT MECHANICS</b>	<b>16</b>	
Computer-Aided Modelling and Simulation	5	1
Robotics and Advanced Instrumentation	5	1
Embedded Control Systems	6	2
<b>OPTION INTELLIGENT MANUFACTURING</b>	<b>16</b>	
Advanced Manufacturing	5	1
Manufacturing Optimisation and Dimensional Quality Control	5	2
Computer Integrated Manufacturing	6	1+2
<b>OPTION INTELLIGENT MOBILITY</b>	<b>16</b>	
Autonomous Vehicles	3	1
Applied Sustainability Assessment	3	1
Transportation and Mobility Management	4	1
Vehicle Design and Technology	6	2

### OPTION INTELLIGENT MOBILITY

This option deals with the sustainable application of smart mobility solutions. Examples include electric or hybrid cars fitted with intelligent recharging systems, vehicles that notify each other about accidents or traffic jams, and transportation systems that are optimally geared to one another. Intelligent Mobility also involves choosing materials and/or production methods causing the least ecological impact.

## Master of Science in Electronics and ICT Engineering Technology

### 60 ECTS

COURSE	ECTS	SEM
<b>COMMON PROGRAMME</b>	<b>39</b>	
Machine Learning	4	1
Ubiquitous Computing Systems	8	2
Management and Communication	4	1
Pathways to Sustainability: Core Issues and Challenges	3	1+2
Master's Thesis	20	1+2
<b>OPTION INTELLIGENT ELECTRONICS</b>	<b>9</b>	
Power Electronics	5	1
Hardware Design	4	2
<b>OPTION INTERNET COMPUTING</b>	<b>9</b>	
Media Processing	5	1
Distributed Applications	4	2
<b>R&amp;D EXPERIENCE</b>	<b>9</b>	
<i>This course is offered in 4 different experiences: Experience in Signal Processing, Experience in Embedded Electronics, Experience in UX-driven Web Development and Experience in Games &amp; Tangibles.</i>		
R&D Experience	9	1
<b>ELECTIVE COURSES</b>	<b>3</b>	
<i>For the remaining 3 credits you select the OPO 'Capita selecta onderzoekstopics elektronica-ICT', which is a multi-campus module, or you enroll in a course in the Tolinto event. You can also select a course from another master's programme of KU Leuven. In this case, the choice needs to be approved by the course coordinator and the programme coordinator.</i>		
Capita selecta onderzoekstopics elektronica-ICT	3	1+2
International Module Master of Engineering Technology <sup>1</sup>	3	1+2

<sup>1</sup> The course IMMAII 'International Module Master of Engineering Technology' can only be booked in your study programme when you have attended a short international course with assessment abroad. You have to contact your study track counsellor before application and participation.

The master's programme in Electronics and ICT Engineering Technology gives you a broad basis of general skills and technical knowledge. At the same time, you feel at home in the fascinating world of information processing. Based on your knowledge of electronics and ICT, you can correctly estimate the operation and the impact of the technologies used. You can analyse both existing analogue and digital electronic systems and design and implement new systems. You are also able to analyse, design and implement complex information and communication systems.

To compile your programme, you select an R&D Experience, an option package as well as an additional elective course. Depending on your selection, you focus more on either hardware or software.

[www.kuleuven.be/ma/miseel](http://www.kuleuven.be/ma/miseel)

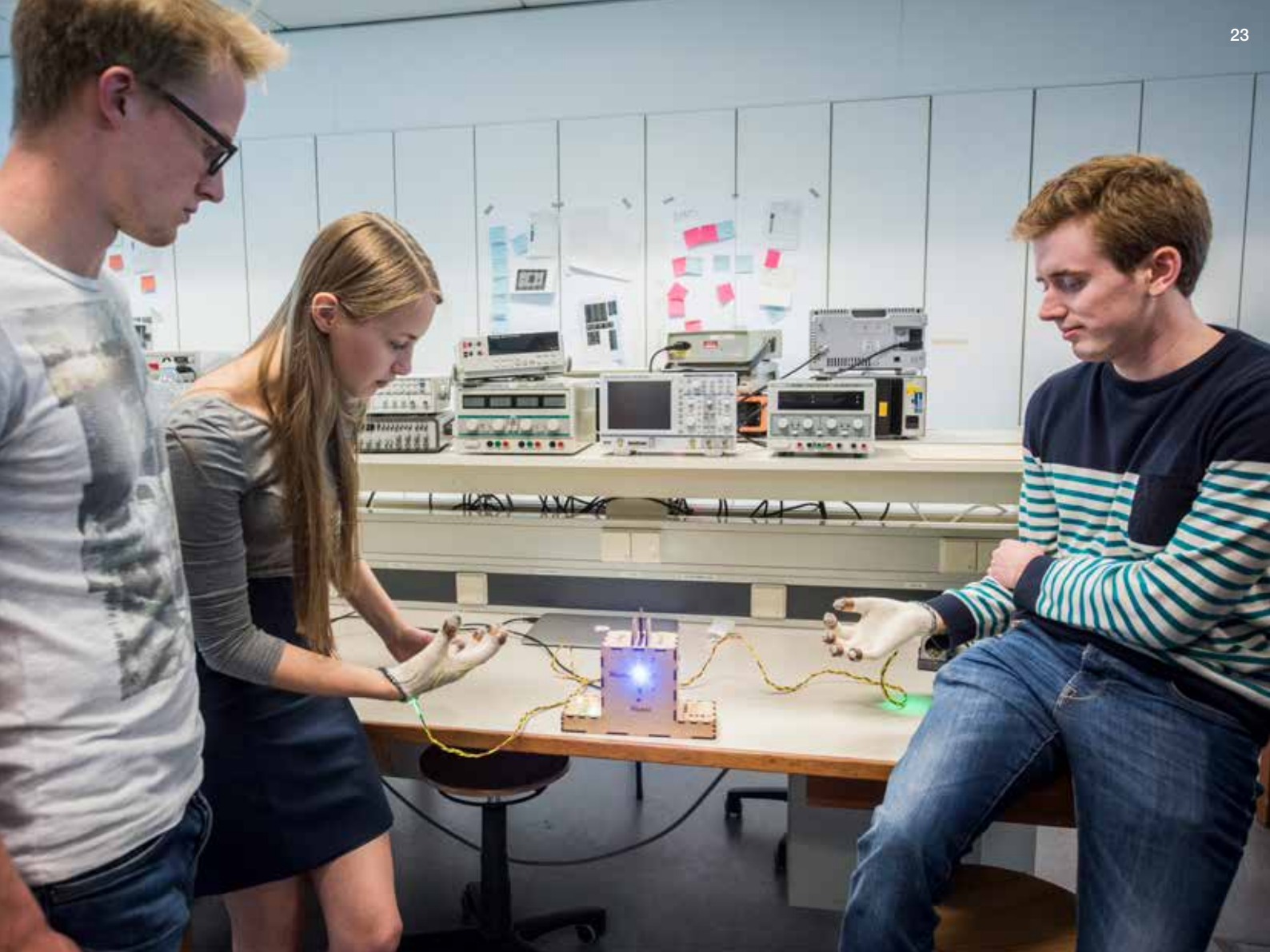
### OPTION INTELLIGENT ELECTRONICS

Intelligent Electronics refers to the combination of hardware and software used to develop and implement so-called "embedded systems" (cell phones, MP3 players, digital cameras, etc.). You learn to consider the limitations in the areas of I/O possibilities, memory, speed and energy consumption.

### OPTION INTERNET COMPUTING

Internet Computing follows the trend of adopting a broader approach to developing computer applications. The advantages include high reliability, high performance, easy maintenance, low prices... Examples of such applications are:

- Web-based and Internet applications such as search robots and voice-over IP;
- E-commerce;
- Enterprise resource management;
- User applications in the area of info, education and entertainment.



## R&D EXPERIENCE

The R&D Experience gives you the opportunity to realise a challenging project in a team context. There are four possibilities:

- UX-driven Web Development. With the user as a guideline, you develop a web application with rich user interactions;
- Embedded Systems. You develop a 'System on Chip' application, using an FPGA and an embedded processor.
- Signal Processing: Algorithms & Implementation. You develop and implement a state-of-the-art DSP algorithm.
- Games and Tangibles. You learn how to build a computer game using rich tangible interaction for player input and output.

### LI QIAN: PRE SALES ENGINEER

Li Qian started her engineering studies at Beijing Jiaotong University in China. In 2007, she decided to study at Group T Leuven Campus to obtain a master's degree in Electronics and ICT Engineering Technology. It was not an obvious decision to make, but it determined the course of her future life and career. Today, Li Qian is a Pre-Sales Engineer at the headquarters of the high-tech company PEC in Leuven.

'Group T Leuven Campus was my first experience abroad,' explains Li Qian. 'Everything was new: the people, the food, the traffic, the weather, the scenes, the student life, you name it. Nevertheless, everything fell into place quickly. I could count on good support from the Campus International Officers and helpful professors and fellow students. After all, the campus is accustomed to international students.'



# STUDY CAREER AND STUDENT GUIDANCE

During your education at KU Leuven, you will be supported and guided in many ways. Group T Leuven Campus is committed to creating optimal study conditions. Numerous people and services are available to help you with making educational decisions, whether that involves your admission into the programme and reception at the campus, learning progress, study trajectory, well-being and various administrative or practical matters. In all of this, personal contact plays a major role.

## RECEPTION AND PREPARATION

- Introductory Course Mathematics and Chemistry
- Starters' Days

## SUBJECT-SPECIFIC GUIDANCE

- Professor as first person of contact
- Seminars in small groups
- Mock exams
- Subject-specific monitoring
- Feedback moments

## LEARNING PROGRESS GUIDANCE

- Study mentors
- Study track counselors
- Coaches
- Study skills sessions

## OMBUDS SERVICE

- Educational ombuds
- Exam ombuds

## STUDY CAREER GUIDANCE

- Helping with compiling your Individual Study Programme
- Sessions on choosing a specialisation
- International Student Counselor

## LOOKING FOR A JOB?

- Application mediation
- Annual Entrepreneurs' Day and Job Fair
- China Careers Day

## CHINA CAREERS DAY AT GROUP T LEUVEN CAMPUS

Every year, Group T Leuven Campus and the Belgian-Chinese Chamber of Commerce (BCECC) organise a China Careers Day. China Careers is an informal platform where Chinese and Belgian entrepreneurs, professors, researchers, students and graduates can meet each other.

The purpose is to bring Chinese and Belgian partners in touch with each other through information exchange, interaction and project support. During the Careers Day, China-related companies offer projects, apprenticeships, topics for master's theses and jobs to Chinese and Belgian students and graduates.

[www.bcecc.be](http://www.bcecc.be)





# CONTINUING EDUCATION

## Other English-language master's programmes at our faculty



- Master of Science in Civil Engineering Technology
- Erasmus Mundus - European Master of Science in Sustainable Food Systems Engineering and Business
- Erasmus Mundus Japan - Master of Science in Imaging and Light in Extended Reality
- Erasmus Mundus - European Master in Radiation and its Effects on MicroElectronics and Photonics Technologies

In addition, you may further deepen your knowledge through an advanced master's programme. Access to these programmes is limited to specific master's degrees. Many graduate engineers follow an additional programme to complement their diploma. You may also consider additional education while having a job.

[www.fet.kuleuven.be/prospective-students](http://www.fet.kuleuven.be/prospective-students)  
[www.kuleuven.be/ma](http://www.kuleuven.be/ma)

## Advanced Master's programmes at our faculty

### MASTER OF SCIENCE IN 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. The programme has a specific focus on the integration of different technologies and methodologies into usable systems. Recent trends in wearable sensors, bio-electronics, artificial intelligence, robotics and healthcare apps are combined to inspire students to conceive and implement.

The Master in Innovative Health Technology is a one-year programme of 60 ECTS. It 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 available to students who have completed a master's programme in Engineering Technology, Biosciences or equivalent. The programme is lectured at Group T Leuven Campus.

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

Discover the full overview of English-language programmes at the Faculty of Engineering Technology on p. 34.

### MASTER OF SCIENCE IN WELDING ENGINEERING

This programme is taught at De Nayer Sint-Katelijne-Waver Campus

[www.fet.kuleuven.be/welding-engineering](http://www.fet.kuleuven.be/welding-engineering)

### MASTER IN ARTIFICIAL INTELLIGENCE IN BUSINESS & INDUSTRY

This programme is taught at Bruges Campus and starts in 2022-2023, pending governmental approval.

[www.fet.kuleuven.be/ai-in-business-and-industry](http://www.fet.kuleuven.be/ai-in-business-and-industry)

## Postgraduate programmes at Group T Leuven Campus

### POSTGRADUATE PROGRAMME IN INNOVATION AND ENTREPRENEURSHIP IN ENGINEERING

Work experience and professional skills are more than ever important for engineers. With the postgraduate programme in Innovation and Entrepreneurship in Engineering you will be given the opportunity to gain unique practical experience through innovative projects in a stimulating environment.

The in-company innovation project (40 ECTS) offers you a unique work experience, where you work on one or two innovative projects in the organisation's (international) work environment.

Furthermore, you can also compose your personal study programme (20 ECTS) and choose courses based on your interests and the skills you wish to develop. In doing so, you stimulate your entrepreneurial and innovation skills and specialise further in a particular domain. Your customised programme will strengthen your profile and enhance your career opportunities.

[www.innovationentrepreneurship.be](http://www.innovationentrepreneurship.be)

### POSTGRADUATE TECH INNOVATIONS IN VENTURES & TEAMS

This postgraduate programme offers you a unique and hands-on introduction to the job market and the business world.

Through a team project or start-up project, you will learn how to design, develop and implement creative and innovative ideas. During this process, you will receive intensive personal coaching by professionals in the field and academic experts.

You can also compose your personal curriculum based on your own interests or needs. This will allow you to gain a better understanding of your strengths, weaknesses and ambitions and it offers you the opportunity to develop your technical, entrepreneurial, professional and innovation skills.

Completion of the programme will strengthen your profile and accelerate your career growth opportunities.

[www.techinvent.be](http://www.techinvent.be)

### POSTGRADUATE PROGRAMME IN RESEARCH VALORISATION IN ENGINEERING TECHNOLOGY

In today's high-tech world, research and innovation are vital to ensure industrial success. More than ever, companies and organisations must make sure that the value of their product, process or service portfolio is constantly renewed and increased. Consequently, there is an ever-increasing need for academically qualified people with a problem-solving approach, entrepreneurial management skills and ability to make a professional contribution to innovative engineering and expand the global industrial ecosystem.

The Postgraduate Programme in Research Valorisation in Engineering Technology is characterised by a strong focus on the valorisation of cross-disciplinary applied research, implementation thinking and technology-driven entrepreneurial skills.

Coached by the faculty research group of your choice, you will have intensive contacts with companies through guest lectures, company visits and project work.

[www.fet.kuleuven.be/researchvalorisation](http://www.fet.kuleuven.be/researchvalorisation)



#### AGORIA SOLAR TEAM WINS WORLD SOLAR CHALLENGE 2019

In October 2019, 20 engineering students from Group T Leuven Campus won the Bridgestone World Challenge, the World Championship for self-built solar-powered cars. The team finished first after a tough race of 3,021 km straight through Australia. With their achievement, the Solar Team wants to make the public and young people in particular aware of renewable energy and sustainable technologies.



## Doctoral studies in Engineering Technology

### PHD CANDIDATES UNDERTAKE THEIR DOCTORAL TRAINING IN ENGINEERING TECHNOLOGY AT THE ARENBERG DOCTORAL SCHOOL

The Arenberg Doctoral School of Science, Engineering and Technology stimulates PhD researchers in their endeavour to acquire scientific and technological knowledge in a four-year PhD programme. The doctoral school not only provides a stimulating research environment, but also ensures that PhD students optimally develop the personal and professional skills they will need in their further careers. PhD students become researchers with professional confidence and pride. They conduct research and establish collaborations within academia, as well as with external private and public partners. They advance the frontiers of knowledge and combine this scientific endeavour with valuable professional experience.

Research topics span all fields of science and technology, including life sciences, computing and information science, environmental sustainability, human settlements, agriculture, food research, genomics and biomaterials, nanoscience and nanofabrication, advanced materials, energy, and optimisation in engineering.

[www.set.kuleuven.be/phd](http://www.set.kuleuven.be/phd)

### ESMAEL KEDIR: DOCTORAL STUDENT AT THE E-MEDIA RESEARCH LAB

Esmael Kedir (Ethiopia) studied Computer Science at Addis Ababa University, a partner university of KU Leuven. This collaboration brought Esmael to Leuven as a doctoral student at Group T Leuven Campus. At the e-Media Research Lab he developed a screening tool for the detection of glaucoma, a chronic eye disease that leads to irreversible damage of the visual field. It affects more than 60 million people worldwide, especially in the rural areas of developing countries. Only an early diagnosis can prevent blindness. Esmael's Glaucoma Easy Screener is an affordable, accessible and effective testing tool that can significantly improve the quality of life of countless potential eye patients in Ethiopia and elsewhere in the world.



# RESEARCH AT GROUP T LEUVEN CAMPUS

## HEALTH ENGINEERING

How does technology contribute to greater comfort, better health and safety and increased well-being in general? Four research groups at Group T Leuven Campus are looking for answers to this question:

- The **Smart Instrumentation Group** develops and validates novel medical devices and assisted technology for the medical sector.
- The **e-Media Research Lab** investigates and develops innovative techniques to enhance the human condition with embodied media.
- The **research of Biomaterials and Tissue Engineering** focuses on the design of nanostructured, biofunctionalised materials for wound dressings, implants and tissue engineering constructs.
- The **Laboratory for Process Microbial Ecology and Bio-inspirational Management (PMA@BIM)** presents itself at the interface between academic and applied research aimed at valorising fundamental research in the domain of microbiology.

## SUSTAINABLE ENGINEERING

How can we continue fulfilling the needs of the current generation without endangering the needs of future generations? More than 20 researchers work at answering this question in six research groups:

- The **Life Cycle Engineering Research Group** focuses on the circular economy through eco-design and de-manufacturing.
- The **ChEMaRTS Research Group** deals with the circular economy through energy and material recovery in thermal systems.
- The **Sustainable Composites Research Group** focuses, among other interests, on natural fibres and durability.
- The **Intelligent Mobile Platforms Research Group** researches the intelligent development and control of novel mobile platforms.
- The **Applied Fluid Mechanics and (Aero-)Acoustics Research Group** focuses on the characterisation and optimisation of flow systems and applications with respect to energy-efficiency, noise production and noise propagation.
- The **Manufacturing Metrology Research Group** is developing novel technologies for quality control and zero-waste manufacturing in and industry 4.0 context.



### QUYNH HOANG: CONNECTING RESEARCH AND INDUSTRY

Corrosion of heat-exchanging components is one of the major operational problems in Waste-to-Energy combustion plants. Due to its heterogeneous and complex nature, municipal solid waste, when combusted, generates flue gas with high dust and pollutant concentrations, leading to corrosion of the heat-exchanging surfaces in the boiler. This phenomenon limits the electrical efficiency and increases the boiler's operating and maintenance costs. At Group T Leuven Campus, Quynh Hoang, Master in Chemical Engineering Technology, is doing research that focuses on the optimisation of the energy and material performance of these combustion plants.

## ENGINEERING EDUCATION

This research aims to contribute to the advancement of engineering education in several domains, including coaching and intercultural interaction, technology-assisted learning and conceptual understanding and problem solving. The research activities mostly take place within the context of LESEC (Leuven Engineering and Science Education Centre).

[www.fet.kuleuven.be/group/research](http://www.fet.kuleuven.be/group/research)

# CAREER PERSPECTIVES

As a master in Engineering Technology, you are prepared to take advantage of a whole world of opportunities. You are not only specialised in your field of study, but you have also acquired diverse competences that allow you to orientate yourself broadly.

Masters in Engineering Technology are active in the most diverse positions, professions and sectors all over the world. They are the 'engine' of innovation in business and society.

The table below gives an overview of some positions and employment sectors in which alumni of the Faculty of Engineering Technology are currently active.

## MASTERS IN ENGINEERING TECHNOLOGY

- Production engineer
- Quality assurance engineer
- Security engineer
- Project engineer
- R&D engineer
- Designer
- Problem solver
- Consultant
- Sales manager
- Technical-commercial engineer
- Researcher
- Entrepreneur
- Business manager
- Teacher
- ...

## MASTERS IN ELECTRO-MECHANICAL ENGINEERING TECHNOLOGY

- Logistics processes engineer
- Machine builder
- Mould designer
- Maintenance engineer
- Process engineer
- Production manager
- Product designer
- Automotive engineer
- Automation engineer
- Clinical engineer
- ...

## MASTERS IN ELECTRONICS AND ICT ENGINEERING TECHNOLOGY

- Software designer
- Hardware designer
- Network specialist
- Signal processing engineer
- Application engineer
- System architect and analyst
- Software architect and analyst
- Machine learning engineer
- Data security engineer
- Analogue and digital chip designer
- ICT test engineer
- ...

## MASTERS IN CHEMICAL ENGINEERING TECHNOLOGY

- Chemical process analyst
- Corrosion expert
- Material expert
- Process engineer
- Production engineer
- Quality control engineer
- Polymer expert
- Environmental expert
- ...

## MASTERS IN BIOCHEMICAL ENGINEERING TECHNOLOGY

- Biotechnologists
- Biochemical analyst
- Biocatalysis expert
- Engineer brewing technology
- Microbiologist
- Forensic researcher
- Nutrition engineer
- Pharmaceutical engineer
- Quality assurance engineer
- ...

## EMPLOYMENT DOMAINS AND SECTORS

- Construction
- Chemical industry
- Bio-industry
- Health care
- Environment protection
- Light and imaging
- Mobility and traffic
- Urban renewal
- Research
- Software development
- Robotics
- Medical sector
- Education
- Transportation
- Logistics
- Aviation
- Telecommunication
- Artificial intelligence
- Public services
- National defence
- Banking and insurance
- ...



### WAR FOR TALENT AT GROUP T CAMPUS LEUVEN

Each year more than 130 companies take part in the Entrepreneurs' Day at Group T Leuven Campus. Due to the large number of visitors, the job market had to be extended by one day. What makes Group T Leuven Campus so attractive for companies is the presence of so many international students. They are an excellent target group for companies that are internationally active or have foreign branches.

# ADMISSION AND

## Admission requirements

### BACHELOR'S PROGRAMMES

To be admitted to the bachelor's programme, you must meet the following requirements:

#### Diploma requirements

→ a secondary education diploma that allows admission to an academic bachelor's programme in engineering or science

#### Language proficiency

→ English language certificate (TOEFL, IELTS, CAE, CPE) or proof of exemption

#### Mathematics proficiency

- General SAT test (minimum score of 700 on the mathematics section)
- ACT test (minimum score of 30 on the mathematics section)
- Participation in the positioning test (for students with a baccalaureat diploma or a recognised degree from a European Union country)

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

### MASTER'S PROGRAMMES

Holders of the following degrees are granted direct admission to the programme:

→ Bachelor of Science in Engineering Technology (same specialisation)

Holders of other bachelor degrees must apply for admission first.

To be eligible and to ensure an optimal match with the programme, the following admission criteria apply:

- hold an honour bachelor's degree (B.Sc., B.Tech., B.Eng., etc.) or master's degree in a related/cognate subject area
- have a clear affinity with the major
- provide proof of sufficient English language proficiency (see further)
- have a solid background in science and mathematics

If the Board of Admissions evaluates the application as promising to be a good fit with the programme, but thinks important elements are still missing in the educational background and level of the applicant, the applicant will be eligible to start a preparatory programme.

The preparatory programmes are customised (number of courses/ECTS) based on the missing subjects in the

# APPLICATION

student's educational background. This process consists of an interview and takes place after admission to the programme has been granted.

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

## TUITION FEE

The tuition fee for the current academic year is €961.90 for EEA students and €6,600 for non-EEA students. The tuition fees for future academic years can be slightly higher as a result of indexation.

Please consult the website for the most recent information:

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

## Language requirements

Good knowledge of the English language is essential. You will be asked to submit a TOEFL, IELTS, CAE or CPE certificate. If you have already completed an English-language academic programme in Australia, English speaking Canada, Ireland, New Zealand, UK or USA, your degree will be considered sufficient proof of your English proficiency.

General admission:

[www.kuleuven.be/english/admissions/lang](http://www.kuleuven.be/english/admissions/lang)

## Application procedure

KU Leuven uses an online application system. You can submit your application [www.kuleuven.be/application](http://www.kuleuven.be/application)

Please keep the following deadlines in mind for your application:

- 1 March: non-EEA citizens
- 1 May: non-EEA citizens from partner universities
- 1 June: non-EEA citizens living in Belgium with a valid residence permit
- 1 June: EEA citizens

We advise students from outside the EEA to contact the Group T Leuven Campus International Officers, should they have any additional questions.:

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



### CAMPUS INTERNATIONAL OFFICERS (CIO)

The CIOs at Group T Leuven Campus are responsible for the reception of, and lending assistance to, all international students.

You can contact the Campus International Officers with all questions and problems related to admission, accommodations, administrative formalities and practical matters. They will also listen to personal concerns and can refer you to other specialised services if necessary. There is also a team of International Counsellors who will help 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. Every year, sports, cultural and food-related activities are organised. Just choose your activity and leave everything else to us.

# STUDYING IN LEUVEN

Studying at KU Leuven offers you more than just a highly valued diploma. The university is located in one of Belgium's most attractive historical cities. With almost 50,000 students in a city of 100,000 inhabitants, Leuven has a specific and unique atmosphere.

Leuven is the best-performing cultural and creative city in Belgium, according to a ranking published in October 2019 by the European Commission. In the Cultural and Creative Cities Monitor, Leuven ranked 10th among the 79 European cities with a comparable population size. On the indicator devoted to human capital and education, it comes first in its population group.

Leuven is a student-friendly city where meeting new people is easy. To help you settle into your new home, the university and Group T Leuven Campus organise a full programme of welcome and orientation services. The intercultural meeting centre Pangaea assists you to feel at home at the university and in the city.

[www.kuleuven.be/welcome](http://www.kuleuven.be/welcome)  
[www.kuleuven.be/english/studentsservices/pangaea](http://www.kuleuven.be/english/studentsservices/pangaea)

Other student services include: Study Advice Service, Social Service, Student Legal Service, Student Career Centre, Student Housing Service, and more. All information can be found on the following websites:

[www.kuleuven.be/english/studentsservices](http://www.kuleuven.be/english/studentsservices)  
[www.kuleuven.be/english/life-at-ku-leuven](http://www.kuleuven.be/english/life-at-ku-leuven)

The university also offers a wide range of cultural activities as well as fully equipped sports facilities.

[www.kuleuven.be/culture](http://www.kuleuven.be/culture)  
[www.kuleuven.be/sport/eng](http://www.kuleuven.be/sport/eng)

KU Leuven's extensive library network is spread across the university's various faculties and campuses. The AGORA Learning Centre offers a fully-equipped study space with a focus on collaboration and new technologies.

[www.kuleuven.be/agora/english](http://www.kuleuven.be/agora/english)

KU Leuven is also deeply embedded in an economically strong region, where many multinationals and (inter)national institutions have their headquarters. With over 120 spin-offs, KU Leuven is one of the most important motors of five different science and high-tech parks found throughout Belgium. Our alumni live all over the world and are connected via a large network of international chapters.

[www.alum.kuleuven.be/eng/alumnichapters/international-chapters](http://www.alum.kuleuven.be/eng/alumnichapters/international-chapters)







## EUROPE ON YOUR DOORSTEP

As a student at KU Leuven, you live in the heart of Europe. Major international cities like London, Paris, Cologne and Amsterdam are less than 2 hours away by train.

Belgium itself also has a lot to offer. Belgium is a country with beautiful historical cities, rich in art, culture and architecture and with a world-renowned cuisine. Belgian Beer & Chocolate? ABinBev is in Leuven! Brussels is not only the capital of Belgium, but also the embodiment of Europe with various international governmental institutions such as the EU and NATO.

[www.europa.eu/european-union](http://www.europa.eu/european-union)

[www.belgium.be](http://www.belgium.be)

[www.visitflanders.com](http://www.visitflanders.com)

# ENGLISH-LANGUAGE PROGRAMMES AT THE FACULTY OF ENGINEERING TECHNOLOGY

## BACHELOR'S PROGRAMME

Bachelor of Science in Engineering Technology

Specialisation:

- Chemical Engineering
- Electromechanical Engineering
- Electronics and ICT Engineering

## MASTER'S PROGRAMMES

Master of Science in Biochemical Engineering Technology

Master of Science in Chemical Engineering Technology

Master of Science in Civil Engineering Technology

Master of Science in Electromechanical Engineering Technology

Master of Science in Electronics and ICT Engineering Technology

European Master of Science in Sustainable Food Systems Engineering, Technology and Business (BiFTec-FOOD4S)

Erasmus Mundus Japan – Master of Science in Imaging and Light in Extended Reality (IMLEX)

European Master of Science in Radiation and its Effects on MicroElectronics and Photonics Technologies (RADMEP)

## ADVANCED MASTER'S PROGRAMMES

Master of Science in Welding Engineering

Master of Science in Innovative Health Technology

Master AI in Business & Industry

## CONTINUING EDUCATION

Postgraduate Programme in Innovation and Entrepreneurship in Engineering

Postgraduate Certificate in Research Valorisation in Engineering Technology

Postgraduate Tech Innovations in Ventures & Teams

Postgraduate Certificate: Smart Operations & Maintenance in Industry

## PHD

PhD in Engineering Technology

	BRUGES CAMPUS	GHENT TECHNOLOGY CAMPUS	DE NAYER SINT-KATELINE WAYER CAMPUS	GROUP T LIEVEN CAMPUS	GEEL CAMPUS	DIEPENBEEK CAMPUS
Bachelor of Science in Engineering Technology						
Specialisation:						
- Chemical Engineering				■		
- Electromechanical Engineering				■		
- Electronics and ICT Engineering				■		
Master of Science in Biochemical Engineering Technology				■		
Master of Science in Chemical Engineering Technology				■		
Master of Science in Civil Engineering Technology		■				
Master of Science in Electromechanical Engineering Technology				■		
Master of Science in Electronics and ICT Engineering Technology				■		
European Master of Science in Sustainable Food Systems Engineering, Technology and Business (BiFTec-FOOD4S)		■				
Erasmus Mundus Japan – Master of Science in Imaging and Light in Extended Reality (IMLEX)		■				
European Master of Science in Radiation and its Effects on MicroElectronics and Photonics Technologies (RADMEP)					■	
Master of Science in Welding Engineering			■			
Master of Science in Innovative Health Technology				■		
Master AI in Business & Industry	■					
Postgraduate Programme in Innovation and Entrepreneurship in Engineering	■	■	■	■	■	
Postgraduate Certificate in Research Valorisation in Engineering Technology	■	■	■	■	■	■
Postgraduate Tech Innovations in Ventures & Teams	■	■	■	■	■	
Postgraduate Certificate: Smart Operations & Maintenance in Industry	■					
PhD in Engineering Technology	■	■	■	■	■	■

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This brochure provides a complete overview of the programmes organised by KU Leuven during the academic year 2022-2023. During the academic year, changes to the programme structure may still be decided upon. The contents in this brochure are therefore not legally binding. For the most recent information, please visit [www.kuleuven.be/internationalprogrammes](http://www.kuleuven.be/internationalprogrammes)



## Contact

Faculty of Engineering Technology  
Group T Leuven Campus  
Andreas Vesaliusstraat 13  
3000 Leuven, Belgium  
[www.fet.kuleuven.be/groupt](http://www.fet.kuleuven.be/groupt)

