





Master's programmes in sciences and technology

In association with



Engineer your future in France

What do we mean when we say

# "Graduate study is about you?"

You may be tempted to choose a programme based on the graduate school, the country or even the culture you wish to experience. Although these are valuable add-ons to your personal and professional goals, choosing an advanced degree that is best suited for *you*, requires some simple considerations.



# Take stock of *your* passions and motivations

Understand the unique 'why' behind *your* big investment.

What do **you** hope to achieve? Specialised knowledge, better career opportunities & salary potential, or a lifelong personal goal - whatever **your** 'why', choose a programme that gets **you** started on **your** path.





# Keep *your* career goals in mind

The programme you choose must reflect your career interests and prospects. The skills you acquire (specialised or generic) must prepare you to meet your career goals head-on and arm you with knowledge that you can actually apply in the real world.

# Find a programme that fits *you*

Pay attention to the structure and focus of each programme, and ensure that it aligns with the educational experience that will provide most value to **you**. Determine if it fits your lifestyle and the kind of graduate experience **you'd** like to have.

Graduate study must open new doors and serve as a stepping stone to greater things for YOU!

**LET'S GET TO WORK!** 

# International master's programmes at ESIGELEC

Our master's programmes in Software Engineering & Digital Transformation and Electronic Embedded Systems are taught entirely in English. The curriculum design and the mandatory 4–6-month internship at the end of the programme, enable students to gain work experience while studying. We pride ourselves on moulding graduates who have a head start on being industry-ready!

You can choose multiple entry points for your Master's programme:

- A 3-semester full-time programme (intake in February only)
- A 4-semester full-time programme (intake in September only)

Note: For more information, refer to the section on programme eligibility (Page 16).



\*The decision on admission to the 3-semester or the 4-semester programme is taken after review of the application, even if the applicant meets all criteria and at the sole discretion of ESIGELEC.

# The specializations

# Master's Programme in Software Engineering & Digital Transformation (SEDT)

At its heart, technology enables huge amounts of data to be collected and communicated, transforming how industry and society work. Digital technologies are used to create or reinvent business processes, culture and customer experiences to meet the needs of growing businesses or changing markets. This reimagining of business in the digital age is digital transformation.

Software development and digitisation are a vital part of modern society and work in tandem in today's business environment.

In this programme, develop advanced knowledge and expertise in the design and development of software or digital services. Learn to apply your engineering principles of software and systems development to transform and modernise digital assets for businesses. Develop skills to create and manage processes with an innovation mindset.

#### Master's Programme in Electronic Embedded Systems (EES)

Inside a mechanical or electrical system, there will often be smaller individual parts that have specific functions to carry out – these parts are known as embedded systems. Computers, hybrid power vehicles, electronic voting machines, ATMs and video game consoles – all contain electric embedded systems that give them the ability to carry out specific tasks.

The design, creation, testing and finally, implementation of embedded systems requires a thorough understanding of processing systems, user interfaces, technical computing and artificial intelligence. These disciplines form some of the core components of our Master's programme in embedded system design.

# Courses & ECTS Credits Software Engineering & Digital Transformation

Courses	Modules	Duration (hours)	Weight	ECTS Credits
	Semester 1: 30 Credits /	354 hours		
Computer Science 1	Introduction to Object Oriented Programming with Java	40	3	8
	Fundamentals of Data Communication and Networking	24	2	
	Fundamentals of Web-Centric Development	30	3	
	Binary Logic & Digital Functions	30	3	9
Digital Electronics	LabView	30	3	
	C Programming	30	3	
	Cross Cultural Awareness and Working in a Team	36	3	
Communication & Language	French as a Foreign Language / English as a Foreign Language	60	3	6
Specialized Courses for SEDT	Java Project	50	4	
	Database Management Systems	24	3	7
Total Credits				30

Courses	Modules	Duration (hours)	Weight	ECTS Credits
	Semester 2: 30 Credits /	340 hours		
	Enterprise Network	20	2	13
Computer	Object Oriented Programming with Java EE	40	4	
Science 2	Development of Mobile Application	40	4	
	Intro to .NET Framework (C#)	24	3	
	Analysis & Design with UML	32	2	
	Big Data: Challenges & Opportunities	40	4	
Business Intelligence	PL/SQL Programming for Databases	20	2	12
	Artificial Intelligence: Principles & Techniques	30	2	
	Data Driven Applications with R	20	2	
Communication	Oral Communications & Presentation Skills	14	1	
Communication & Language 2	French as a Foreign Language / English as a Foreign Language	60	4	5
Total Credits 30			30	

Courses	Modules	Duration (hours)	Weight	ECTS Credits
	Semester 3: 30 Credits	/ 336 hours		
Information	Cloud Computing	30	2	10
	Information Systems & Organizations	20	3	
Systems	Information System Security	30	3	
	Web-centric Development & ASP.NET	20	2	
	Management Control & Business	32	3	7
Business Management	Marketing in a Technical Environment	22	3	
	Intellectual Property & Internet Protection Laws	12	1	
Project Development &	Project management	30	2	9
Management	R & D Project	80	7	9
Foreign Language	French as a Foreign Language / English as a Foreign Language	60	4	4
Total Credits				30
Semester 4: Internship of 4 to 6 months				

# Courses & ECTS Credits Electronic Embedded Systems

Courses	Modules	Duration (hours)	Weight	ECTS Credits
	Semester 1: 30 Credits /	354 hours		
	Introduction to Object Oriented Programming with Java	40	3	8
Computer Science I	Fundamentals of Data Communication and Networking	24	2	
	Fundamentals of Web-Centric Development	30	3	
	Binary Logic & Digital Functions	30	3	9
Digital Electronics	LabView	30	3	
	C Programming	30	3	
	Cross Cultural Awareness and Working in a Team	36	3	
Communication & Language	French as a Foreign Language / English as a Foreign Language	60	3	6
	Bibliographical Study	12	1	7
Specialized Courses for EES	Digital Electronics Project	32	3	
	Fundamentals of Electronics	30	3	
Total Credits 30				

Courses	Modules	Duration (hours)	Weight	ECTS Credits
	Semester 2: 30 Credits	392 hours		
	Microprocessors	60	4	
Digital Systems	VHDL & Logic Synthesis	30	2	8
	Communication Busses	30	2	
Embedded Operating	Real Time Operating Systems	30	3	6
Systems	Embedded Linux	30	3	
	Embedded C programming	30	2	6
Embedded Software	Analysis & Design with UML	32	2	
	Embedded Java	30	2	
	Smart Sensors	30	3	
Instrumentation	Specific Instrumentation	30	3	6
Communication & Language 2	French as a Foreign Language / English as a Foreign Language	60	4	4
Total Credits				30

Courses	Modules	Duration (hours)	Weight	ECTS Credits
	Semester 3: 30 Credits	/330 hours		
	MtoM Communication	30	4	
Embedded Communication	Python Programming & Image Treatments	30	3	10
	Android Programming	30	3	
	System on Chip	20	2	6
Embedded Electronics	DSP Processors	20	2	
	Safety Systems	20	2	
Communication & Language 3	Oral Communication & Presentation Skills	14	1	5
	French as a Foreign Language / English as a Foreign Language	60	4	
Project Development & Management	Project Management	30	2	
	R&D Project	80	7	9
Total Credits				30

Semester 4: Internship of 4 to 6 months

# Who you can be

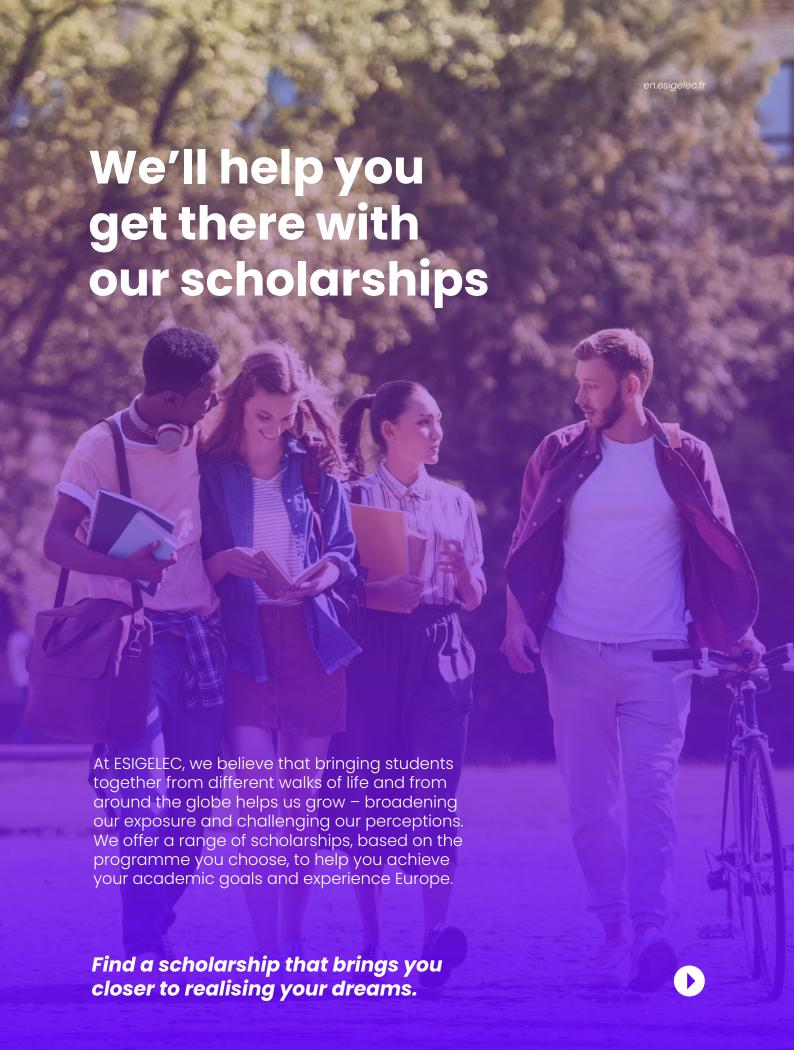
#### **Career Prospects**

With our Master's programmes, gain expertise to take on challenges in the real world. Master the fundamentals and develop versatile skill sets to manage people, projects and resources in complex organisational settings.

Apply your deep know-how and tackle real-world problems as an industry-ready graduate from ESIGELEC.

#### **Opportunities**

Master's in Software Engineering & Digital Transformation	Master's in Electronic Embedded Systems
Software Systems Design	Embedded Systems Engineer
Engineer/Maintenance Engineer	Design Engineer
Software Developer	Project Manager
Project Manager	Communications Engineer



## THE INTERNATIONAL YOUNG ACHIEVER AWARD

This scholarship recognises and rewards applicants with outstanding academic records.

Criteria: Min. CGPA - 9 (or equivalent)

Value - Tuition fee waiver of 5,000 €

## THE ESIGELEC MERIT AWARD

This scholarship recognises and rewards applicants with good academic records.

Criteria: Min. CGPA - 7.5 (or equivalent)

Value - Tuition fee waiver of 2,500 €

OR

Criteria: Min. CGPA – 6 (or equivalent)

Value – Tuition fee waiver of 2,000 €

#### THE GRE AWARD

While a GRE score is not a mandatory requirement, applicants with a score of 300+ will receive this award.

Value - Tuition fee waiver of 2,500 €

### THE CAUSE-AND-EFFECT SCHOLARSHIP

We believe it is important to recognise students who have contributed to a cause in their home country and to nurture empathy among fellow-humans; hence the 'The Cause-and-Effect Scholarship'.

Value - Tuition fee waiver of 500 €

## THE ESIGELEC PARTNER AWARD

ESIGELEC introduced this award with an intention to strengthen bonds with our partner universities abroad.

Value - Tuition fee waiver of 2,500 €



## THE FAMILY SCHOLARSHIP

As the name suggests, this scholarship is for family members of our current or graduated students.

Value – 500 € of total tuition fees.

## THE EARLY BIRD DISCOUNT

To receive this discount, applicants who have received a conditional offer of admission from ESIGELEC, must accept the offer before the deadline mentioned in the offer letter.

Value - 1000 €

#### **NEXUS FRENCH**

This scholarship is for applicants who make the effort of learning French and prove level A2.

Value - 1000 €

\*Once the application is reviewed, the Admissions Office will grant all scholarships automatically, based on the criteria defined for each of them. Applicants eligible for more than one scholarship will receive the ones that benefit them the most but of a maximum value of 6,000 €. Scholarships that are offered to the applicant will be mentioned in the Letter of Conditional Admission.



- \*All scholarships are awarded in the form of waivers from tuition fees.
- \*Scholarships are granted at the sole discretion of ESIGELEC.

# Do you have what it takes?

## Eligibility | 4-semester (two-year) format:

#### **Students with:**

 A 3-year Bachelor's degree in Computer Science or a related field for the Software Engineering & Digital Transformation specialisation and Electronics or a related field for the Electronic Embedded Systems specialisation

#### Or

 A 4-year Bachelor's degree from a different field of engineering, who wish to shift to the software industry

#### Or

 A 4-year Bachelor's degree in Computer Science / IT or a related field, who wish to do a two-year programme

# Eligibility | 3-semester (18-month) format:

#### **Students with:**

 A 4-year Bachelor's degree in Computer Science / IT or a related field for the Software Engineering & Digital Transformation Programme

#### Or

 A 4-year Bachelor's degree in Electronics or a related field for the Electronic Embedded Systems Programme

#### Note:

The degree awarded for both programme formats (3-semester or 4-semester) will be the same.

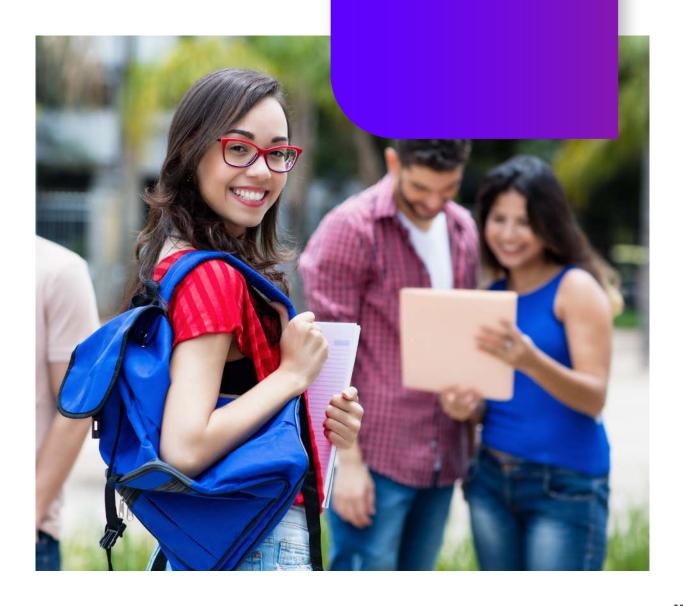
#### **English language requirements**

English proficiency test scores are not required if the language of instruction of your most recent degree is/was English. Your language competency will be evaluated based on the self-recorded interview.

Our Masters programmes are fully English taught. Having sufficient English language skills will help you navigate through the new academic environment quickly, get to know your fellow students and faculty members, achieve success more easily and enjoy the overall experience.

A GRE score is not mandatory but if you do have a score of 300+, you will be automatically eligible for the GRE award. For details, refer to the section on Scholarships.

# To GRE or not to GRE?



## **Admissions**

Experience France.
Experience ESIGELEC.

**APPLY NOW!** 

#### Programme dates and fees

	3-semester Master's Programme (18 months)	4-semester Master's Programme (2 years)
Intake	In February only	In September only
Application deadline	10th December	10th July
Total tuition fees	12,050 €	15,450 €

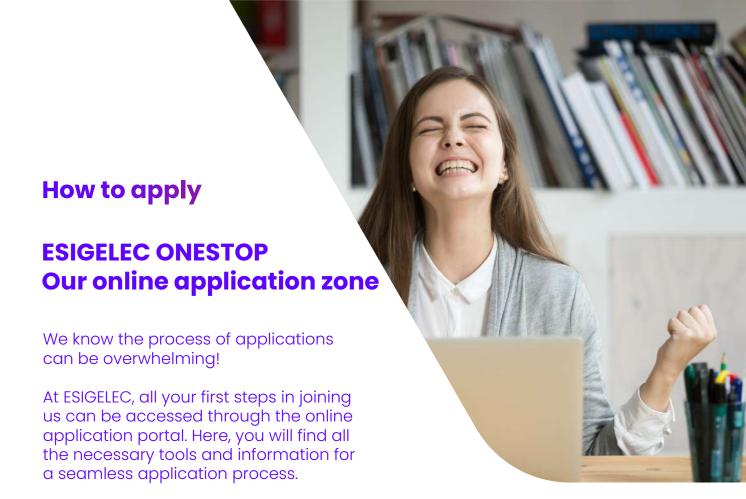
<sup>\*</sup>Semester dates, application deadlines and tuition fees are subject to change without further notice. The decision on admission to the 18-month or the 2-year programme is taken after review of the application.

# Focus on your future, not your finances

The French State and funding organisations in France invest significantly in higher education. This means that the tuition fees mentioned above are significantly subsidised – one of the many perks of choosing France as your study destination.

This helps students significantly cut-back on the heavy burden of student loans. France puts emphasis on making student life comfortable, affordable and valuable for international students.

Still contemplating? Read, research and see for yourself, before you take the next step!



Getting your application in early, with all the relevant documents, makes the application process so much smoother. It helps us ensure that everything is processed in time for your preferred intake. Early submission and acceptance also allow plenty of time to make your visa application.

#### In just three steps, it's done!

01

Create an
application
for your first-choice
course at
en.esigelec.fr

02

Fill in the required information and upload all necessary documents

03

Self-record your video interview and submit your application

<sup>\*</sup>Visas are granted at the sole discretion of the Consulate General of France.

<sup>\*</sup>Foreign nationals who need a visa to enter France, must get in touch with local French authorities (Embassy of France/Consualte General of France) for more detailed information.

#### What will you need?

- Proof of ID (Passport or National ID)
- CV
- Statement of purpose highlighting your academic and professional goals
- All academic records (academic transcript and degree certificates)
- 1 letter of recommendation (from your university or from your current work place)
- Extra requirements for language tests (refer to the language requirements section)

#### When will you hear?

Approximately a week after you have submitted your application online.

\*Only complete applications will be processed

#### **Settling in**

As a new international student, you are paired with an ESIGELEC Buddy (current student) to help you settle into your new world easily. Your Buddy will be there for you when you arrive in Rouen.

#### What next?

On receiving a letter of conditional admission, pay your initial deposit and upload the proof on ESIGELEC ONESTOP, to receive the letter of final admission and an accommodation certificate.

Thereafter, we will be by your side, on ESIGELEC ONESTOP, to help you find accommodation, to pick you up when you arrive in France and to keep you informed of anything else you would require at this stage.

Everything online, at one place, via our portal. Simple and seamless.

#### **Need help?**

If you have any questions or doubts, email us at:

CHINA - ying.liu@esigelec.fr SOUTH ASIA - southasiaoffice@esigelec.fr REST OF THE WORLD - international@esigelec.fr

#### Internships that make you future ready

Your student curriculum at ESIGELEC is only the beginning of your journey.

All graduate students at ESIGELEC are expected to do a mandatory internship, as part of the curriculum. These internships are vital in transferring classroom and seminar learning into the real world, helping you build on your experience.

Instructors and teachers encourage students to develop demonstrable practical skills. This combined with the high quality of teaching and mentoring at ESIGELEC, gives our students a strong advantage in the job market after graduation. And to make the whole process smoother, we have a dedicated placement office at ESIGELEC, offering students counselling and assistance to find internships.

The internship will help you:

- Understand more about your chosen industry and the companies you may want to look at upon graduation
- Develop your professional and interpersonal skills
- Grow your network in the industry
- Get a head-start on finding your first graduate job

# You do you!



- Do you like to rise to challenges and be more independent?
- Are you looking for experiences that will be valuable academically and culturally?
- Would you like to be in an environment that encourages you to grow holistically?
- Would you like to build strong friendships with students from all over the world?

#### If your answers are YES, read on!

Enhance the value of your degree by stepping out of your comfort zone and demonstrate to potential employers that you are able to adapt to new environments, cultures and languages. That you are a thriving, global citizen!

Explore a culture that will inspire you to BE MORE and DO MORE – for yourself and for others.

Often called the 'country of human rights', freedom of expression and human rights are among the founding values of the French Republic and central to how it exercises its democracy.

There's so much more to France...



# The horizon will expand, study at ESIGELEC







- With over a century of delivering quality education in engineering, ESIGELEC remains young in spirit.
   We offer students a platform to challenge traditional thinking and realise their potential.
- Our teaching faculty come from the four corners of the world; you'll be at the receiving end this time, for the right reasons!
- Industry captains keep a hawk's eye on our curriculum; you'll be mentored by the best.
- A third of our students are foreign nationals; you'll learn from the University of Life!
- Unlike large universities, with tens of thousands of students, we're a 2,000-strong group of administrative staff, faculty, students, and support staff; you'll be part of the ESIGELEC family.

# Decipher the wonders of science, research at IRSEEM

IRSEEM, ESIGELEC's high-end laboratory, is involved in some path-breaking research, and you'll be involved!

The IRSEEM (Institut de Recherche en Systèmes Electroniques Embarqués-Research Institute for Embedded Electronic Systems) was founded in 2001 by ESIGELEC. IRSEEM spear heads research, innovation and knowledge transfer in the domains of automation, electronics and computing.

IRSEEM partners with several notable centres of excellence in Europe to provide innovative and sustainable systems integration solutions.

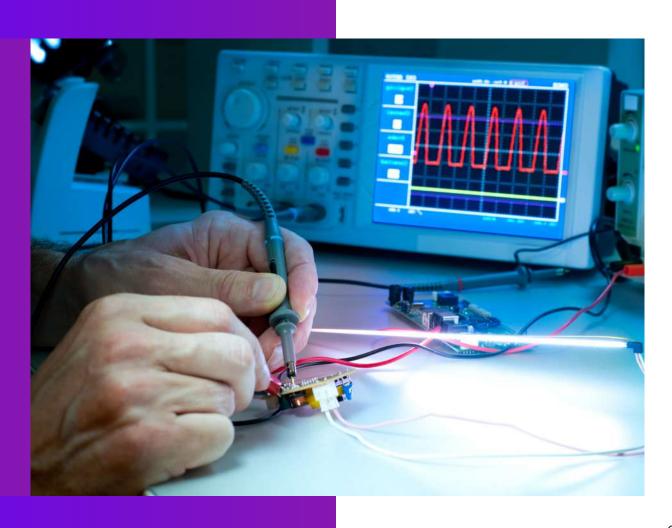
#### **Activity clusters**

- Automation & Systems
- Electronics & Systems
- Instrumentation,
  Computing & Systems

The laboratory's mission is to conduct systems oriented research whilst supporting companies and researchers in transdisciplinary innovation and R&D.

#### Fields of activity (

- Automotive
- Aeronautics
- Renewable energy
- Electronics
- Mobility
- Telecom
- Biomedical
- Robotics
- Transport, logistic & safety
- Microelectronics & power electronics





## A Grande École



Better known for engineering studies than public universities, these institutions of higher education provide advanced technical and professional training that fully prepare you for your future. Grandes Écoles provide the platform for young professionals to embark on meaningful and impactful careers.

Rigorous selection processes and famed for producing elite graduates, Grandes Écoles offer top-rated teaching staff and courses with a strong focus on industry experience and specialisation.

Studying in a Grande École like ESIGELEC translates as an excellent preparation for you as you look ahead. You will join a virtuous circle of highly qualified graduates from France's premier institutions.

# Remember, this is about you.

# Look beyond rankings

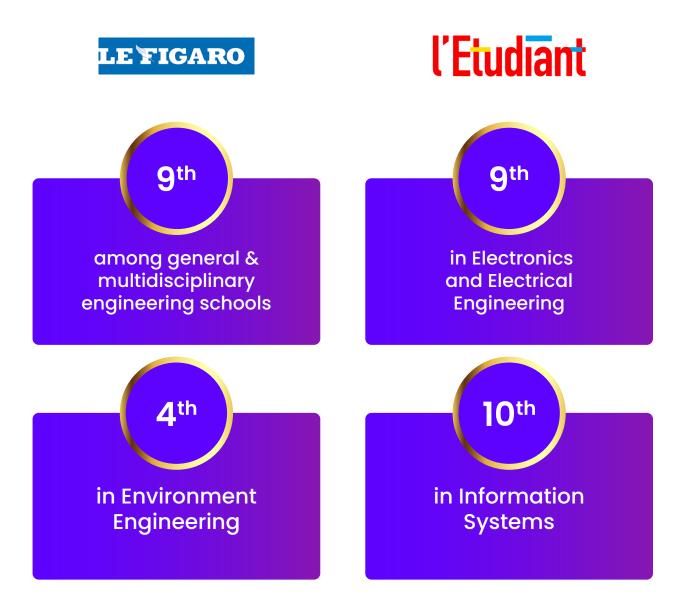
Graduate study is an experience that will change the course of your life for several years to come. We encourage you to choose an institution on the basis of the things that matter to you. Ranking is only a number.

Visit our website, look at the research that IRSEEM (our laboratory) is involved in, talk to our Student Ambassadors or ESIGELEC's Alumni, and then take the leap!

But if you still insist, the most recent ranking exercises put ESIGELEC amongst the best Graduate Schools of Engineering.



# 2021 Rankings for schools offering 5-year engineering programmes



And just in case you are interested, 94% of our students find jobs in the first 3 months of graduating.

Studying at ESIGELEC will be the beginning of an enriching journey and we wish to achieve great things in the near future, along with students like yourself.

# That all important juncture - what after ESIGELEC

#### Join the work force

An engineering degree from ESIGELEC allows for a seamless integration into various exciting sectors. With the help of the JobTeaser technology, ESIGELEC works closely with industry to give access to current job-related information. Companies announce job, internship, and other work contracts on this platform.

96% of students from the most recent batch were able to find employment in less than 4 months

## Continue with your education

You can go on to further specialise in your field of study. IRSEEM, is one of the laboratories where PhD scholars of the University of Rouen carry out their work. With a PhD, you can explore R&D opportunities in public or private sector industries. Needless to say, you can also apply for PhD programmes anywhere in the world with the Master's degree from ESIGELEC.

# Be an entrepreneur, welcome to the start-up nation!

The very word "entrepreneur" is French! The State welcomes foreign investors and supports world-class R&D, making France an attractive market for innovation investments.

If you want to take the entrepreneurial plunge, there is no place more conducive than France to build your start-up and it takes only 3.5 days to set up shop!





This community comprises ESIGELEC's graduates who work for a corporate and come together to enhance the school's visibility among potential employers, and to assist fresh graduates network. They offer recruitment and support services. Over the years, companies have increasingly favoured this platform to forge and develop academia-corporate relations.

#### **ESIGELEC ALUMNI**

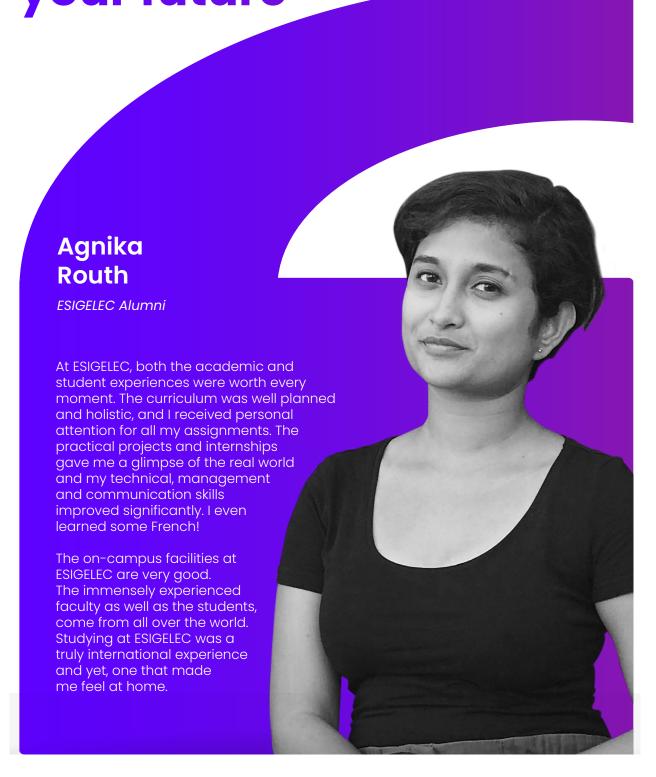
We are immensely proud of our graduate fraternity, 6000+ in strength, who contribute directly and indirectly to their alma mater. Our alumni are an integral part of the school's life, the school's journey.

The alumni network helps fresh graduates as they venture into the professional arena – support, guidance, networking or recruitment, whatever the need!

Our graduates, wherever they are, are keen volunteers, and are always ready to support you.

For more information, visit: https://esigelec-alumni.fr

Their experiences, your future







Rousee

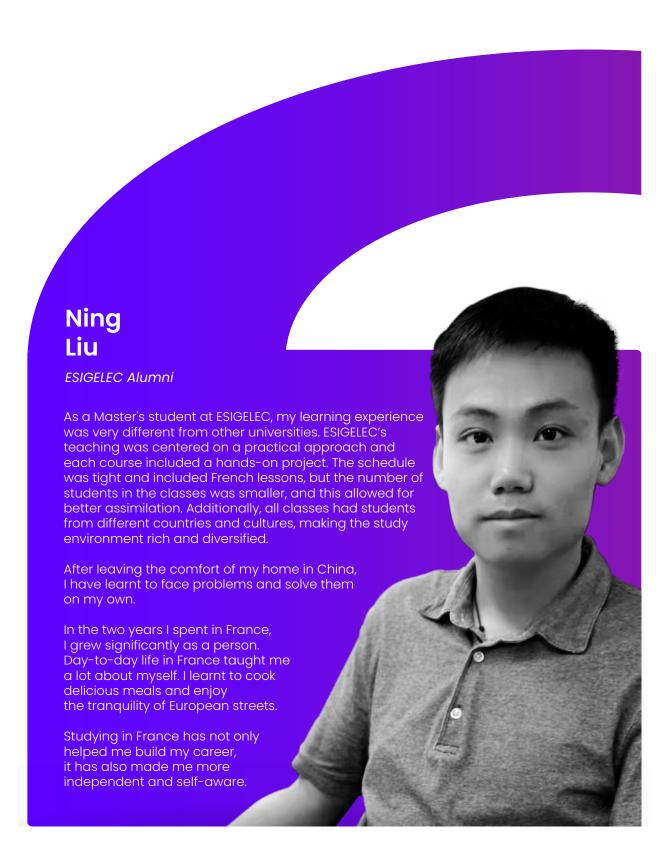
**ESIGELEC Alumni** 

My years at ESIGELEC were ones I cherish. My first steps into the professional world were in the field of electrical and electronic systems in vehicles, more specifically, autonomous vehicles. I continued in the same area of work in Stellantis, before branching out into aeronautics, where I now work as a systems engineer.

For everything that my school gave me, it was important for me to be part of the alumni association – ESIGELEC Alumni and give back. Since 2018 I am the president of this wonderful community that is proud to be associated with brand ESIGELEC! We hope that one day,

you too will be one among us.

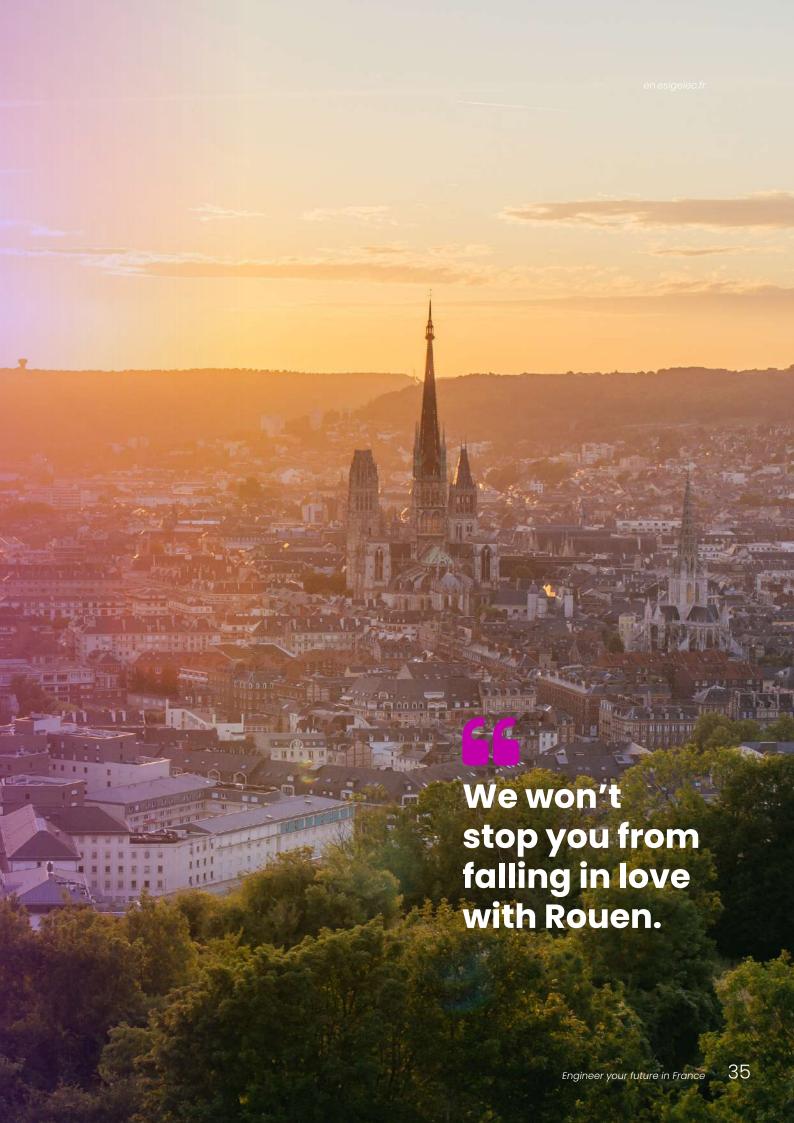
You'll see me around!



# Rouen, a hundred bells tell a tale!

Normandy's cultural and historic capital, Rouen is defined by beautiful architecture, creative minds and a storied past. Spires of the city's Gothic cathedral dominate the skyline, and have been immortalised in many paintings by Impressionist Claude Monet. A lovingly restored medieval quarter, cobblestoned streets and colourful half-timbered houses make a simple walk around Rouen fascinating.

Set on the banks of the Seine, this city has attracted students for years due to its friendly atmosphere and conviviality. Rouen is just a two-hour drive from Paris, which means you can enjoy lower living costs whilst still frequently visiting the dreamy French capital.



# A hexagon that will stir your soul. Choose France

If engineering is your art, there's no better canvas than France to create your masterpiece. A world leader in the energy, technology and transport sectors, France welcomes young, innovative minds with arms wide open. As a student, it's hard not to be inspired by the country's innovative strides in the electronics and telecommunications industries. France is also at the cutting edge of aerospace development with a thriving information technology market and a strong record in producing advanced military equipment.

Technological prowess, did you say? Then France it is!





This region of France prides itself in all things dairy. Even if cheese is not your thing, there's much to discover here. Normandy is a vibrant centre of industry, housing some of France's biggest businesses and international corporations. With its picturesque coast and delectable cuisine, it has inspired many artists and enchanted many travellers. Normandy is known to have one of the youngest populations in France, and is revered for its medieval charm, stylish beach resorts and great quality of life.

Lifestyle meets opportunity in Normandy!

# Europe, one weekend at a time!

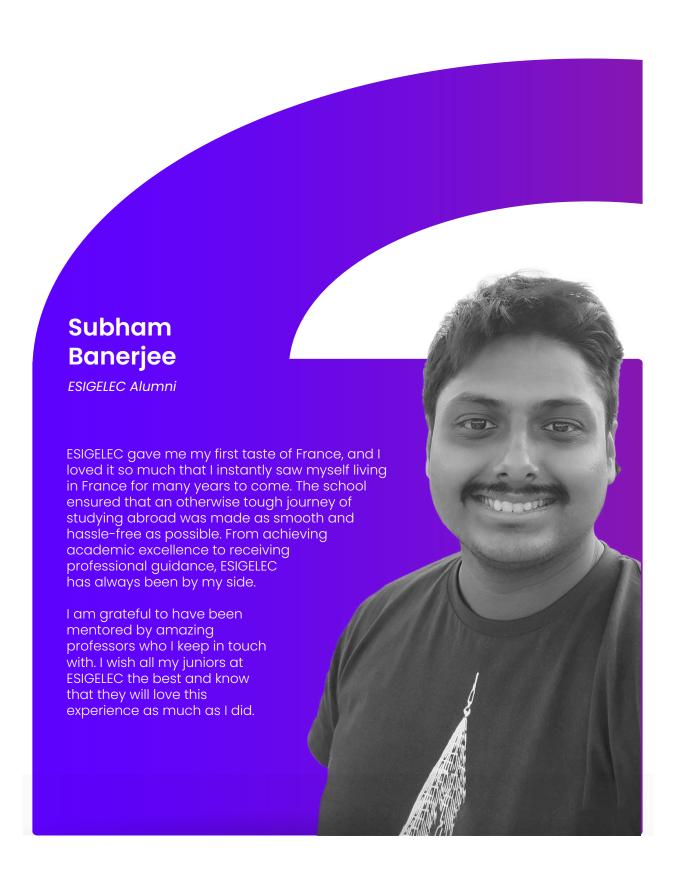
Unravel the beauty of THE continent with your Schengen visa!

Above and beyond the marvels that are waiting to be explored in France, you are also in the heart of Europe with many countries and cultures at your doorstep. Step out, travel, explore and discover exciting places and opportunities across the continent. Revered for its social and scenic charm, Europe is international exposure at its best.

What's more – collaborations within Europe have shaped a thriving international academic community that is well-aligned, conducts cutting-edge research and creates long-term career opportunities for young graduates in the continent.

Their experiences, your future





# Be inspired

# Engineer your future in France

The French have a talent for the aesthetic and the ease of embodying joie de vivre! Their contributions have changed the world.

#### **Starry Starry Night**

The story of art history is incomplete without French artists like Claude Monet, Pablo Picasso, Marcel Duchamp, Vincent Van Gogh... and the list goes on.

## Photographs and memories

French inventor Nicéphore Niépce produced the first permanent photo etching image – the view from his window at Le Gras is the earliest surviving photo from nature.

#### Pain pain go away

In 1853, French chemist Charles Frederic Gerhardt was the first to prepare Aspirin (acetylsalicylic acid).



In 1997, Philippe Kahn created the first camera phone solution for instantly sharing pictures, rigging a mobile phone with a digital camera to announce the birth of his daughter in real-time.

#### **Breaking bread**

When a new French law in 1920 forbade bakers from bread making before 4 am, the slender baguette was born. A thin, long bread that could be rapidly baked in time for customer's breakfasts!

#### Lights. Camera. Action.

The very first patented film camera was designed by Frenchman Louis Le Prince in 1888, which he used to shoot the first sequences of moving film in the world.

# You may have heard

#### Come 2024...

and The Olympic Games will return to Paris after a century...

# Sporting extravaganza will take centre stage in the country of the avant-garde!

Iconic French heritage sites will transform into magnificent sporting arenas. The Games will open on the banks of the Seine!

In characteristic style, France will show the world that excellence can be achieved while also championing sustainability. The French pledge to make the games more inclusive and improve gender-balance.





All eyes will be on Paris from 26 Jul to 11 Aug 2024.

Be part of the run-up to Paris 2024, it will be memorable!





# Graduate study is about YOU... it always should be!

#### **Contact us**

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